

UCLA

UCLA Electronic Theses and Dissertations

Title

Searching for Racial Health Equity in Schools of Public Health

Permalink

<https://escholarship.org/uc/item/0rc6n7bf>

Author

Manalo-Pedro, Erin Marie

Publication Date

2024

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA

Los Angeles

Searching for Racial Health Equity in Schools of Public Health

A dissertation submitted in partial satisfaction of the requirements for
the degree Doctor of Philosophy in Community Health Sciences

by

Erin Marie Manalo-Pedro

2024

© Copyright by

Erin Marie Manalo-Pedro

2024

ABSTRACT OF THE DISSERTATION

Searching for Racial Health Equity in Schools of Public Health

by

Erin Marie Manalo-Pedro

Doctor of Philosophy in Community Health Sciences

University of California, Los Angeles, 2024

Professor Gilbert Chee-Leung Gee, Chair

Accredited schools of public health are required to prepare graduate students to competently discuss how racism undermines health equity. A systematic assessment of academic public health norms is needed to clarify how graduate education structures the profession of public health to address racial health inequities. Three aims guided my investigation of common practices of knowledge transmission and production in schools of public health: (1) to determine what is taught to students regarding racial health equity; (2) to classify students' use of race and theory; and (3) to categorize and contextualize students' discussions of racism. In this sequential explanatory mixed methods study of existing documents, I examined accreditation self-study reports (N=34) and course syllabi (N=67) from schools of public health (Aim 1) and public health theses and dissertations published between 2018-2022 in the ProQuest Dissertations and Theses database (N=13,797 abstracts for Aim 2; N=25 full-text dissertations for Aim 3). I conducted computational

text analysis to estimate keyword distributions, manual content analysis to trace racial health equity concepts, and critical race discourse analysis to interpret patterns.

Paper 1 revealed unequal exposure to race-related content. Fewer than half of the course syllabi listed learning objectives with racial health equity concepts. Two-thirds of schools of public health assigned journal articles with ‘race’ or ‘racism’. In Paper 2, 36% of abstracts from students’ dissertations and theses contained racial group and explicit theory terms; 62% omitted ‘race.’ The relative distribution of theories indicated students’ focus on proximal exposures rather than structural determinants. In Paper 3, eight percent of abstracts (N=403) contained social inequality theory and racial group terms. I identified three racism narratives within the full-text sample of dissertations: exposure to racism (N=9); potential exposure to racial inequity (N=3); and another exposure among people (N=13). Student-authors’ reflexivity and race conscious campus climates appear to promote public health research on racism. Dissertation findings can inform teaching, research, and practice approaches to racial health inequities. Exposing how everyday practices uphold white supremacist hegemony in schools of public health can accelerate the public health profession toward health equity.

The dissertation of Erin Marie Manalo-Pedro is approved.

Courtney S. Thomas-Tobin

Alina Dorian

Daniel G. Solórzano

Gilbert Chee-Leung Gee, Committee Chair

University of California, Los Angeles

2024

DEDICATION

To students, educators, and all who seek truth in the struggle for liberation.

TABLE OF CONTENTS

Abstract of the Dissertation	ii
Dedication	v
Table of Contents	vi
List of Figures	xi
List of Tables	xii
List of Supplementary Material	xiii
List of Acronyms	xv
Acknowledgements	xvi
Curriculum Vitae	xxiv
0 Introduction: Searching for Racial Health Equity in Schools of Public Health	1
Literature Review	5
The Demand for Public Health Training on Racial Health Equity	6
Approaches to Assessing Public Health Curricula	8
Searching for Racism-Related Words in Education Studies	11
Theoretical Framework	13
Cultural Racism	14
Cultural Processes to Racial Inequality	16
Critical Race Theory in Education	18
Conceptual Model	20
Specific Aims	21
Figures	24
Tables	28
1 Aim 1: Assessing the Centrality of Racial Health Equity in Public Health Training: Computational Text Analysis of Keywords in Graduate Syllabi	35
Abstract	35
Introduction	36
Background/Justification	37
Racial Health Equity Concepts	39
Assessments of Public Health Curricula	41
Current Study	43
Methods	43
Data Acquisition	44
Dataset	45
Analytical Approach	46
Results	49
Top Words	49

Concepts by Syllabus Sections	49
Journal Articles with Racial Health Equity Concepts.....	51
Discussion.....	52
Limitations and Future Directions	54
Public Health Implications.....	57
Conclusion	59
Figures.....	61
Tables	63
2 Aim 2: Detecting Theories and Racial Groups in Public Health Thesis and Dissertation	
Abstracts with Computational Text Analysis.....	70
Abstract.....	70
Introduction.....	71
Background.....	72
Theoretical Framework.....	74
Current Study.....	76
Methods.....	77
Data.....	78
Analysis.....	79
Results.....	87
Abstract Inclusion/Exclusion	87
Word Distributions.....	88
Word Relationships.....	90
Topic Modeling.....	93
Discussion.....	94
Limitations and Future Directions	99
Implications.....	103
Conclusion	107
Figures.....	109
Tables	117
3 Aim 3: Revealing Racial Health Equity Knowledge in Public Health Dissertations	123
Abstract.....	123
Introduction.....	124
Naming and Operationalizing Racism as Determinants of Health	125
Contextual Factors Affecting Students' Knowledge of Racial Health Equity	127
Racism Narratives for Characterizing Racial Health Equity Knowledge.....	128

Methods.....	130
Data.....	131
Computational Text Analysis.....	133
Discourse Analysis.....	134
Content Analysis.....	135
Trustworthiness.....	137
Limitations.....	138
Results.....	138
Racial Groups and Explicit Theories.....	138
Naming Racism.....	139
Operationalizing Racism.....	140
Typologies of Racism Narratives.....	142
Student-Author and Institutional Context.....	152
Discussion.....	154
Studying Racism.....	154
Learning to Study Racism.....	156
Implications for Teaching, Practice, and Research.....	158
Limitations and Future Directions.....	159
Conclusion.....	161
Figures.....	162
Tables.....	165
4 Synthesis: Counterhegemonic Training For Health Equity.....	170
Summary of Dissertation Aims.....	170
Aim 1: Unequal Exposure to Race-Related Knowledge.....	170
Aim 2: Most Studies Avoid Naming Racial Groups.....	172
Aim 3: Few Students Name and Operationalize Racism.....	174
Synthesis of Dissertation Findings.....	175
Implications of the Dissertation.....	177
Assessing and Expanding What is Taught.....	178
Assessing and Contextualizing What is Learned.....	181
Future Directions for Critical Racial Health Equity Literacy.....	184
Toward Measuring the Normalcy of Racism as Exposure to Harm.....	185
Toward Counterhegemonic Knowledge Sharing for Social Justice.....	188
Tables.....	191
5 Appendices.....	195

A.	Paper 1 Supplemental Tables and Figures	195
	Maps of Schools of Public Health	195
	Top Words	201
	Keywords	205
	Journal Articles with Race or Racial Groups	206
B.	Paper 2 Supplemental Tables and Figures	218
	Dataset.....	218
	Features	223
	Top Words	224
	Keyword-in-Context Results	225
	Word Relationships	228
	Topic Model Validation (Validation Set, Truth = Human-Coded Label).....	234
C.	Paper 3 Supplemental Tables and Figures	240
	Abstracts with Both Racial Group and Explicit Theory Terms	240
	Racial Health Equity Full-Text Sample	242
	Racial Health Equity Typologies	247
D.	Dissertation Detailed Methodology	254
E.	Paper 1 Detailed Methodology	257
	Self-Study Re-Accreditation Reports	257
	Syllabi	258
	Computational Text Analysis of Syllabi Corpus.....	260
F.	Paper 2 Detailed Methodology	264
	Data Acquisition.....	264
	Multiword Expression Detection	267
	Validation Set Curation.....	267
	Classification Accuracy	268
	Topic Model Optimization.....	269
	Sensitivity Tests: Transformations of Counts for Document-Feature Matrices.....	271
G.	Paper 3 Detailed Methodology	272
	Cultural Intuition.....	272
	Metadata.....	272
H.	Paper 2 Word Lists	274
	Dictionary of Public Health Stop Words.....	274
	Dictionary of Racial Groups	275

Dictionary of Explicit Theories	292
Dictionary of Compound Words	295
High Entropy Words	314
References	325

LIST OF FIGURES

Figure 0-1 Conceptual Model of Public Health Curricula as a Structural Determinant of Health Inequity	24
Figure 0-2 Diagram of Dissertation Data by Degree Type	25
Figure 0-3 Proposed Overview of Dissertation Aims, Sources, Inputs, Tasks, and Outputs	26
Figure 0-4 Comprehensive Overview of Dissertation Analyses	27
Figure 1-1 Map of States with Eligible Schools of Public Health	61
Figure 1-2 Top 250 Words by Frequency, Descending Rank, CEPH Syllabus Corpus, 2018-2022	62
Figure 2-1 Inclusion/Exclusion Criteria for CEPH Dataset	109
Figure 2-2 Network Plot of Co-Occurring Top Words (Frequency)	110
Figure 2-3 Network Plot of Co-Occurring Racial Group Terms (Frequency)	111
Figure 2-4 Network Plot of Co-Occurring Explicit Theory Terms (Frequency)	112
Figure 2-5 Keyness Text Statistics for Highly Associated Words, American Indian / Alaska Native	113
Figure 2-6 Keyness Text Statistics for Highly Associated Words, Biomedical Theory	114
Figure 2-7 AUC for Racial Group Classification Discrimination, CEPH Abstracts	115
Figure 2-8 AUC for Explicit Theory Classification Discrimination, CEPH Abstracts	116
Figure 3-1 Inclusion/Exclusion Criteria from CEPH Dataset to Racial Health Equity Subset and Racial Health Equity Full-Text Sample	162
Figure 3-2 Multi-stage Analysis of Content and Context	163
Figure 3-3 Comparison of ‘Racism’ Occurrences, Racial Health Equity Full-Text Sample	164

LIST OF TABLES

Table 0-1 CEPH Accreditation Criteria 2016 of Interest	28
Table 0-2 Summary of Data Sources and Methods	29
Table 0-3 Natural Language Processing Terminology	32
Table 0-4 Topic Modeling Terminology	34
Table 1-1 Selection of CEPH Syllabus Corpus (2018-2022).....	63
Table 1-2 Keyword Counts by Concept and Syllabus Section (CEPH Syllabus Corpus, 2018-2022)	64
Table 1-3 Syllabi by Percentage Containing Racial Health Equity Content (CEPH Syllabus Corpus, 2018-2022) (N=67)	65
Table 1-4 Summary of Assigned Journal Articles on Race by Named Racial Group (CEPH Syllabus Corpus, 2018-2022).....	66
Table 1-5 Citations for Assigned Journal Articles Mentioning Racism-Related Words, by Count of Syllabi, Descending (CEPH Syllabus Corpus, 2018-2022)	67
Table 2-1 Research Questions Mapped to Natural Language Processing Methods	117
Table 2-2 Abstracts in CEPH Dataset by Inclusion Criteria, ProQuest ETD Abstracts (2018-2022)	118
Table 2-3 Counts of Stemmed Features by Year, Descending, ProQuest ETD Abstracts CEPH Dataset (2018-2022).....	119
Table 2-4 Summary of Abstracts by Detected Keywords (N=5,180)	120
Table 2-5 Summary of Abstracts with Detected Terms by Racial Group, Descending Frequency (N=5,180).....	121
Table 2-6 Summary of Abstracts with Detected Terms by Explicit Theory, Descending Frequency (N=5,180).....	122
Table 3-1 Explicit Theory Terms Used in Abstracts Naming Black / African Americans (N=779)	165
Table 3-2 Racial Groups Named in Abstracts Using Social Inequality (N=718)	166
Table 3-3 Examples of Keywords Detected in Abstracts, Racial Health Equity Full-Text Sample	167
Table 3-4 Racism Narrative Typologies by Group and Theory, Racial Health Equity Full-Text Sample (N=25).....	168
Table 3-5 Study Characteristics of Racism Narrative Types	169
Table 4-1 Summary of Dissertation Aims and Key Findings	191
Table 4-2 Research Implications: Applying Critical Race Methodology for Producing Knowledge on Racial Health Equity	192
Table 4-3 Teaching Implications: Transmitting Knowledge for Critical Racial Health Equity Literacy	193
Table 4-4 Practice Implications: Taking Action to Advance Racial Health Equity	194

LIST OF SUPPLEMENTARY MATERIAL

Supplemental Figures

Appendix Figure 5-1 Map of Schools of Public Health in the United States	195
Appendix Figure 5-2 Map of States with Schools of Public Health.....	196
Appendix Figure 5-3 Map of States with Schools of Public Health by Eligibility.....	197
Appendix Figure 5-4 Map of States with Eligible Schools of Public Health by Count of Participating Schools	198
Appendix Figure 5-5 Map of States with Eligible Schools of Public Health by Participation Status.....	199
Appendix Figure 5-6 Map of States with Participating Schools of Public Health by Count of Syllabi	200
Appendix Figure 5-7 Word Cloud of Segments with ‘Race’ (Course Description, Learning Objective, and Content), CEPH Syllabus Corpus (2018-2022).....	202
Appendix Figure 5-8 Word Cloud of Segments with “Racism” (Course Description, Learning Objective, and Content), CEPH Syllabus Corpus (2018-2022).....	203
Appendix Figure 5-9 Word Cloud of Journal Article Titles with Racial Groups, “Race”, or “Racism”	204
Appendix Figure 5-10 Public Health Abstracts by Year and Inclusion in the CEPH Dataset	218
Appendix Figure 5-11 Words Highly Associated with Terms in Racial Group Word Lists	228
Appendix Figure 5-12 Words Highly Associated with Terms in Explicit Theory Word Lists....	232
Appendix Figure 5-13 AUC for Racial Group Classification Discrimination, Validation Set ...	236
Appendix Figure 5-14 AUC for Explicit Theory Classification Discrimination, Validation Set	239
Appendix Figure 5-15 Comprehensive Overview of Dissertation Methodology	255
Appendix Figure 5-16 Flow Diagram of Extraction, Transformation, and Loading Processes for Dissertation Data.....	256

Supplemental Tables

Appendix Table 5-1 Unadjusted Word Counts by Rank, CEPH Syllabus Corpus (2018-2022)	201
Appendix Table 5-2 Unadjusted Word Counts by Concept, CEPH Syllabus Corpus (2018-2022)	205
Appendix Table 5-3 Universities in Corpus by CEPH Status, ProQuest ETD Abstracts (2018- 2022)	219
Appendix Table 5-4 Count of Abstracts by University Name, Descending, ProQuest ETD Abstracts CEPH Dataset (2018-2022) (N=5,180)	220
Appendix Table 5-5 Multiword Expression Detection, by Length and Z-Score, ProQuest ETD Abstracts CEPH Dataset (2018-2022)	223
Appendix Table 5-6 Top 10 Features, ProQuest ETD Abstracts CEPH Dataset (2018-2022) ...	224
Appendix Table 5-7 Top 10 Terms per Racial Group Category	225
Appendix Table 5-8 Top 10 Terms per Explicit Theory Category.....	226
Appendix Table 5-9 Count of Social Inequality Terms by Concept, Descending	227
Appendix Table 5-10 Accuracy (Exact Match) of Racial Group Topic Model, Racial Group Validation Set.....	234

Appendix Table 5-11 Accuracy (Exceeds Equal Proportions Threshold) of Racial Group Topic Model, Racial Group Validation Set	235
Appendix Table 5-12 Accuracy (Exact Match) of Explicit Theory Topic Model, Explicit Theory Validation Set.....	237
Appendix Table 5-13 Accuracy (Exceeds Equal Proportions Threshold) of Explicit Theory Topic Model, Explicit Theory Validation Set	238
Appendix Table 5-14 Explicit Theory Terms Used in Abstracts Naming Racial Groups (N=1,959)	240
Appendix Table 5-15 Racial Group Terms Used in Abstracts Using Any Explicit Theory (N=3,840).....	241
Appendix Table 5-16 Institutional Characteristics, ProQuest ETD Abstracts Racial Health Equity Full-Text Sample (2018-2022) (N=25).....	242
Appendix Table 5-17 Dissertation Details, ProQuest ETD Abstracts Racial Health Equity Full-Text Sample (2018-2022) (N=25).....	243
Appendix Table 5-18 Detected Racial Group and Explicit Theory Terms, Racial Health Equity Full-Text Dissertation Sample (N=25).....	245
Appendix Table 5-19 Exposure to Racism Type (Names and Operationalizes Racism) (N=9) .	247
Appendix Table 5-20 Potential Exposure to Racial Inequity Type (Names or Operationalizes Racism) (N=3)	249
Appendix Table 5-21 Other Exposure among People Type (Neither Names nor Operationalizes Racism) (N=13)	250
Appendix Table 5-22 Accredited Public Health Programs and Certificates Focused on Racial Groups.....	253
Appendix Table 5-23 Removed Words with High Entropy Scores (N=887).....	314

LIST OF ACRONYMS

Abbreviation	Definition
AIAN	American Indians / Alaska Natives
APHA	American Public Health Association
ASPPH	Association for Schools and Programs in Public Health
AUC	Area under the receiver operation curve
CARDA	Critical anti-racist discourse analysis
CEPH	Council on Education for Public Health
CRDA	Critical race discourse analysis
CRT	Critical race theory
DFM	Document-feature matrix
DrPH	Doctor of Public Health
ETD	Electronic theses and dissertations
FCM	Feature co-occurrence matrix
KWIC	Keyword-in-context
MENA	Middle Easterners / North Africans
MPH	Master of public health
MSI	Minority-serving institution
NHPI	Native Hawaiians / Pacific Islanders
NLP	Natural language processing
PhD	Doctor of Philosophy
PHCRP	Public health critical race praxis
RHE	Racial health equity
SPH	School of public health

ACKNOWLEDGEMENTS

My dissertation represents ancestral ambitions, generational sacrifices, and unearned privileges. Ayti ka ibat? Ipinanganak ang tatay ko sa Atimonan, Tayabas at ipinaganak ang nanay ko sa Candelaria, Zambales. Across the Pacific Ocean, I was born and raised in Tovaangar, the lands and waters stewarded by the Tongva nation since time immemorial. I acknowledge that the places currently known as the Philippines and California share Spanish and American colonial legacies which actively devastate our collective wellbeing. Harmful structures are often hidden by colonial narratives, passed down through schools, yet I still believe in education's power to liberate and heal. This critical hope propelled my dissertation inquiry and sustains my ongoing responsibility to challenge hegemony. Free Palestine.

[playing] Boyz II Men, 'Thank You'

“So many times and changes you've seen me through”

I would not have this dissertation without my dissertation committee: Gil, Courtney, Dr. D., and Danny. Thank you all for believing that my ideas warranted your time and energy. Your investment in advancing my work as a scholar has been invaluable. Gil, thank you for challenging me to become a stronger writer and researcher. Courtney, you have been incredibly supportive! Thank you for guiding me forward when I felt stuck. Dr. Dorian, thank you for pragmatically dreaming alongside me. Danny, thank you for encouraging me to remember my own journey while situating my work within the lineages of critical race scholars. I also extend my gratitude to Chris Kennedy for guiding my skill development in computational text analysis, validation techniques, and collaborative coding. Additionally, I would not have had data to analyze without the public health faculty, instructors, and staff who crafted/made available course syllabi and the thousands of student-authors who produced theses and dissertations in hopes of improving public health.

[playing] Ruby Ibarra, 'Playbill\$'

“I made that dollar from a peso”

I would like to thank the American Educational Research Association (AERA) for the Minority Dissertation Fellowship Travel Award which funded a portion of my travel to the 2024 AERA Annual Meeting where I presented Paper 2. At the 2023 AERA Annual Meeting, I presented a pilot version of Paper 1 (funded by the 2021 Graduate Summer Research Mentorship at UCLA). I am also grateful to have been employed as a doctoral student (UAW 4811). Thank you to Brian and UCLA College Academic Counseling, Angela and the NIH-funded Health of Philippine Emigrant Study team, and UC Berkeley D-Lab (shoutout to the AMA and NSF IUSE teams).

[playing] Sweet Honey in the Rock, 'Ella's Song'

“We who believe in freedom cannot rest until it comes”

I had not considered a doctorate until I participated in the Minority Training Program in Cancer Control Research. To Margie Kagawa-Singer, Rena Pasick, Sherry Kidd, Minelle David, Melba Tolbert, and generations of MTPCCR family: thank you for paving the road so that I and others like me could recognize the value of our stories in the struggle to advance racial health equity. Shoutout to the 2015 cohort, especially Karen and Nasya who prepared their PhD applications alongside me in KHS 115. I am incredibly grateful for the CSU Fullerton Health Careers Opportunity Program, OCAPICA, and WINCART teams. To Sora Park Tanjasiri, Lilia Espinoza, Tu-Uyen Nguyen: thank you for modeling the many ways that women of color faculty heal our communities. Brittney Nguyen, Amy Santos, Nayelie Benitez, and AHA alumni, thank you for keeping me updated on your life and for continuing to cheer me on.

[playing] Jhene Aiko, 'alive & well (gratitude mantra)'

“I'm alive and well”

I'm incredibly grateful for the many members of my care team for supporting me, particularly through the final push of this last academic year. I offer my deepest gratitude for the therapists, healers, and community spaces that have seen me, heard me, and held my anxious thoughts and neurodivergent mind throughout this extended period of global trauma. Shout out to Charlotte, Heather, Ali, Stephanie, Mahyar, Dr. Hsu, Dr. Vong, Dr. Teddy & the weekly graduate student group, Dr. Joyce & the Filipino Family Health Initiative, Janelle & the KIN Unified Healing team, Thai Relax, and women of color advocates for wellness. Thank you all for facilitating the clarity and grounding I needed to complete this program.

[playing] Andra Day, 'We will Rise'

“All we need is hope and for that we have each other”

My growth as a doctoral student has been significantly shaped through community care. I am incredibly grateful to have joined, co-created, and/or stewarded safe havens for praxis. Through dialogue with colleagues and mentors in these counterspaces, I learned to build confidence and curiosity. Collectively, your thoughtful encouragement has propelled me through rejections, daunting peer-reviews, and special issue publications and will continue to guide my future work.

Mil gracias a Profe Danny and the legendary RAC for providing a scholarly home where bringing our full selves was not only permissible but encouraged and normalized. Thank you, Dr. Allen, for your patience, kindness, and encouragement. Dr. Ford, thank you for pushing public health toward justice through highly visible achievements and everyday moments of affirmation. Randall, thank you for modeling what humanizing public health could look like and for trusting my leadership with the Health Justice Curriculum project (kudos to Adrian, Delia, and Anna Michelle). May Sudhinaraset, thank you for asserting that Asian women deserve better; I am so grateful for your guidance during my first first-authored paper with BRAVE. Annie Ro, Laura

Enriquez, and Jennifer Najera, thank you for patiently coaching me through the interdisciplinary process of writing the UC PromISE article. Janae, Melba, Minelle, Kristy, Lindsay, Liz: thank you for the many ways you have championed equity for FSPH students like me.

I am eternally grateful for the scholars, activists, artists, students, healers, clinicians, entrepreneurs, and leaders in the Filipina/x/o American community who have contributed to and have witnessed my growth. I'm fortunate to access multiple spaces where it's the norm to affirm our worthiness, our experiences, and our knowledges. Agyamanak, Ninang Ninez for your leadership over the years, especially as we brought the Filipinx/a/o Community Health Association into existence. Many thanks to the Fil-CHA board, coauthors, and collaborators. I'm grateful to the Pilipinx American Public Health Conference committee for inviting me to share my truth. Thanks to Robyn Rodriguez for demonstrating what a people's professor looks like, for creating space to prioritize rest, and for bringing the Bulosan Affiliates together. Ed & Jocyl, thank you for welcoming me into critical education spaces. Dina, I appreciate you for continuing to invest in Pinay scholars; Maramba 2008 lives on! I have immense gratitude for the founding leaders, current members, and supporters of FANHS OC-IE, especially Mike, Anne, Greg, Jaimie, Emeline, Elaine, Krystle, Jenn, Abby, Megan, Christine Liboon, Vicki, Gabbie Aquino-Adriatico, Cyndi and the Ting family, Joe & Celia, the Fabila Cornett family, Nicole & Jayden, Christine Catipon, Anthony Ocampo, Jocelyn Pacleb, JoAnna Poblete, Sarita See, Manang Arlene & Manong Rod, and our Claremont student interns. Many thanks to Dylan Rodriguez for hosting writing retreats at Bahay Bundok. Maraming salamat to Verma and Harvey for inviting me to witness the multigenerational hope and transformative healing you've cultivated with the Buong Loob youth in San Francisco. Thanks to the Filipino Wellbeing Collaborative, the DECIPHeR CAB (Ejiro!), Melanie, Ivy, Eddy, Jollene, SIPA, and HiFi organizers past and present for centering FilAm stories of wellness and

struggle in Los Angeles. To Cal Poly Pomona Barkada, the Cuties (+ our partners and offspring), and the Lakas Mentorship Program for being my first FilAm communities in the 909. To the Pinay Doktora class of 2024, what a special moment to share with you all!

Elaine, thank you for being down to do all the things—the Anti-Colonialism Collective, WOCIE, SOCIE, writing retreats, Thursday mornings + bonus hours, P-Grad. Anne, your beautiful creations keep moving me forward by reminding me that I am enough; I truly treasure our friendship. To my kumare, MK: maraming salamat for sharing your playlists, books, plants, artwork, insights, energy, and hopes for familial community. Chad, thank you for genuinely listening to me and encouraging me to own my strengths during each check-in call. Heidi, your perseverance is inspiring; salamat for spreading intergenerational healing through music. Annie Le and Esme Reyna: I constantly learn from you both—ways to care for myself, actively love others, and unapologetically demand health justice. Much gratitude and respect for CHS alumni whose legacies of organizing and scholarship have inspired my research. Jessie, Emma, James, and Adrian, thank you for your unequivocal support during this doctorate; I wholeheartedly appreciate being real with you and learning alongside you.

I'm also grateful for the folks who checked on me, wrote with me, retweeted me, cheered me on academically, and negotiated critiques of and hopes for academic public health/academia, including but not limited to members of the Anti-Colonialism Collective, the Center for the Study of Racism, Social Justice, and Health; the Online Creative Collective; the APIKC writing group; Michele Wong, Anna Hing, Rachel Banawa, Tran Doan, Cindy Le, Amelia Noor-Oshiro, Monica De La Cruz, Emiko Kranz, Emily Kaner, Corina Penaia, Mienah Sharif, Hector Alcala, Paris Adkins-Jackson, Paul Chandanabhumma, Rebekah Israel Cross, Taylor Rogers, Millicent Robinson, Sarah Cousins, Gabriela Lazalde, Alejandra Cabral, Anny Vilorio Winnett, Rafik Wahbi,

Michael Harvey, Ryan Petteway, Carlos Oronce, Arleah Aguilar, Alex Adia, RJ Taggweg, Sergio Gonzalez, Magali Campos, Kourtney Kawano, Omar Alvarado, Andrea Gambino, Justin Gutzwa, Lauren Daus, Rikka Venturaza, Tracy Buenavista, Pepe Aguilar-Hernandez, Kenjus Watson, Bri Serrano, Lorena Marquez, Sena Filihia, Sarah Lynn Miralles, Janice Sapigao, Leezel Ramos, Xavier Hernandez, Dale Maglalang, Pau Abustan, Abid Kapadya, Betty Mau, Jenelyn Ramos, and Melissa Macias.

[playing] The Beatles, 'Across the Universe'

“Nothing’s gonna change my world”

Maraming salamat to my family. The past five years have been so difficult. To my parents, we are truly blessed to celebrate this milestone together! Your kitchen table has become a place for sharing meals (especially sinigag, turkey bacon, and chicken adobo), childhood memories (“I have two hands, the left and the right”), and cultural traditions (summoning the wind). Thank you for transforming your home into a bayabas and pan de sal shop; the Manalo STEM Laboratory; Amihan’s concert hall; egg-hunting grounds; a dog park; graveyard shift office; and, most recently, a karaoke lounge. Papa, thank you for being curious about my research; now you have two doctor daughters! Mom, from ligo time to tulog time, ulit nang ulit basa ng libro at bisitan sa playground, maraming salamat para kay pagtulungan mo ni Amihan! Ate, thank you for making time to vent with me, for sporadically treating me out, and for always cheering me on. I’m so grateful that our kiddos get to grow together. Wil, thanks for the monitors; you have saved my eyesight! JunJun and Maxwell Daniel, you have already brought so much joy to our world. To my Encina cousins, partners, and babies: our families have grown so much since I started this program! Lola’s legacy of caring lives on. To my Manalo cousins and relatives: I hope we can reunite stateside, in the Philippines, or on that beautiful shore. Lola and Auntie Mimi, I hold onto your stories and will

miss your physical presence at my final graduation. Rest in peace along with Lolo, Christie May, and the Atrero, Yap, Encina, Ambas, Andaya, Manalo, Calventas, Pedro, Licuanan, and Rabaja ancestors in the Philippines and beyond.

Nana and Tata, agyamanak for raising Michael to be all that he is. I'm grateful to you both for the countless ways that you support Michael, Amihan, Blu, and me without hesitation. Jay & Mel, thank you for the hand-me-downs, parenting tips, and joint childcare arrangements. JayJ & KC, keep asking questions and spreading joy. Amihan has such caring, smart, and silly Manongs! Gerry & Jaz, thanks for hosting our stays in LA and for bringing Blu along on your excursions. Welcoming in 2024 at the Desert Dimension retreat set the tone for good vibes this year!

Words cannot express the depths of my appreciation for Mike, Amihan Mae, and Blu. Blu, thanks for keeping me company during many late nights, for making me step away from the computer to walk you outside, and for sunbathing with me. Amihan-babes, thank you for being on #TeamMamaPhD. You are patient, curious, silly, and loving. You have had to share Mama with this degree for almost your whole life. As busy as things have been, I'm glad that we find ways to sing together. I am grateful that your teachers from the Seedling School and KIN Academy have prepared you to express yourself, learn routines, and make new friends. As you start your kindergarten journey this fall, I hope that learning more about the world strengthens your kindness toward others, passion for fairness, and sense of wonder. I love you!

Mike, you have held it down for our family in more ways than I could ever give you credit for. Thank you for coordinating the logistics to keep our entire family as healthy and safe as possible throughout the pandemic, for prioritizing time to enjoy nature as a family, for trying your hardest to quiet our active minds so that we can rest, and for ensuring we were well fed each day (special shout out to green box, the real MVP). All while holding down your own career, supporting

your colleagues/staff/students, keeping two non-profits afloat, maintaining your unwavering commitment to social justice, and navigating your own health concerns. You defrosted breastmilk, drove to Union Station after public transit disruptions, lit sage, curated playlists, summarized journal articles, debated theoretical framings and practical implications, listened to various renditions of practice presentations, traveled across the country for conferences, celebrated each publication, belted karaoke jams on random weekdays, and held me each time that I wanted to fall apart. You are my unicorn. You have poured so much of yourself into making this degree a reality. I look forward to recovering together and dreaming up what's next for us. Thank you for believing in me and magnifying my offerings to the world. Mahal na mahal kita.

[playing] I was Born with Two Tongues, 'Letter to our Unborn Children'

“Because I want to live”

Little Erin, your curiosity, creativity, and tenacity have brought us so far. Pahinga na tayó.

Lako a salamat.

CURRICULUM VITAE

Erin Marie Manalo-Pedro

Education

- 06/2015 **MPH, Department of Community Health Sciences**
Fielding School of Public Health, University of California, Los Angeles
Specialization: Health Promotion/Health Education
- 06/2008 **BS Business Administration, Department of Computer Information Systems**
California State Polytechnic University, Pomona
Minor: Marketing Management

Awards & Honors

- 2023 AERA Minority Dissertation Fellowship Travel Award (\$1,500)
- 2022 UCLA Community Health Sciences Continuing PhD Student Stipend (\$6,550)
- 2021 UCLA Graduate Summer Research Mentorship (\$6,000)
- 2020 – 2021 UC Collaborative to Promote Immigrant and Student Equity Fellowship (\$7,000)
- 2020 – 2021 UCLA Asian American Studies Center Rose Eng Chin & Helen Wong Eng
Fellowship (\$3,000)
- 03/2020 UCLA Graduate Council Diversity Fellowship (\$10,000 + tuition)
- 2019 – 2020 UCLA University Fellowship Award (\$15,000 + tuition)
- 01/2019 National Cancer Institute MTPCCR Doctoral Application Support Award (\$1,060)

Peer-Reviewed Publications

1. Saavedra, J. A., **Manalo-Pedro, E.**, Mackey, A., Dela Cruz, M., Abilo, N., & Higa, L. K. (2024). “Together, We Empower. Together, We Are Enough”: Radical Healing Among Pinay Scholar-Activists. *Women & Therapy*, 1–27.
2. **Manalo-Pedro, E.**, Enriquez, L. E., Nájera, J. R., & Ro, A. (2024). Anxious Activists? Examining Immigration Policy Threat, Political Engagement, and Anxiety among College Students with Different Self/Parental Immigration Statuses. *Journal of Health and Social Behavior*, 0(0).
3. Figueroa, C.A. & **Manalo-Pedro, E.**, Pola, S., Darwish, S., Sachdeva, P., Guerrero, C., von Vacano, C., Jha, M. De Maio, F., & Kennedy, C.J. (2023). The stories about racism and health: the development of a framework for racism narratives in medical literature using a computational grounded theory approach. *International Journal for Equity in Health*, 22(1), 1-9.
4. **Manalo-Pedro, E.**, Walsemann, K. M., & Gee, G. C. (2023). Whose Knowledge Heals? Transforming Teaching in the Struggle for Health Equity. *Health Education & Behavior*, 50(4), 482–492.
5. **Manalo-Pedro, E.**, & Allen, W. R. (2023). 8. Doctoral Pathways via Racial Health Equity: Bridging the Apartheid of Knowledge with California State University Alumni. *Philosophy and Theory in Higher Education*, 5(1), 157–186.
6. **Manalo-Pedro, E.**, Mackey, A., Banawa, R.A., Aguilar, A., Sabado-Liwag, M., Yee, M., Taggug, R., Apostol, N.J., Aguilin, W.C.L, Bacong, A.M., Oronce, C.I.A., & Ponce, N.A. (2022). Learning to love ourselves again: Organizing Filipinx/a/o scholar-activists as antiracist public health praxis. *Frontiers in Public Health*, 10(958654).

7. Sabado-Liwag, M., **Manalo-Pedro, E.**, Taggweg, R., Bacong, A.M., Adia, A.C., Demanarig, D., Sumibcay, J., Valderama-Wallace, C., Oronce, C.I.A., Ponce, N.A., & Bonus, R. (2022). Addressing the interlocking impact of colonialism and racism on Filipinx/a/o American health inequities. *Health Affairs*. 41(2), 289-295.
8. **Manalo-Pedro, E.**, & Sudhinaraset, M. (2022). Deferred depression? Mediation analysis of Deferred Action for Childhood Arrivals and immigration enforcement among Undocumented Asian and Pacific Islander students. *SSM - Population Health*, 17, 101008.
9. McSorley, A.M.M., **Manalo-Pedro, E.**, & Bacong, A.M. (2021). Doctoral Students Taking Action to Improve Health Justice Curriculum: An Experiential Learning Opportunity. *Pedagogy in Health Promotion*, 7(4), 299-303.

Conference Presentations

1. **Manalo-Pedro, E.** (2024, April 12). *Searching for Racial Health Equity: A Computational Text Analysis of Public Health Theses and Dissertations* [Poster presentation]. American Educational Research Association Conference, Philadelphia, PA.
2. **Manalo-Pedro, E.**, Melendrez Gomez, D., Bacong, A.M., McSorley, A.M., & Kuhn, R. (2023, October 25-27). *Depicting racial realism through the struggle for antiracist curricula: Composite counterstories from a school of public health* [Panel presentation]. Critical Race Studies in Education Association Conference, Chicago, IL.
3. Lobo, D., **Manalo-Pedro, E.**, Ruiz, M., & Starowicz, R. (2023, June 12-13). *Equity, Inclusion, and Belonging in Undergraduate Data Science* [Symposium]. Transforming Institutions Conference, Minneapolis, MN.
4. **Manalo-Pedro, E.** (2023, May 4-5). *Racial Health Equity without Racism? Examining Racial Ignorance in Public Health Curricula with Data Science* [Panel presentation]. American Educational Research Association Conference, Virtual.
5. **Manalo-Pedro, E.**, Saavedra, J.A., Abilo, N., Mackey, A., Dela Cruz, M., & Higa, L. (2021, May 28). *Pinay perspectives on the Lakas Mentorship Program: Reflecting on our power to heal, care, and resist* [Conference presentation]. UC Davis Bulosan Center for Filipinx Studies Research Conference, Virtual.
6. Bacong, A.M., McSorley, A., & **Manalo-Pedro, E.** (2020, October 24-28). *Undoing the master's foundation: Faculty and student challenges to institutionalizing health justice courses* [Poster session]. American Public Health Association 2020 Annual Meeting, Virtual.
7. **Manalo-Pedro, E.**, Saavedra, A., Domingo, D. & Natividad, R. (2020, January 25). *Pil-Ams in the mental health workforce: macro and micro level challenges and opportunities for equity*. 2020 Asian American Psychological Association Division on Filipino Americans Conference, San Diego, CA.
8. **Manalo-Pedro, E.**, Chenot, D., Person, D., Lopez, J. & Tavares, A. (2019, November 2-6). *Building an interprofessional community through educational equity and workforce diversity* [Poster session]. American Public Health Association 2019 Annual Meeting, Philadelphia, CA.
9. **Manalo-Pedro, E.**, Tanjasiri, S.P., Person, D., Carrada Zuniga, N. & Gann, A. (2019, March 9-13). *Strategies for Preparing Low-Income, First-Generation College Students for Graduate School Success* [Conference presentation]. National Association of Student Personnel Administrators Annual Conference, Los Angeles, CA.

0 INTRODUCTION: SEARCHING FOR RACIAL HEALTH EQUITY IN SCHOOLS OF PUBLIC HEALTH

Anyone who criticizes and rejects the social inequalities of our current healthcare system, including definitions of health and illness, may be on the path to wellness, however, stigmatized the path that they choose may be. Whatever form it may take, defying the ideas that uphold oppression constitutes a defense of one's own mental health. (Collins, 2022)

Numerous public health organizations across the United States declared racism a public health crisis after Minneapolis police murdered George Floyd in 2020 (Mendez et al., 2021; Paine et al., 2021). Yet overt acts of racism, such as the extrajudicial killings of unarmed Black people, are merely the tip of a much larger iceberg (Gee et al., 2009). For decades, racial health equity scholars have researched multiple pathways through which racism structures health outcomes (Braveman et al., 2022; Ford et al., 2019; Paradies et al., 2015; Phelan & Link, 2015; Williams et al., 2019). Arguably, the delayed mainstream acknowledgment of racism as a structural determinant of health inequities has diverted resources from effective structural interventions (Krieger, 2021), reproduced differences in health outcomes by race (Shaw-Ridley & Ridley, 2010), and, ultimately, cost lives (Hardeman et al., 2020; Ramirez-Valles, 2021). **Thus, the pressing knowledge gap is not *whether racism is a public health crisis, but rather which mechanisms stifle or promote the adoption of anti-racist public health praxis.***

One possible reason for the chasm between scholarship on racial health equity and racism-conscious practice is the **limited public health training on racism** (Cross, 2018; Shaw-Ridley & Ridley, 2010). Health equity scholars contend that, to effectively eradicate health outcomes by race, the public health workforce must have opportunities to recognize various forms of racism, learn how racism operates, and work collaboratively to dismantle racism (Braveman & Parker Dominguez, 2021; C. P. Jones, 2018; Krieger, 2020). Despite the introduction of a racism competency by the Council on Education for Public Health (CEPH) (2016), schools and programs

of public health have yet to consistently prepare graduates for anti-racist public health research and practice (Aqil et al., 2021; Komro et al., 2018). In the aftermath of George Floyd’s murder and ongoing health inequities exacerbated by the coronavirus pandemic, **demands for anti-racist curricular change** have resounded in academic public health and other health professions education (Afolabi et al., 2021; Bonini & Matias, 2021; Bowleg, 2021; McSorley et al., 2021; Tsai et al., 2021).

As academic public health endeavors to incorporate anti-racist strategies more thoroughly (Association of Schools & Programs of Public Health, 2021), qualitative assessments of public health graduate training will be crucial for **monitoring the extent of curricular change**. Detecting racism embedded into the structure and culture of schools of public health requires critical, non-conventional strategies, such as the use of critical race theory (CRT) (Bowleg, 2021; Hicken et al., 2018). Public Health Critical Race Praxis works toward advancing racial health equity as an outcome (Ford & Airhihenbuwa, 2010a) whereas CRT of education examines manifestations of racism in education. Combining these approaches may expand knowledge on the structural barriers to racial health equity from within schools of public health to inform systemic change (Solórzano & Delgado Bernal, 2001).

Syllabi, an “ordinary” yet integral part of formal education, convey course expectations and represent what content is taught. Assessing characteristics of assigned readings can indicate potential biases of which knowledge is prioritized, such as by male authors (J. K. Harris et al., 2020) or the global north (Price et al., 2022). In social and behavioral sciences core courses, for instance, content analyses of syllabi and textbooks demonstrated that the most prominent epidemiologic theories taught remain focused on individual behavior (e.g., theory of planned

behavior) rather than social inequalities and other structural determinants (Harvey & McGladrey, 2019; Westbrook & Harvey, 2022).

Another commonplace document generated in schools of public health are theses and dissertations (hereafter, theses). **Theses represent new knowledge jointly produced by students** and their committee members, which can illustrate more descriptively what students learn than identical grades, certifications, or credentials. The ProQuest Dissertations & Theses (PQDT) Global database contains more than 3 million theses. PQDT offers at least three features: only theses generated from academic degree programs are included, exclusively limiting authors to students; as a non-competitive repository, works in PQDT are not winnowed by publication biases that are evident in the peer-reviewed literature (Krieger, 2021); and, as the official dissertation repository designated by the United States Library of Congress, PQDT comprehensively spans institutions, departments, and disciplines. With over a thousand public health doctoral graduates annually (Goodman et al., 2020), there is much potential to glean new insights about what public health students learn.

To contribute to the knowledge base on mechanisms that constrain the adoption of anti-racist public health praxis, this three-paper dissertation examined what is and is not taught regarding racism in schools of public health. I begin this introductory chapter by situating racial health equity within the literature on anti-racist public health training in the era of the Movement for Black Lives, summarizing the limitations of prior efforts to evaluate public health training, and describing innovative analytical approaches from education research for detecting racism.

Next, I provide an overview of my **transdisciplinary theoretical framework on *cultural racism in schools of public health***. First, I explain how structural and cultural racism reinforce each other through racialized rules (Gee & Hicken, 2021). I focus on the cultural process of

rationalization, particularly how standardization and evaluation maintain norms (Lamont, 2012; Lamont et al., 2014). Then, informed by the tenets of CRT of education (Solórzano, 1997), I theorize the *ordinariness* of whiteness in academic public health as a structural determinant of health inequity. I incorporate the concepts of the *apartheid of knowledge* (Delgado Bernal & Villalpando, 2002) and white ignorance (Mills, 2007) as tools for marginalizing scholarship by faculty of color to maintain non-knowing.

Then, I describe my **conceptual model of cultural processes in academic public health**. The minimization of racism in courses is rationalized by the apartheid of knowledge in public health research. I contend that schools of public health, as a microcosm of white supremacist society, engage in practices that promote the omission of racism in curricula. This division of curricula then influences how public health students evaluate determinants of racial health disparities (e.g., measuring structural racism as a predictor of health in theses).

Thus, I examined the prominence of racial health equity as a subject in public health syllabi, dissertations, and theses. In this chapter, I contextualize my novel mixed methods approach to use **natural language processing and critical race discourse analysis** to address three primary aims (see Table 1). To determine what knowledge is transmitted to students for Aim 1, I describe how statistical distributions of words in public health syllabi (n=86) can reveal cultural norms, broadly and specifically for racial health equity. To classify students' knowledge for Aim 2, I describe how machine learning can be used to estimate the probabilities of specified topics in the abstracts (n=13,842) for public health theses and dissertations. Lastly, to demonstrate what students learn about racial health equity for Aim 3, I describe a multistage coding process for categorizing and contextualizing students' use of racism in dissertations and theses (n = 25). This three-paper dissertation includes a separate chapter for each of these aims.

I conclude the dissertation with a fifth chapter to synthesize results from the three aims, discuss overarching implications, and offer future directions for this novel line of research.

Literature Review

Enduring differences in health by race continue despite efforts to address them (Thomas et al., 2011). Scholars have argued that these persistent inequities expose the inadequacy of conventional approaches for public health research and practice (Bowleg, 2021; Ford & Airhihenbuwa, 2018; Hardeman et al., 2020). What is taught to public health graduate students is assumed to inform their selection of research and practice choices after graduation, particularly as decision makers in the public health workforce. Thus, to achieve the field's espoused goal of health equity, the public health workforce should be trained to address structural determinants of health, such as racism (Aqil et al., 2021; Cross, 2018; Harvey, 2020; Komro et al., 2018).

Some schools and programs of public health have begun to adopt processes to more closely scrutinize anti-racist curricula and learning outcomes (Bentley et al., 2021; Chandler et al., 2022; Seiler et al., 2022). However, faculty and student training on anti-racist public health research and practice has been inconsistent (Aqil et al., 2021; Komro et al., 2018). Empirical research studies on public health curricula to advance racial health equity have recently emerged (Harvey & McGladrey, 2019; Price et al., 2022; Westbrook & Harvey, 2022). Developing a broad evidence base that reveals the extent to which curricula align with racial health equity goals could guide curricular policies to deliberately prepare an anti-racist public health workforce.

I begin this literature review with a summary of state of public health training for racial health equity. Then, I describe standard and innovative ways that public health training has been evaluated. Lastly, I share examples of education research that have attempted to detect “racism” in course curricula and journal articles.

The Demand for Public Health Training on Racial Health Equity

Generations of students, faculty, and staff in schools of public health have demanded training to meet the needs of BIPOC communities (Cross, 2018; Ford & Airhihenbuwa, 2018; Jenkins et al., 2019). For example, in 1971 at the University of North Carolina at Chapel Hill, students from the School of Public Health's Black Student Caucus issued a statement requesting "courses geared to the unique needs of students planning to devote themselves to service in predominantly black settings" (Jenkins et al., 2019, p. 25). Over the years, as faculty and students subversively developed courses to critically examine racism and health (Ford & Airhihenbuwa, 2018; Jenkins et al., 2019), racism remained a niche topic.

In the 2010s, after the murders of Trayvon Martin, Michael Brown, Tamir Rice, Sandra Bland and other unarmed Black people quickly spread through social media, students advocated for resources to address anti-Black violence as a public health issue (Fay-berquist et al., 2016; García & Sharif, 2015; Hagopian et al., 2018). In 2020, as people across the United States protested the killings of George Floyd, Ahmaud Arbery, and Breonna Taylor while mourning thousands of lives lost to COVID-19 (Fine, 2021; Hardeman et al., 2020), the need for anti-racist curricula in schools of public health resounded perhaps more loudly than ever (Bentley et al., 2021). The recognition of racism as a determinant of health has gained mainstream attention (Davies, 2022)—more than a century after DuBois (2003) attributed disproportionate mortality rates to living conditions in the Black community in 1906.

The acknowledgement of racism has formalized into a competency for the MPH degree. In 2016, the University of Washington adopted a school-wide anti-racist competency to "[r]ecognize the means by which social inequities and racism, generated by power and privilege, undermine

health” (Hagopian et al., 2018). Soon after, the Council on Education for Public Health (CEPH) (2016) adopted the following MPH foundational competency as part of accreditation criteria:

Public Health & Health Care Systems 6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels.

In other words, accredited schools of public health are responsible for preparing students across all departments to competently discuss racism and other structural determinants of health, not just those who self-select into racial health equity electives (Rosario et al., 2022; Samarron Longorio et al., 2023). To support this endeavor, the Association for Schools and Programs in Public Health (ASPPH) (2021) Task Force on Zero Tolerance for Discrimination, Harassment and Racism in Academic Public Health issued a framework for dismantling racism through the domains of education, pedagogy, and training; practice; and research. Strategies for faculty include, immediately, adapting curricula to highlight racism as a determinant of health and, intermediately, establishing and requiring a certificate program for inclusion, diversity, equity, and anti-racism. Each institution is encouraged to develop their own internal implementation plan.

Advancing racial health equity has also recently been declared a priority for public health professionals (Mendez et al., 2021; Paine et al., 2021). The American Public Health Association (APHA), the most prominent professional association for public health, initiated a National Campaign against Racism (2018), published a guide to address racism (Ford et al., 2019), and issued a policy statement on anti-Black structural racism as a public health crisis (American Public Health Association, 2020). Relatedly, the 10 Essential Public Health Services for health department accreditation were updated to include equity-focused measures, such as engaging multiple community organizations and reviewing local impacts on exclusionary policies (e.g., redlining)

and disinvestment (Public Health Accreditation Board, 2022; The Futures Initiative, 2020). However, stating that future public health practitioners, policymakers, and researchers must receive appropriate anti-racism training during graduate school is merely the first of a series of steps toward ensuring such training is universally offered.

Approaches to Assessing Public Health Curricula

Systematic assessment of public health curricula has primarily been conducted through accreditation. Since 1974, the Council on Education for Public Health (CEPH) (n.d.) has accredited graduate programs in public health as an independent agency recognized by the U.S. Department of Education. Members of the council, appointed by APHA and ASPPH, establish the policies and procedures for accreditation, determine the criteria for accreditation, and ultimately decide accreditation status. Schools of public health must be reaccredited every seven years, which entails a self-study report based on a standardized template and a multi-day site visit (Council on Education for Public Health, 2022). In the interim, schools must provide annual reports containing “measures of student achievement” and headcount enrollment data.

Because accreditation procedures take place infrequently and at different time points for different schools, public health scholars have developed other approaches for studying trends and sharing best practices in public health curricula. Notably, during each APHA Annual Meeting, the Spirit of 1848 Caucus organizes a Progressive Pedagogy session and archives relevant notes and materials on their website (The Spirit of 1848 Caucus, n.d.). Elsewhere, studies generally either assess multiple courses across institutions or provide an in-depth evaluation of a specific course, module, or academic program.

Prior studies on structural determinants in public health curricula have focused on social and behavioral sciences (SBS) courses, where social influences on health tend to be taught (Harvey

& McGladrey, 2019; Komro et al., 2018; Westbrook & Harvey, 2022). However, these studies reveal that structural content is not universally offered in these departments. A review of SBS courses in the top 20 schools of public health revealed that 16% of course descriptions explicitly addressed structural determinants of health and 17% mentioned structural interventions (Komro et al., 2018). Furthermore, efforts to replicate courses on structural determinants have been constrained by limited transparency into the contents of these courses (Aqil et al., 2021; Seiler et al., 2022).

Another method has been to review syllabi to identify prominent concepts and characterize assigned content. In an exploratory content analysis of epidemiologic theories taught in 30 SBS core courses, Harvey and McGladrey (2019) found that 93% of the most commonly taught theories were behavioral (e.g., health belief model, social cognitive theory). The fundamental cause theory (B. G. Link & Phelan, 1995) was the only non-behavioral theory and was found in 23% of the syllabi (n = 7). Syllabi infrequently included the social determinants of health (37%) and structural factors (20%).

Westbrook and Harvey (2022) expanded on the syllabi study to examine how behavior, health, and society were framed in public health textbooks. They manually reviewed the introductory sections (e.g., foreword and first chapter) of four commonly assigned textbooks within 49 syllabi for SBS core courses. Most of the textbooks emphasized unhealthy behavior as the key predictor of poor health and the role of theories to inform behavioral change interventions, while one stressed sociopolitical and economic determinants. The authors emphasized the need to critically examine teaching because of its influence on “disciplinary cultures and ethical commitments” (Westbrook & Harvey, 2022, p. 10).

These three studies on SBS course descriptions, syllabi, and textbooks suggest that few courses have focused on structural determinants of health (Harvey & McGladrey, 2019; Komro et al., 2018; Westbrook & Harvey, 2022). A recent systematic review conducted by Chandler and colleagues (2022) further substantiated this observation. Their search focused on *racial equity capacitation*, which they defined as “a curriculum or training on (1) the historical antecedents of racialized health disparities/inequities, (2) institutional and/or structural racism, (3) the intersection between policy and racialized health disparities (both historic and contemporary), or (4) applied antiracism” (2022, p. 377). Only eleven articles published before April 2020 met their criteria. The studies described a graduate-level course, an undergraduate course, workshop series, MPH competencies, and classroom lessons/modules of unspecified durations. Six articles mentioned evaluating student learning, yet there was not a shared approach for comparing students’ outcomes.

After the racial reckonings of 2020, schools of public health have introduced new initiatives to incorporate anti-racist curricula. Departments and schools have developed new tools for reviewing existing and new curricula (Cozier, 2022; Garbers et al., 2023; Perez et al., 2021; Seiler et al., 2022) while others have published pedagogical approaches for specific MPH courses (Fleming, 2020; Lightfoot et al., 2021; Maglalang et al., 2021; Rosario et al., 2022). Relatedly, *Pedagogy in Health Promotion: The Scholarship of Teaching and Learning*, a quarterly peer-reviewed journal published by the Society for Public Health Education, published a special issue on anti-racist teaching in December 2021 to highlight such efforts (Bentley et al., 2021).

The current approaches for evaluating public health teaching and learning, while certainly useful, nonetheless have limitations. Accreditation occurs infrequently. Comprehensive reviews of curricula have either been limited (e.g., catalog course descriptions) or time intensive (e.g., reviewing textbook content). Curricular reviews developed independently by institutions are

promising, but they preclude broader standardized assessments across schools of public health. Lastly, these evaluations capture neither the breadth nor depth of students' knowledge.

Searching for Racism-Related Words in Education Studies

Education research can guide approaches for uncovering the subtle ways through which public health students are socialized to comprehend differences in health. Apple's (2019) scholarship on curriculum and ideology describes three ways that the production of knowledge in schools is political. First, schools legitimize knowledge by selecting curricula that conveys which content is worth knowing, thereby reproducing both knowledge and norms about knowledge. Second, if students are not exposed to opportunities to think critically, students accept "normal" without recognizing the arbitrariness of what constitutes normal nor how such normalcy has been established through domination (Bourdieu & Nice, 1977). This *hegemony*, or a hidden form of control by consent, was articulated by Gramsci and has influenced critical curriculum studies (K. P., 2019). Third, social reproduction can also be contested in schools. That is, by becoming aware of our consciousness, we develop a meta-awareness of being simultaneously "in and with the world," which Freire refers to as *praxis*. This meta-awareness "develops through an active process of first decoding reality, only to recode through the envisioning of alternative structures" (Au, 2011, p. 23). Therefore, conceptualizing curriculum as a conduit through which knowledge is transmitted in formal educational settings, and thus a vehicle for maintaining hegemony, can inform public health scholars' attempts to disrupt oppressive systems of power (Au, 2011; Petteway, 2022; Westbrook & Harvey, 2022).

Education scholars have advanced this area of research by studying words and interpreting their impact on racial inequality (Solórzano, 1997). For example, Harper (2012) conducted a content analysis of 255 articles which described racial differences in top-tier higher education

journals. After manually copying and pasting the content from each article into Word documents, he then searched for “racism” and “racist” in the titles and the “Discussion” and “Implications” sections. Harper found that only 21.6% of the articles explicitly mentioned “racism” or “racist.” Rather, articles offered alternate explanations, a practice he referred to as “minimizing institutional norms” or downplaying that the educational disparities *by race* were due to *racism*. Harper’s study demonstrated how disciplinary norms may “unwittingly undermine efforts” for racial equity, even when studying educational outcomes by race.

Recent advances in data science have increased researchers’ capacity to analyze larger bodies of text. More recently, Lucy and colleagues (2020) utilized natural language techniques in their content analyses of seven U.S. history textbooks in Texas. The researchers used wordlists to assess the allocation of textual space to specific groups of people (e.g., “Black”, “woman”, “men”). Then they measured the associations between the groups of people and descriptive words to contrast how groups were described (e.g., “men” similar to “control”). Lastly, they assessed the prominence of clusters of frequently cooccurring terms (i.e., topics) in the textbooks associated with groups of people. For example, the group of people labeled “Native American” frequently appeared alongside the terms “indian”, “nativ”, and “land.” Their findings revealed the plurality of topics in the textbooks centered Whiteness. For example, people terms such as “pioneer,” “farmer,” or “priest” were not marked with a race descriptor, allegedly conveying whiteness implicitly. This was in stark contrast to the racially diverse student body in Texas: 52.42% of students in Texas were Latinx but only 0.248% of people terms were Latinx. This study demonstrated the potential of analyzing course content with natural language processing to reveal biases hidden in plain view.

Another approach to assessing how educational institutions shape racial equity is through critical race discourse analysis (Casellas Connors & McCoy, 2022). As a qualitatively analytical approach, critical race discourse analysis examines texts in the context of power, particularly how language is used to maintain racial inequality (Briscoe & Khalifa, 2015). For example, authors of a recent study synthesized critical race discourse analysis with anti-racist pedagogy to examine a syllabus as a policy negotiated between an individual instructor and the institution (Laughter & Hurst, 2022). Within the graduate course syllabus, the authors (who were also course instructors) identified topics, methods of interaction with students, and opportunities for organizing as either addressing or not addressing race in the context of individual and institutional power. By scrutinizing explicit/implicit (anti)racism in the course syllabus, the instructors had empirical data to align the syllabus more closely with anti-racism.

In summary, there is high demand for public health training to advance racial health equity. Schools and programs in public health must offer anti-racist training to graduates, not only to sufficiently meet accreditation criteria, but to ensure the public's health. Public health researchers can leverage innovative strategies from education research to disrupt hegemonic curricula and evaluate the state of public health training on racism.

Theoretical Framework

My transdisciplinary theoretical framework on *cultural racism in schools of public health* applies sociological theory to critical race education concepts. I begin by defining key tenets and terms related to cultural racism. Next, I explain how the cultural processes of rationalization normalize racist structures (Lamont et al., 2014). Then, informed by the tenets of critical race theory of education (Solórzano, 1997), I situate the ordinariness of whiteness in academic public

health. I describe the concepts of the apartheid of knowledge (Delgado Bernal & Villalpando, 2002) and white ignorance (Mills, 2007). Finally, I end with an overview of my conceptual model.

Cultural Racism

Conceptualized in 1972 by J.M. Jones, cultural racism refers to “the dual power to define difference as deficient and to reinforce conformity to prevailing standards” (1988, p. 131). The key tenets of this theory reflect shared beliefs about how dominant culture enables racism. These tenets include the normalization of racial hierarchy, racism as the root cause of racial health differences, the mutual reinforcement of cultural and structural racism, and the necessity of nondominant perspectives for reducing racial health inequities (Hicken et al., 2018).

Concepts in the theory of cultural racism require explicit working definitions. *Culture* refers to a dynamic system of beliefs, values, and practices that humans use to inform their lives (Kagawa-Singer et al., 2015). Culture manifests through its social structures. *Racism*, as defined by C.P. Jones (2002), is a system that “structures opportunity and assigns value” based on a hierarchy of race. *Race* refers to a dynamic, socially constructed classification based on shared traits such as phenotype, geography, or ancestry (Diez Roux, 2012; C. P. Jones, 2001). For this dissertation, *cultural racism* refers to the normalization of racial hierarchy into a society’s beliefs, values, practices, and social structures. These racial norms are reinforced by seemingly “neutral” *racialized rules*—formal and informal rules embedded into everyday institutions that govern how individuals and organizations operate (Gee & Hicken, 2021).

Building upon the normalization of racial hierarchy, another tenet is that *the root cause of racial health disparities is racism*. Differences in health represent the actualization of structure (Øversveen, 2023). Racism produces unfair conditions which disproportionately provide advantaged racial groups with health-enhancing environments and disproportionately expose

disadvantaged racial groups to harmful environments (Krieger, 2020). These differences in structural conditions are embodied as differences in health (Gee & Ford, 2011). Therefore, as Williams and colleagues (2019) have urged, improving health among nondominant racial groups requires change to the structures which produce these unfair environments.

Further, racism relies on the mutually reinforcing mechanisms of cultural racism and structural racism to fundamentally produce health inequity (Hicken et al., 2018; Michaels et al., 2023). Beliefs regarding the superiority of the white race and the inferiority of Black and other non-white races inform how society operates (J. M. Jones, 1988). Through policies, institutions, and opportunities that consciously and unconsciously favor dominant groups and reward dominant culture, dominant groups disproportionately experience conditions conducive to good health while nondominant groups disproportionately experience more barriers to good health (Braveman & Parker Dominguez, 2021). These structures subconsciously reinforce the idea that racial hierarchy is normal such that whiteness confers expectations for power (C. I. Harris, 1993) and deviations from these expectations are viewed as aberrant (Hicken et al., 2018). Due to this ongoing structural and cultural exchange, racism perpetuates itself through racialized rules without identifiably prejudiced perpetrators (Bonilla-Silva, 1997). That is, although structuring practices may be observable, they are often unseen (Øversveen, 2023). Thus, the key goal for mitigating health inequities must be to disrupt the fundamental mechanisms of cultural racism that produce racial health disparities (Gee & Hicken, 2021; Phelan & Link, 2015).

However, because culture is so ingrained into society and the mechanisms of structure are difficult to uncover, *detection of cultural racism requires novel approaches* (Ford & Airhihenbuwa, 2018). The ethnocentric imposition of dominant norms on nondominant groups relies on the presumption of the dominant culture as superior (Lamont et al., 2014). To change social structure

requires different standpoints that broaden the scope of alternative possibilities to the status quo (Bowleg, 2021). This inherently requires the recognition of the legitimacy and value of nondominant groups and cultures (Yosso, 2005). Thus, nondominant perspectives are needed to research the processes that discreetly embed racialized rules into the social structures that influence health (Ford & Airhihenbuwa, 2010a). Relatedly, if the default social arrangement maintains inequality, default interventions will be inadequate to reduce health disparities.

Cultural Processes to Racial Inequality

Applied towards community health sciences, cultural racism bridges cognitive processes with social inequality through cultural processes (Hicken et al., 2018). Cognitive prejudices against nondominant groups surpass personally mediated acts of covert racism. Every day, policy decisions, institutional rules, and access to opportunities rely on cognitive schemas that are shared within a culture (Lamont et al., 2014). These ordinary mechanisms which construct society through shared perceptions are called cultural processes.

As conceptualized by Lamont, Beljean, and Clair (2014), cultural processes serve as pathways to inequalities. Hicken and colleagues (2018) extended these cultural processes to pathways to *racial health inequities*. According to this theory, the cultural processes of rationalization, standardization and evaluation are leveraged to justify inequality in society's structures. The overarching cultural process of *rationalization* refers to seemingly "rational" or "objective" reasons for action or inaction, such as a professor assigning students readings from top-tier journals of public health (Lamont et al., 2014).

Essential to rationalization, *standardization* is the cultural process of establishing agreed-upon rules, typically made by groups already in control (Lamont, 2012). For example, course curricula generally represent a discipline's canon (i.e., seminal readings or core concepts); the

norms of an academic discipline are produced by standardization (Krieger et al., 2021; Patton, 2016). When applied to structural racism, these standards may also be referred to as *racialized rules* (Gee & Hicken, 2021). That is, in institutions founded on the values of white supremacy, everyday practices perpetuate racial inequality by merely maintaining the status quo (Michaels et al., 2023; Ray, 2019). Relatedly, *evaluation* is the cultural process of determining value. Evaluation requires agreed upon criteria, a legitimate judge, and a relational comparison of entities (e.g., rating, ranking) (Lamont, 2012). An example of an evaluation process is the decision to cite conventional or non-conventional sources in a student's thesis (Chakravartty et al., 2018).

Lamont and colleagues (2014) posited that these cultural processes then yield different types of inequality. Most germane to this dissertation is *symbolic inequality*, which is concerned with non-material resources, like status symbols and cultural capital, and their capacity to access material resources. Racialized rules may deprioritize anti-racist content in public health curricula; this symbolic inequality delegitimizes access to material resources, like grant funding, for anti-racist interventions (Fleming et al., 2020).

As an investigation into the rationalization of symbolic inequality, this dissertation seeks to uncover how public health curricula are standardized and how public health students evaluate what they have been taught regarding racial health equity.

Critical Race Theory in Education

My conceptualization of curricula as a determinant of health is guided by the five tenets of CRT in education: (1) the centrality of race and racism and their intersectionality with other forms of subordination; (2) the challenge to dominant ideology; (3) the commitment to social justice; (4) the centrality of experiential knowledge; and (5) the transdisciplinary perspective. I hold a unique epistemic privilege to question dominant explanations for poor health (Hooks, 1990; Sweet, 2020), largely informed by my lived experiences as a woman of color, daughter of immigrants, and consumer of ineffective public health interventions (Manalo-Pedro et al., 2022). My research on racial health equity integrates sociology, public health, education, and data science to render the hidden structures that maintain racial hierarchy in academic public health more visible. I apply concepts from CRT of education to generate a shared understanding of reality as a precursor to transforming society (Delgado, 1989). CRT of education clarifies how teaching conventionally centers whiteness as the unquestioned standard.

The racial relations of knowledge production have been conceptualized in CRT of education as the apartheid of knowledge and white ignorance. Coined by Delgado Bernal and Villalpando (2002), the *apartheid of knowledge* refers to the division of knowledge produced by BIPOC scholars from mainstream scholarship. More detrimental than benign academic silos, this segregation of knowledge “marginalizes, discredits, and devalues the scholarship, epistemologies, and other cultural resources of faculty of color” (Delgado Bernal & Villalpando, 2002, p. 169).

Extant literature suggests that the apartheid of knowledge could be applicable to public health research. A steady stream of scholarship examining racism and health has been produced over several decades (Herman, 1996; C. P. Jones, 2018; Neblett, 2019; Paradies et al., 2015; Williams & Griffith, 2019; Williams et al., 2019). Yet this knowledge is infrequently incorporated

into mainstream outlets for public health (For example, systematic reviews indicate that a dearth of articles have named, operationalized, and addressed racism in top-tier public health journals (Castle et al., 2019; Groos et al., 2018; Hardeman et al., 2018; Mannor & Malcoe, 2022). Notwithstanding a special issues (e.g., (Hicken et al., 2018)) and the formidable contribution of the (2019) APHA Press publication *Racism: Science & Tools for the Public Health Professional*, efforts to center discussions of racism in mainstream public health journals (e.g., (Bentley et al., 2021; Ramirez-Valles, 2021; Weil, 2022, 2023)) in recent years have largely accelerated in response to the widely publicized killing of George Floyd and the remarkably disproportionate burden of COVID-19 on communities of color (Boyd et al., 2020; Hardeman et al., 2020).

Recent public health commentaries have argued that devaluing BIPOC knowledge in the academy and in the community generates epistemic and material violence (Bowleg, 2021; Petteway, 2022). The apartheid of knowledge in racial health equity research is particularly perilous because it “hinders the open circulation of evidence, hypotheses, theories, concepts, and research questions, hence societal efforts to prevent disease and improve people’s quality of life” (Ramirez-Valles, 2021, p. 233).

Relatedly, white ignorance, as theorized by Mills (1997), refers to deliberately avoiding knowing about racism. This non-knowing arises from white racism and flourishes because it “protect[s] those who for ‘racial’ reasons have needed not to know” (Mills, 2007, p. 35). White ignorance can be actively maintained by not teaching about racism, even in graduate programs that tout social justice missions. For example, Matias and colleagues (2014) observed that “not teaching about whiteness produced teacher candidates who claimed to be invested in anti-racism, but who nonetheless showed complicity in hegemonic whiteness” (2014, p. 302). Similarly, Petteway (2022) critiqued that knowledge production of racial health inequities “obfuscate[s] the extent to

which the research enterprise itself is complicit in the maintenance of racial inequality” (2022, p. 5). That is, ongoing ignorance regarding racism is fundamentally about maintaining power (Petteway, 2021).

Conceptual Model

Informed by these theories on structural and cultural racism, I interpret the ongoing racial health disparities and minimal incorporation of racism into curricula at schools of public health as a commonplace manifestation of whiteness in academic public health. I suggest that the minimization of racism in public health teaching is rationalized by the apartheid of knowledge in public health research. I contend that this active ignorance contributes to how public health students evaluate determinants of racial health disparities (e.g., measuring structural racism as a predictor of health in theses).

Figure 0-1 depicts my **conceptual model of racialized rules on knowledge production in schools of public health**. Conventional public health research generally measures health outcomes and their downstream, proximal influences, such as public health practice, as outlined in grey on the right. The simple view assumes that schools of public health structure public health teaching, which affects public health learning, which affects public health practice, which affects public health outcomes. Published research, which examines how practice affects public health outcomes, feeds into what is taught. However, a critical race perspective nuances these relationships. The yellow outline encloses the constructs for the cultural process of rationalizing curricula. The distal, upstream factors of public health teaching and public health learning in the pink boxes on the left are the focus of this study. The arrow from public health teaching to public health learning represents students’ processes of evaluating structural determinants of health. The standardization of the apartheid of knowledge is represented by the arrow from public health

research up to public health teaching. Public health published research, practice, and outcomes are included to situate public health teaching and learning but are out of scope for this study.

The *rationalization* (a racialized rule) of the *apartheid of knowledge* (a cultural norm) in *schools of public health* (a structure) warrants investigation as a structural determinant of health inequity. How curricula reproduces the unequal power relations that generate health inequities is rarely examined (Westbrook & Harvey, 2022). Studies that shift the unit of analysis from individuals' health outcomes to societal conditions that produce health disparities are needed to confront hegemony (Hicken et al., 2018; Korp, 2010; Shaw-Ridley & Ridley, 2010).

Specific Aims

It is currently not known the extent to which **normative content and racial health equity content overlap in what is taught and learned** in schools of public health. Because structural racism and cultural racism reinforce each other, this dissertation investigated the manifestations of cultural racism in schools of public health. As depicted in Figure 0-2, accredited and non-accredited schools and programs of public health are comprised of several components. This dissertation examined a select number of these components to elucidate the culture of academic public health. The assumption is not that MPH students necessarily go on to produce dissertations and theses. Rather, I assert that students who pursue MPH, MS, and PhD degrees within schools and programs of public health share learning environments with shared academic cultures. Thus, I sought to uncover disciplinary norms and patterns of cultural practices in knowledge transmission and production. I intended to document the extent to which racial health equity concepts were present. I also sought to **contextualize knowledge transmission and production**.

Because it is often challenging for individuals within a culture to notice their cultural factors, I leveraged critical race methodology and natural language processing to detect cultural

norms and practices in mundane documents (i.e. syllabi and dissertations) produced by/in schools of public health. As described in Table 0-1, I blended critical anti-racist discourse analysis, computational text analysis, and manual content analysis to examine reaccreditation self-study reports and syllabi from schools of public health, abstracts from public health theses and dissertations (hereafter, dissertations), and full-text dissertations on racial health equity.

Aim 1: To determine what knowledge is transmitted to students broadly and regarding racial health equity through syllabi. Course syllabi offer evidence of disciplinary norms and cultural practices in knowledge transmission. Few studies have examined public health curricula for the presence of social theories and structural determinants of health; those that have focused their reviews on social and behavioral studies courses. However, because understanding racism as a determinant of health is essential for all public health professionals, I wanted to review course syllabi across each school of public health. Because schools specified which courses would address CEPH competencies in their respective reaccreditation self-study reports, courses mapped to Foundational Knowledge D1-10 and Foundational Competency D2-6 represented the school's intention to develop students' competence to discuss structural biases, social inequities, and racism as challenges to health equity. Because each school has its own culture, I sought to determine the extent to which racial health equity concepts (race, health equity, and racism) coherently aligned within each course for each school.

Aim 2: To classify the breadth of knowledge that students produce in abstracts from public health theses and dissertations. Schools of public health are required to prepare graduate students to competently discuss racism as a determinant of health. However, few empirical studies have documented what students of public health know about race or racism. Students' culminating academic works serve as an incomplete yet widely available and underexamined indicator of

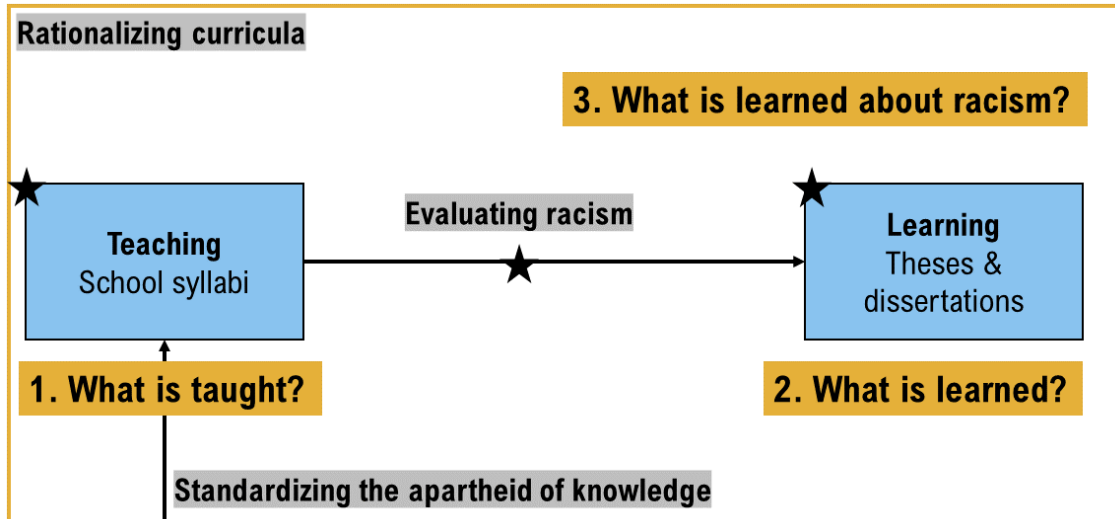
students' knowledge. I sought to examine abstracts for public health theses and dissertations as evidence of the concepts learned by student-authors. Given the range of ways race and racism have been framed in public health literature, I aimed to quantify which words were most frequently used (i.e., normalized), whether studies examined race or racial groups as study population characteristics (e.g., 'African American', 'ethnic minority'), and whether theories were applied (e.g., 'health belief model'). Lastly, because public health is a broad interdisciplinary field intended to address a multitude of determinants around the world, I wanted to test whether topic models could distinguish between patterns.

Aim 3: To categorize and contextualize how students discuss racism in theses and dissertations on racial health equity. Health equity experts recommend naming and operationalizing racism as anti-racist praxis. However, the extent to which students meaningfully engage with racism as a determinant of health is unclear. Indeed, how health differences by race are interpreted vary. Although CEPH criteria require all graduate students to be able to competently discuss racism, contextual factors at the student-author and institution levels may facilitate or constrain their ability to do so. Thus, I sought to systematically document public health graduate students' knowledge about racial health equity by categorizing public health theses and dissertations. I analyzed how explicit theories were used in studies on the health of racial groups. I wanted to uncover examples of how student-authors named racism and operationalized racism. Lastly, I was interested in the contexts in which they produced their dissertations and theses.

By combining a critical race perspective with machine learning tools, I systematically examined how words shape teaching and learning about racism in public health. This novel study provides a glimpse into the norms embedded within academic public health structures to inform curricular strategies for racial health equity.

Figures

Figure 0-1 *Conceptual Model of Public Health Curricula as a Structural Determinant of Health Inequity*



Note: The rationalization (racialized rule) of the apartheid of knowledge (cultural norm) in schools of public health (structure) maintains racial health inequities.

Figure 0-2 *Diagram of Dissertation Data by Degree Type*

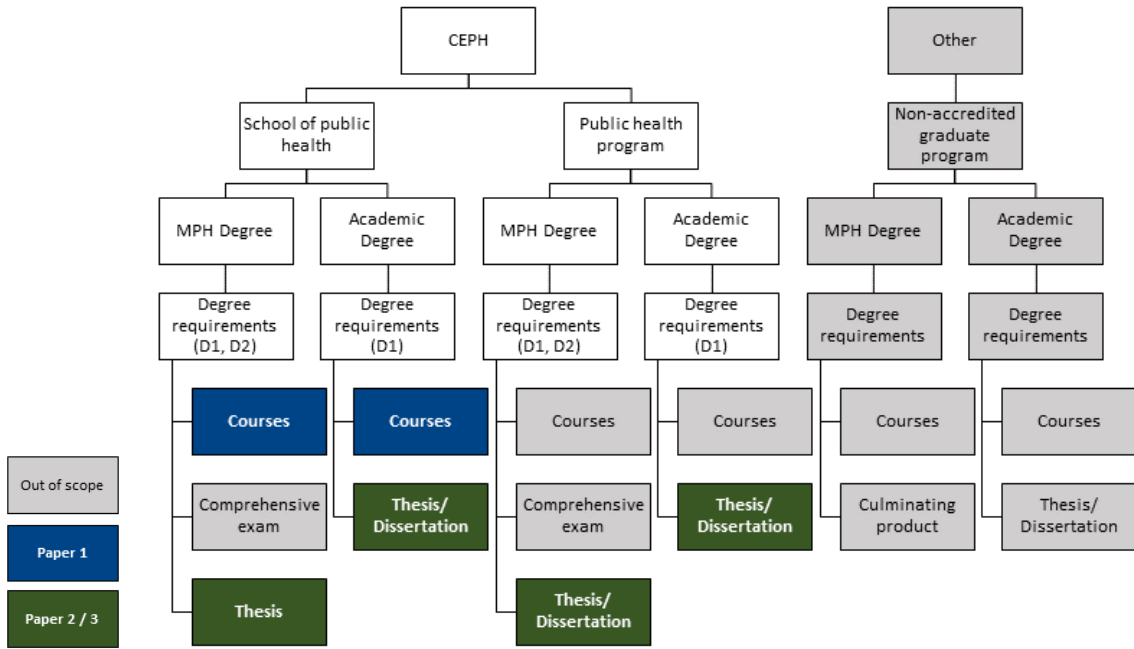


Figure 0-3 Proposed Overview of Dissertation Aims, Sources, Inputs, Tasks, and Outputs

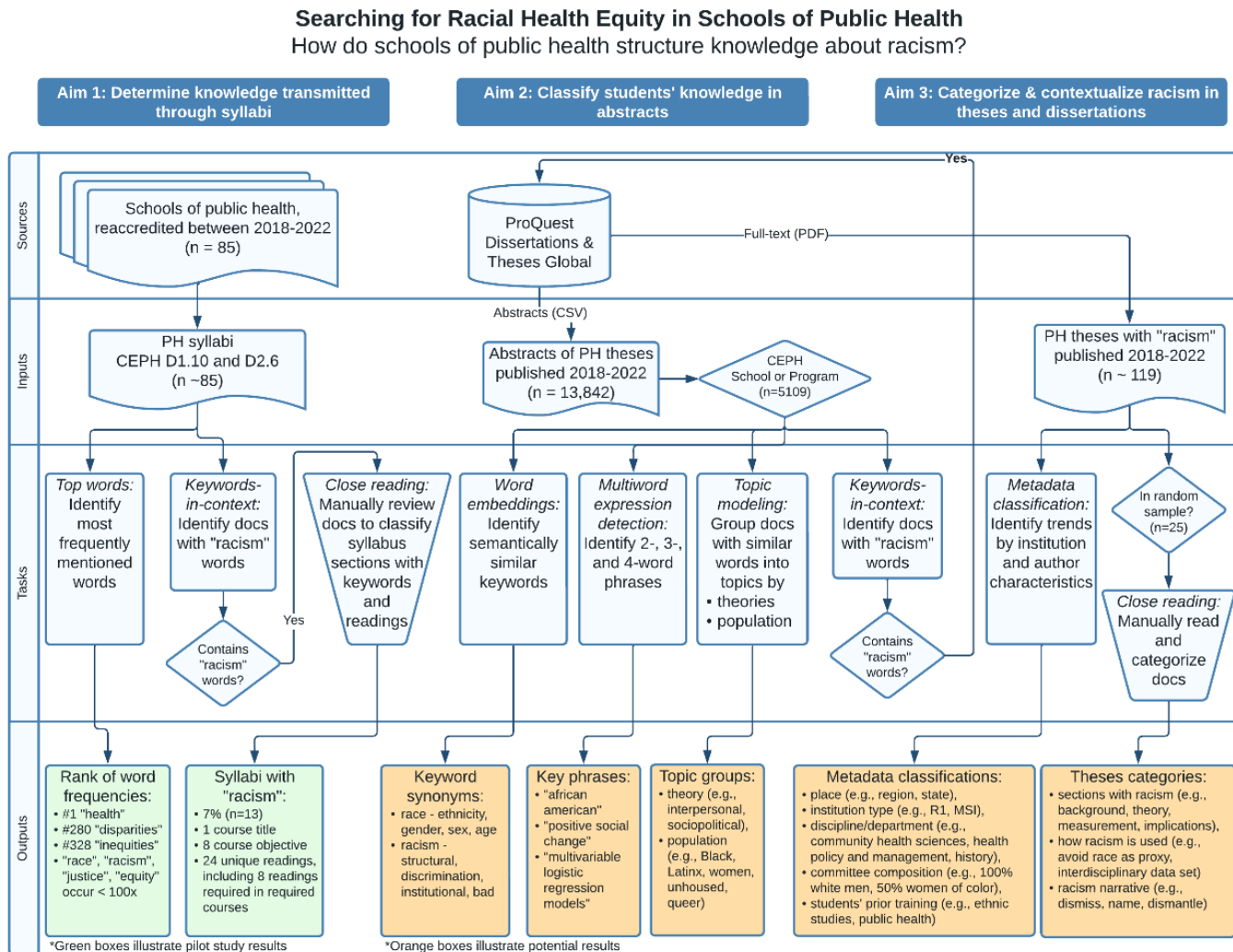
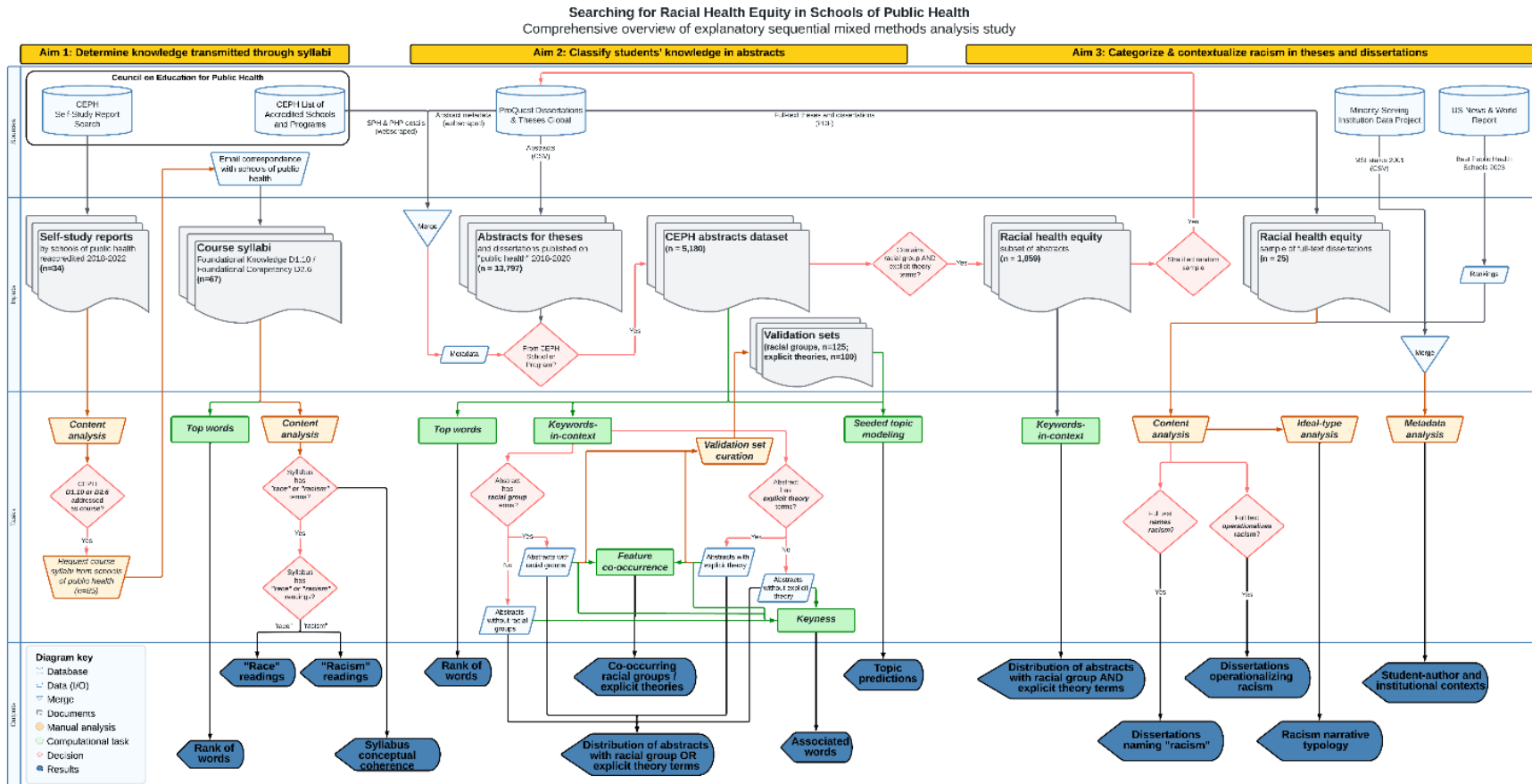


Figure 0-4 Comprehensive Overview of Dissertation Analyses



Tables

Table 0-1 *CEPH Accreditation Criteria 2016 of Interest*

Reaccreditation Criterion	Text
Foundational Knowledge (D1-10)	Explain the social, political and economic determinants of health and how they contribute to population health and health inequities.
Foundational Competency (D2-6)	Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels.

Note: CEPH = Council on Education for Public Health

Table 0-2 *Summary of Data Sources and Methods*

Aim 1				
Data Source	Purpose	Analysis	Included	Excluded
Reaccreditation self-study reports	To look up relevant courses	Identify courses addressing Foundational Knowledge D1-10 and Foundational Competency D2-6	<ul style="list-style-type: none"> • CEPH accredited schools of public health in the United States • Reaccredited between 2018-2022 based on 2016 standards • MPH and DrPH degrees (e.g., Sections D1-10, D2-6) 	<ul style="list-style-type: none"> • CEPH accredited schools of public health in U.S. territories or other countries • CEPH accredited programs of public health • Excludes courses for degrees that are not MPH or DrPH (e.g., Sections D17-10 MS courses, D18-10 PhD courses)
Public health syllabi	To determine what knowledge is transmitted to students	<ul style="list-style-type: none"> • Identify top words • Find keywords-in-context 	<ul style="list-style-type: none"> • Courses pertaining to Foundational Knowledge D1-10 or D2-6 • Any academic term between 2018-2023 • Terms pertaining to race, racism, and health equity 	<ul style="list-style-type: none"> • English stop words (e.g., ‘the’) • Syllabus stop words (e.g., ‘schedule’, ‘zoom_link’) • Public health stop words (e.g., ‘equal_variance’, ‘power_calculation’)
	To determine what knowledge is transmitted to students about racial health equity	<ul style="list-style-type: none"> • Review syllabi • Code syllabus sections • Compile reading list 	<ul style="list-style-type: none"> • Course title • Course description • Learning outcomes • Content 	<ul style="list-style-type: none"> • University policies • Course logistics • Course assignments

Aim 2				
Data Source	Purpose	Analysis	Included	Excluded
Abstracts in ProQuest Dissertations and Theses	To classify the breadth of knowledge that students produce	<ul style="list-style-type: none"> Count word frequencies Develop word lists Detect keyword co-occurrences Find keywords-in-context Predict topic distributions Validate topic model performance 	<ul style="list-style-type: none"> 2018-2022 Theses and dissertations with subject = “public health” 	<ul style="list-style-type: none"> Published outside the United States Not in English Abstracts missing
CEPH Accredited Programs	To identify in-scope universities	Compare ProQuest university name against CEPH list of programs	Schools and Programs accredited by CEPH as of December 2022	

Aim 3				
Data Source	Purpose	Analysis	Included	Excluded
Racial health equity subset of abstracts (from Aim 2)	To identify trends by author and institution	<ul style="list-style-type: none"> Find keywords-in-context Classify metadata 	<p>Abstracts contain both of the following criteria from Aim 2:</p> <ul style="list-style-type: none"> Generic racial group terms (including similar words like “racial” or “ethnic”) OR terms for racialized groups (e.g., “Black”, “Latino”, “Asian”, “Native American”); Theory-related terms 	
Full text from ProQuest Dissertations and Theses	To contextualize how students apply racism	<p>Critical race discourse analysis</p> <ul style="list-style-type: none"> Code dissertation sections Code instances of ‘racism’ Code justification of racial group Code exposure to harm 	<p>Randomly selected from the racial health equity subset of abstracts with the following strata:</p> <ul style="list-style-type: none"> Degree (10 master’s theses, 15 doctoral dissertations) Theory (10 social inequality; 15 not social inequality) 	<p>Full text unavailable (e.g., embargoed, not online)</p>
Minority-Serving Institution data	To determine institution’s minority-serving status	Compare ProQuest university name against MSI status	Based on 2021 determination	
U.S. World News Rankings	To determine school’s ranking	Compare ProQuest university name against public health ranking	Based on 2023 rankings	

Table 0-3 *Natural Language Processing Terminology*

Terminology	Description	Example
Formats		
Document	A single file, observation, or case, comprised of unstructured text and, optionally, metadata (<i>d</i>)	'001-CHS123', 'This is a public health syllabus.'
Corpus	Dataset comprised of documents unstructured text (<i>N</i>)	'001-CHS123', 'This is a public health syllabus.'; '002-PUBH2024', 'This is a syllabus for a graduate course on policy in Public Health.';
Token	Basic unit for structuring analysis; can be set at the word, character, or sentence level	'This', 'is', 'a', 'public', 'health', 'syllabus.'
Feature	Any word or combination of words that represent a distinct token in the corpus (<i>w</i>)	'this', 'is', 'a', 'public health', 'syllabus'
Document-feature matrix	Matrix of documents in the corpus with counts of for each feature in the corpus	For the feature 'this': 001-CHS123 (n=1) 002-PUBH2024 (n=1)
Pre-processing		
Stopword	Features to be excluded from analysis; based on commonly occurring words in English, identified by the analyst as a false positive, or otherwise determined to be excluded	'this', 'is', 'a', 'for'
Multiword expressions	Two or more sequential words that appear statistically significantly more often than expected. Lambda (λ) collocation score is based on the association of adjacent words. Threshold for a significant Z-score is 1.96.	'public health'; N=2723, lambda = 6.0; Z-score = 167.1
Compound	Modification of sequential words to represent a distinct token; based on statistically significant multiword expressions or the analysts' familiarity with public health and courses	'public' + 'health' = 'public_health'
Stem	Trimmed feature intended to collapse features into their shared root	Before stemming: 'policy' (n=1), 'policies' (n=1) After stemming: 'polic' (n=2)
Keyword	Important features that are conceptually of interest to the study	'disparities', 'race'

Terminology	Description	Example
Word Lists		
Terms	Features that are conceptually of interest to the study	'health_disparities', 'racial-ethnic'
Dictionary	Curated word list comprised of terms that map onto a keyword	Key: 'difference' Features: 'different', 'health_disparities', 'health_equality', 'social_inequality'
Keyword-in-context	Quanteda function for searching for keywords; returns the keyword as well as a window of features that appear before and after the keyword	Keyword: 'public_health' Pre: 'this is a' Post: 'syllabus.'
Word Relationships		
Word embedding	Multidimensional numerical representation of a feature's meaning within a corpus, based on the distributional hypothesis of language	'health' = (1,1,1,1,1...) 'disease' = (1,1,0,1,1...)
Top features	Quanteda function that determines the most frequently occurring features in a corpus	'health' (N=1314), 'data' (N=1029)
Feature co-occurrence matrix (FCM)	Quanteda function that quantifies how frequently a list of features occur within the same document. Boolean FCMs tabulate whether features appear together within the same document whereas frequency FCMs indicate how many times the features were mentioned in the same document.	Co-occurring 'Black' and 'white' racial groups: Boolean FCM (N=271 abstracts) Frequency FCM (N=2849 mentions)
Entropy	Indicator of a feature's representation within a corpus. High entropy values indicate frequent cooccurrence with words across multiple topics, whereas low entropy values indicate frequent cooccurrence with words across fewer topics (Watanabe, 2021). High entropy words confuse topic models.	'public_health' (entropy score = 9.75), 'white_supremacy' (entropy score = 2.66), 'white_supremacist' (entropy score = 1)
Keyness	Quanteda function that runs a chi-square test of independence to determine which features are statistically significantly located within a set window of words around each dictionary term. Features with high keyness values indicate strong association with keywords.	Dictionary category: 'american_indian' Feature: 'cultural' (chi-2 = 1669.4; p < .001; target N = 76; reference N = 413)

Table 0-4 *Topic Modeling Terminology*

Terminology	Description
Topic	An unknown, latent cluster of related ideas within a corpus, based on probability distribution (z); a document may contain a mixture of multiple topics
Topic model	Statistical model that estimates probabilities of each document belonging to a number of k topics; the algorithm estimates topics based on the pattern of words in documents, which is the known document-feature matrix of a corpus
Latent Dirichlet allocation (LDA) topic model	An unsupervised technique for modelling topics by estimating Bayesian probabilities at three levels of a hierarchy: the corpus level, the document level, and the word level
Seeded topic model	A technique for modeling topics that leverages dictionaries to determine topic probabilities
Alpha parameter	Topic-document distribution prior, alpha (α), is used to maximize common features across documents; affects the distribution of topic theta (θ)
Topic theta	Estimated probability that a document belongs to a specific topic (θ)
Beta parameter	Word-topic distribution prior, beta (β), is used to minimize conflicts between topics; affects the distribution of phi (φ)
Feature phi	Coefficient that indicates the strength of association between a feature and a topic (φ)

1 AIM 1: ASSESSING THE CENTRALITY OF RACIAL HEALTH EQUITY IN PUBLIC HEALTH TRAINING: COMPUTATIONAL TEXT ANALYSIS OF KEYWORDS IN GRADUATE SYLLABI

Abstract

Background: The ability to discuss racism as a challenge to health equity has been deemed a foundational competency for all public health graduate students, yet it is not apparent how often racism appears in the curriculum. One way to study this is to examine class syllabi. **Objective:** To document the use of racial health equity concepts in public health graduate syllabi. **Methods:** I acquired 67 recent syllabi and/or reading lists for graduate courses from 22 schools of public health reaccredited between 2018-2022. Using computational text analysis and content analysis, I detected word patterns within syllabi and schools of public health. I conducted keyword searches on race as a group of interest, health equity as an outcome, and racism as an exposure to harm. I quantified each concept's word counts within course descriptions, learning objectives, and assigned content (e.g., journal articles, videos, books). I aggregated journal articles containing keywords. **Results:** Across the corpus, 'health' occurred 8.7 times more frequently than 'health equity' (n=1683 vs. 183). When health equity learning objectives were stated, more syllabi included content on 'race' than 'health equity' or 'racism'. Assigned journal article titles named race (n=143) more often than racism (n=54). Content on racism as an exposure was assigned across 21 courses in 14 schools. **Conclusions:** This study provided a baseline assessment of racial health equity concepts in public health graduate curricula. Key concepts of race, health equity, and racism were not consistently represented within syllabi nor across schools of public health. **Policy implications:** Documenting what is taught about racial health equity within syllabi and across schools of public health can increase transparency into the adoption of anti-racist curricula within

public health training. Machine learning can be leveraged to develop accountability structures for curricula on health equity.

Introduction

Ensuring all people can be as healthy as possible is central to the mission of public health (Rosario et al., 2022; The Futures Initiative, 2020), yet mainstream public health efforts have not substantially reduced the unequal distribution of poor health by **racial group** (Ford & Airhihenbuwa, 2010b; Galea & Vaughan, 2019; Heller, Fleming, et al., 2023; Neighbors et al., 2022; Shaw-Ridley & Ridley, 2010). To advance the goal of **health equity**, public health students should be prepared to eradicate differences in health outcomes between structurally advantaged groups and structurally disadvantaged groups (Garbers et al., 2023; C. P. Jones, 2000; Krieger, 2020; Perez et al., 2021). In light of the increased acknowledgement that racial health inequities stem from deeply rooted, complex systems of racial inequality (Gee & Ford, 2011; Gee & Hicken, 2021; Heller, Fleming, et al., 2023; Zambrana & Williams, 2022), graduate schools in public health in the United States must develop students' comprehension of structural barriers that undermine health equity, including **exposure to racism** (Council on Education for Public Health, 2016; Hagopian et al., 2018). Thus, *assessing what public health students are taught about racial health equity concepts* may move the field toward improved accountability to the core public health function of health assurance (Alang et al., 2021; Chandler et al., 2022).

Strategies to assess what is taught in public health graduate education have varied and are infrequently published (Bentley et al., 2021; Chandler et al., 2022). Novel empirical investigations of social and behavioral studies core courses from multiple schools of public health indicate the continued focus on individual behavior theories rather than structural determinants (Harvey & McGladrey, 2019; Westbrook & Harvey, 2022). Catalyzed by the demand for antiracist public

health curricula after George Floyd’s murder in 2020, school-wide curricular reviews report minimal equity-related content in core courses and the need for accountability systems (Garbers et al., 2023; Perez et al., 2021; Seiler et al., 2022). An assessment of potential gaps in the transmission of knowledge about racial health equity across the U.S. is warranted.

Yet what is taught about racial health equity in public health syllabi is not apparent. The extent to which courses integrate content on race, health equity, and racism has not been systematically assessed across schools of public health. In the current study, I begin to address these gaps by documenting the prevalence of racial health equity concepts in syllabi from schools of public health. As an applied field accountable to the public, monitoring the adoption of anti-racist scholarship in syllabi can inform curricular policies for a public health workforce better prepared to dismantle racism as a determinant of health (Alang et al., 2021).

Background/Justification

The Council on Education for Public Health (CEPH), the accrediting body for schools and programs in public health, revised accreditation criteria to encapsulate key concepts and skills for the public health profession (Council on Education for Public Health, 2016). Comprehension of structural exposures to health inequities was codified into Foundational Knowledge D1-10: “Explain the social, political and economic determinants of health and how they contribute to population health and health inequities.” Building upon this fundamental awareness, Foundational Competency D2-6 requires graduates to be able to ‘[d]iscuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and systemic levels.’ That is, public health professionals should recognize that the opportunity to have healthy lives is systematically obstructed by mechanisms in

society that maintain social inequality. **This shared understanding provides the basis for meaningful discussions on how to dismantle racism and other threats to community health.**

Even though the reaccrediting body deemed discussing racism a foundational competency for the public health profession, education scholarship cautions against naïve hope (Duncan Andrade, 2009). In formal educational settings, curriculum serves as a conduit through which knowledge is transmitted. The political process of knowledge production in schools has been extensively researched by education scholars (Apple, 2019; Au, 2011; Curammeng et al., 2016; Solórzano, 1997). They argue that **schools legitimize knowledge by selecting curricula that conveys which content is worth knowing, thereby reproducing both knowledge *and* norms about knowledge** (Anyon, 1979; Luke, 2010; Utt, 2018). That is, in addition to the concepts explicitly taught in school, students are also exposed to the implied importance of such concepts (Westbrook & Harvey, 2022). Deliberate efforts should be directed toward detecting the less visible mechanisms that structure knowledge (Delgado Bernal & Villalpando, 2002; Delgado, 1984; Solórzano & Delgado Bernal, 2001).

Extending from the notion that curricula is political, a growing area of public health scholarship interrogates how public health graduate students are socialized to comprehend differences in health by race (Bowleg, 2021; Chandler et al., 2022; Cross, 2018; Heller, Fleming, et al., 2023; Manalo-Pedro et al., 2022, 2023; McSorley et al., 2021; Petteway, 2022). Public health has conventionally been based on research, practice, and teaching intended for person-level disease prevention (Golden & Earp, 2012; Harvey & McGladrey, 2019; Krieger, 2014; Manalo-Pedro et al., 2023). The continued reluctance to name racism as a determinant of health in public health literature is incentivized by the rules that govern contemporary systems, including claims to science as apolitical and ‘objective’ and publication biases that reward harmful narratives (Boyd

et al., 2020; Figueroa et al., 2023; Gee & Hicken, 2021; C. P. Jones, 2018; Krieger et al., 2021; Neighbors et al., 2022; Zambrana & Williams, 2022). The extent to which these norms carry over into training the rising generation of public health professionals remains unclear (Chandler et al., 2022).

Racial Health Equity Concepts

Ensuring all people can be as healthy as possible is central to the mission of public health (Rosario et al., 2022; The Futures Initiative, 2020). Relatedly, the principle of health equity emphasizes the “needs of those at greatest risk of poor health, based on social conditions” (Braveman, 2014). To measure progress toward health equity, Braveman (2006) defined health disparities as “potentially unavoidable differences in health between groups of people who are more and less advantaged socially.” That is, worse health among socially disadvantaged communities can be understood as the ‘biological expressions of societal conditions’ rather than innate biological differences (Braveman & Parker Dominguez, 2021; Krieger, 2016).

Public health research and practice assesses three aspects of health disparities (Braveman, 2006; Krieger, 2021; Thomas et al., 2011). First, the key groups of interest are identified based on an indicator of social position, such as race or ethnicity, socioeconomic position, or other socially disadvantaged status (Nuru-Jeter et al., 2018). Second, the difference in health outcomes between the key groups is measured (Braveman, 2014). Third, a determinant of health is assessed as a disproportionate exposure (Krieger, 2020). Thus, for racial health equity, relevant concepts to understand are racialized people as key groups of interest, health equity as the outcome of interest, and racism as the exposure of interest.

The robust body of literature distinguishing between the roles of ‘race’ and ‘racism’ as determinants of health spans decades (Jenkins et al., 2019; Zambrana & Williams, 2022).

Currently, racial health equity scholars consider ‘race’ to represent socially assigned categories based on how the way a person looks within the social hierarchies of a particular place and time (Braveman & Parker Dominguez, 2021; Ford & Airhihenbuwa, 2010a; D. E. Roberts & Rollins, 2020). In public health surveillance, race has been a useful yet insufficient proxy for the disproportionate exposure to harm inflicted on communities of color living within a white supremacist society (Ford et al., 2021; C. P. Jones, 2001; Williams, 1997). Racism, on the other hand, has been defined by Jones (2018) as “a system of structuring opportunities and assigning value based on how one looks that unfairly disadvantages some individuals and communities, unfairly advantages other individuals and communities, and saps the strength of the whole community through the waste of human resources.” Therefore, the utility of categorizing humans into *races* has primarily served as a proxy for the shared histories of *racism* among groups with shared geopolitical ancestry (Adkins-Jackson et al., 2022; Braveman & Parker Dominguez, 2021).

Explicitly naming ‘racism’ in mainstream public health research and practice has been a relatively recent cultural change (C. P. Jones, 2018; Mendez et al., 2021; Neighbors et al., 2022; Zambrana & Williams, 2022). Previously, scholars concerned with health differences by race examined unfair treatment, discrimination, or simply disparities in outcomes by race as a exposures of interest (Ford et al., 2019; C. P. Jones, 2018; Smedley et al., 2003; White, 2011). Over the years, research studies on racial health equity have operationalized racism using various terms such as discrimination, unequal treatment, and white supremacy (Alang et al., 2021; Castle et al., 2019; Smedley et al., 2003; Williams et al., 2019; Zambrana & Williams, 2022). Hence, the extent to which present-day public health graduate students are exposed to racial health equity concepts may influence how they understand the relationship between racialized groups and racism, and,

accordingly, their future approaches to advancing health equity in practice and research (Cross, 2018; Ford & Airhihenbuwa, 2010a).

Assessments of Public Health Curricula

What is *taught* about racial health equity is largely unknown. The peer-reviewed literature examining structural determinants of health within public health curricula has been sparse. Three empirical studies examined course descriptions, syllabi, and textbooks in social and behavioral sciences courses, where social influences on health tend to be taught (Harvey & McGladrey, 2019; Komro et al., 2018; Westbrook & Harvey, 2022). Collectively, their findings suggest that content on structural determinants of health has been infrequent, even within social and behavioral science core courses. While undoubtedly informative, these comprehensive curricular reviews were constrained by methods that were either surface level (e.g., catalog course descriptions (Komro et al., 2018)) or resource intensive (e.g., manually reviewing textbook introductions (Westbrook & Harvey, 2022)); data that excluded curricula from other academic departments in public health; and broad research questions that were not specifically focused on examining racism as a determinant of health.

Recent articles describing implementations of anti-racist public health curricula implementations illustrate the growing scholarly interest in the *teaching* of racial health equity as a public health concern. A systematic review yielded 11 articles on racial health equity curricula that spanned a graduate-level course, an undergraduate course, a workshop series, MPH competencies, and classroom lessons/modules of unspecified durations (Chandler et al., 2022). Since the summer of 2020, departments and schools have developed new tools for reviewing existing and new curricula (Cozier, 2022; Perez et al., 2021; Seiler et al., 2022) while others have described anti-racist approaches in specific MPH courses (Bentley et al., 2021; Fleming, 2020;

Lightfoot et al., 2021; Maglalang et al., 2021; Rosario et al., 2022). Even as motivated schools of public health have developed their own curricular review processes, these preclude broader standardized assessments across the field of public health.

A systematic approach for evaluating racial health equity curricula is needed to assess these nascent approaches to public health graduate programs. Samarron Longorio and colleagues (2023) described the dominant approach to teaching health science, which focuses on individual-level determinants and interventions, as reproducing “the deficit loop of racial health disparities.” In response, they introduced an anti-racist framework for curricula that emphasized distinguishing between race and racism and shifting from health disparities to health inequities. Recommended learning outcomes included conceptualizing racism as a structure of violence enforced by white supremacy.

Innovative applications of machine learning in social science research offer promising tools for detecting norms in curricula (Grimmer et al., 2022; Lucy et al., 2020; Watanabe & Zhou, 2022). For example, the Imperial College London leveraged data science techniques to examine changes in global citation practices within their MPH syllabi (Price et al., 2022). Disproportionate representation of historical figures and biased racial descriptors within seven U.S. history textbooks were detected using Natural Language Processing (NLP) techniques (Lucy et al., 2020). NLP uses machine learning to count features (i.e., words) within documents (i.e., syllabi) that comprise a corpus (i.e., dataset of syllabi) (Grimmer et al., 2022). This method operates on the assumption that meanings can be derived from the distribution of words in a corpus. That is, the prevalence of words indicates their importance. Thus, the most frequently occurring words reveal which concepts are normalized and which words reflect niche topics (Watanabe & Zhou, 2022).

Current Study

To detect what knowledge is transmitted within schools of public health about health differences among racialized groups, this study documented the prevalence of racial health equity concepts in course syllabi. Improving transparency into the cultural norms and practices around teaching about racism in schools of public health can guide strategies for improving racial health equity literacy among future public health leaders (Harvey, 2020; Petteway, 2022; Samarron Longorio et al., 2023). As ordinary policy documents in higher education, syllabi can reveal how exposures and outcomes are framed and whether race and racism are discussed (Laughter & Hurst, 2022). I conceptualized syllabi as outputs from the cultural processes of legitimizing knowledge after the updated 2016 CEPH competencies which specified racism as a determinant of health. I asked the following questions:

1. As indicators of disciplinary norms, what words occurred most frequently overall? How did the concepts of race, health equity, and racism rank in comparison to the top words?
2. As indicators of compliance with CEPH policies, how frequently did the concepts of race, health equity, and racism appear overall, by school, and by syllabus section? Within each syllabus, was each concept represented in learning objectives and content?
3. As indicators of cultural practice, which journal articles were assigned about racial health equity? What was the distribution of these articles across syllabi and schools of public health?

Methods

To document what has been taught about racial health equity, I analyzed syllabi from schools of public health. I integrated methods from computational text analysis and content analysis to assess the prevalence of words as indicators of importance. I applied two analytic

approaches to detect public health concepts. As an inductive approach, I detected the most frequent words to estimate *normalized concepts*. As a deductive approach, I conducted keyword searches based on word lists indicative of three *racial health equity concepts*: racialized people as key groups of interest, health equity as the outcome of interest, and racism as an exposure to harm. Analysis was conducted with R ('quanteda' package for quantifying word distributions) and MAXQDA 2022, a tool for qualitative data analysis which allows for the comparison of qualitative codes across documents (VERBI Software, 2021). Because I reviewed preexisting records, this study was not considered human subjects research. The study was exempted for review by the UCLA Office for the Human Research Protection Program (IRB#23-000441).

Data Acquisition

Of the sixty schools of public health in the U.S., 34 were reaccredited using the 2016 CEPH criteria between 2018-2022 (see Table 1-1). Figure 1-1 highlights the states where these 34 schools were located. I obtained reaccreditation self-study reports for these schools from the CEPH report online database. Through my review of these reports, I identified 86 credit and non-credit courses that addressed Foundational Knowledge D1-10 and Foundational Competency D2-6 criteria. I developed a general study information sheet which was customized with each school's list of relevant courses. (See Appendix A for recruitment materials.) In April 2023, I requested participation from deans at the CEPH schools via electronic mail merge (Yet Another Mail Merge). With leadership buy-in, I sought introductions to the appropriate contacts for obtaining data (e.g., academic deans, link to an online repository). If I did not receive a response to my initial query, I emailed a follow-up two weeks later or tried to identify another contact at the school. Although no monetary incentives were offered to schools for participating, they were told that the empirical

findings of this study would inform ongoing dialogue in academic public health about how to prepare the public health workforce to advance health equity.

Of the 34 schools contacted, 22 schools were represented in the final dataset (62%). Six schools did not respond. Another six schools responded to my email but did not send syllabi. Responses from these schools included the following: school did not share syllabi, needed to confer with faculty, deferred to a non-responsive contact, or contact was unavailable.

Dataset

The final dataset represented 67 courses, including ten courses from one school that updated curricula after filing their reaccreditation report. The average number of syllabi per school was 3; the range was 1-14. Most schools sent complete syllabi, but there were some exceptions. For example, one school sent reading lists for lessons pertinent to the CEPH competencies from two courses because they did not want to share the actual syllabi. In other scenarios, when syllabi indicated that reading assignments would be available through their online learning management system instead of listing each citation, I sent a follow-up email to request the list of readings. Some contacts indicated this would not be feasible while other contacts obliged. When schools sent individual PDFs of the readings, I imported them into Paperpile citation manager then generated a course bibliography document. The bibliographies were subsequently appended to the corresponding syllabus so that each course was represented by one document. In another situation, I retrieved syllabi from the online repository of course syllabi from a school that had not responded to my email. All syllabi contained text that was detectable with optical character recognition. Out of 67 course documents, 15 did not include any readings.

Each syllabus for a course offering was considered one document. Each document was uniquely identified by their school code and department course number (e.g., 019-PH200A) for

analysis; the specific universities and course numbers were subsequently anonymized (e.g., D29U019). The analyzed text included course descriptions, learning objectives, and content (e.g., assigned readings, books, podcasts). Course policies (e.g., plagiarism, grading, support services) and assignments were out of scope and thus excluded from analysis.

Analytical Approach

Computational Text Analysis

Existing documents with data in their natural form (i.e., paragraphs instead of tables) must first be pre-processed into a format that can be analyzed (D. Nguyen et al., 2020). I used the *quanteda* package to extract text from the PDFs into a ‘clean corpus’ of CEPH syllabi. In this format, the distribution of words per syllabus were summarized into a document-feature matrix (DFM), where ‘document’ refers to the syllabus and ‘feature’ refers to the word. To maximize the usability of the data, I excluded noise via stopword removal (i.e., words that were not meaningful, like ‘monday’) and concatenated common consecutive word phrases (i.e., compounded multiword expressions) to distinguish them from single words (e.g., ‘social_determinants_of_health’ is a distinct concept from ‘social’ on its own). Additional details about pre-processing can be found in the appendix.

First, I analyzed which words were most frequently used among the 67 syllabi. Because computational text analysis assumes that word frequency indicates which concepts are important, I restricted the analyses to words that were used at least 20 times across the full corpus. These are considered *top words*. There were a total of 15,000 unique words within these syllabi.

Next, to categorize words within the syllabi, I developed word lists (i.e., dictionaries). I started with a data integrity word list to confirm that syllabus terminology could be detected within the document (e.g., ‘*course*’, ‘*objective*’). Then, I generated a word list of general public

health terminology as a baseline reference (e.g., ‘public_health’, ‘health’). For the main analysis, I developed word lists to represent three racial health equity concepts. To detect whether race was used as a group of interest, I developed the race word list to include general terms about race or ethnicity (e.g., ‘race’, ‘ethnic minority’, ‘of color’) and specific racialized groups (e.g., ‘Black’, ‘Filipino’, ‘Mexican’). To detect outcomes concerned with unequal health, the health equity word list included singular and plural versions of the following two-word phrases: ‘health equity’, ‘health disparity’, ‘health inequity’, ‘health inequality.’ To detect exposure to racism, the racism word list included ‘racism’, ‘discrimination’, ‘unequal,’ and ‘white supremacy’. While not an exhaustive list, these keywords represent central concepts used to describe exposure to racism within public health research over time (Zambrana & Williams, 2022) and provide a starting point from which future work can build upon. Lastly, I conducted searches using the keyword-in-context function to identify how frequently the terms within each word list occurred overall and within each document.

Content Analysis

Because the syllabi varied by sections and format, I coded syllabi within MAXQDA to view the text within their original layouts. This manual review allowed me to comprehend tabular content (e.g., course schedules), pasted images, and distinguish search results by syllabus section. I applied four rounds of manual and computer-assisted coding to quantify racial health equity concepts within syllabus sections (e.g., course descriptions, learning objectives, and assigned content like journal articles, videos, books).

First, I reviewed each document to identify key sections of the syllabus with corresponding codes. Second, I auto-coded segments matching lexical searches from the racial health equity word lists. Third, I reviewed the matching segments for valid segments. Search results were excluded as

false positives if the matching words were author last names (e.g., ‘Black’, ‘Thai’), not pertinent to racial groups (e.g., discrimination against older adults), or otherwise irrelevant. Lastly, I leveraged the complex coding query feature to code overlapping coded segments for valid keyword matches and the following in-scope syllabus sections: course titles, course descriptions, learning objectives, content, and journal article titles. I then reviewed any uncategorized matches to confirm their location as out-of-scope or to apply additional organizational codes. Assessments, course and university policies, student resources, and instructor commentary were excluded from analysis (e.g., tribal nations mentioned in land acknowledgements, on-campus resources for diversity, equity, and inclusion). To minimize potentially incorrect inferences, I took a conservative approach by restricting the search to explicit, verbatim terms. Thus, the results potentially are an underestimation.

I combined the syllabi citations for journal articles to generate an aggregated list of what schools of public health teach about racial health equity. For each concept, I noted how frequently each article was assigned by number of syllabi and number of schools. Finally, I summarized how consistently racial health equity concepts appeared within each syllabus. I generated binary indicators for each concept per syllabus section at the syllabus level. Then, I noted the flow of keywords from course descriptions to learning objectives to assigned content. By assessing conceptual coherence at the syllabus level, I sought to identify potential points of disjuncture between the intended competency and actual citation practices. Additional details on the methodology are provided in the appendix.

Results

Top Words

Figure 1-1 depicts the top 250 words by frequency and rank. The x-axis represents the word counts on a log scale and the y-axis refers to the word's overall rank by count. Keywords were color-coded by concept as follows: public health (orange), health equity (blue), race (green), and racism (red). The top terms were 'public_health' (n=1,702) and 'health' (n=1,683); these were the only terms present in all 67 syllabi. Of the racial health equity terms, the most frequent word was 'health equity' (rank #52; n=193; 47 syllabi). Other health equity terms were less frequent: 'health_disparities' (n=134; 43 syllabi); 'equity' (n=96; 36 syllabi); 'disparities' (n=; syllabi); and 'health_inequities' (n=83; 39 syllabi). Regarding race and racism, 'race' was more frequent (n=118; 42 syllabi) than racism (n=103; 32 syllabi). Appendix Table 1-# lists additional words by word count and number of syllabi.

Appendix Table 1-7 shows the document and overall frequencies by conceptual category and patterns. The race word list appeared more frequently (n=346) than racism-related concepts (n=320). Mentions of racial groups included 'race' alone (n=74), variations of 'black' (n=46), and less frequently, racial groups (e.g., 'latinx', 'african_american', 'asian_americans', and 'indigenous'). Several phrases containing 'racial' referred to differences (e.g., 'racial_equity', 'racial_disparities', 'racial_inequality'). The pattern '*racism*' occurred 196 times; these features included 'racism' on its own, as the D2-6 competency (i.e., 'racism_undermine_health'), various levels of racism (e.g., 'structural_racism', 'levels_of_racism', 'systemic_racism') and anti-racism.

Concepts by Syllabus Sections

Table 1-2 summarizes keyword counts by concept and syllabus section. Of the 67 course titles, 'health' (n=63) and 'public' (n=36) were most frequently included. Two course titles

explicitly named ‘health equity’ and one named ‘health disparities.’ None of the course titles explicitly mentioned ‘race’ or ‘racism.’ Titles that did not contain ‘health’ described public health services (e.g., ‘Assessing and Managing Risks from Human Exposure to Environmental Contaminants’, ‘Population Assessment’). Titles that did not contain ‘public’ referred to other aspects of group-level health, such as ‘social determinants of health’, ‘health systems’, ‘community health promotion’, ‘global health’, ‘health policy’, or ‘population health.’

Of the 67 courses included, 65 syllabi contained course descriptions. The most frequent words in course descriptions were also ‘health’ and ‘public’. Of the racial health equity concepts, health equity was explicitly mentioned in 13 course descriptions from eight schools. Six course descriptions from five schools of public health explicitly incorporated ‘racism.’ Two course descriptions incorporated verbatim phrases from CEPH competencies. For example, one course description included verbiage from both D1-10 and D2-6: “Includes lectures and discussion of key social, political, and economic determinants of health and the role of public health in eliminating health disparities rooted in structural biases, social inequalities, and racism, factors influencing political decision making around dismantling structural inequities, and the ethical principles associated with managing health equity in a just society.” Other course descriptions articulated the role of racism ‘in degrading health and limiting access to healthier lifestyles,’ ‘in structuring health in the US’, as ‘a public health issue,’ and how racism ‘manifests and is perpetuated within public health and healthcare systems.’

As shown in Table 1-3, racial health equity concepts were not consistently integrated throughout the syllabi sections. Among the syllabi with explicit references to CEPH Foundational Competency D2-6, 14 and 18 courses included content naming racism and race, respectively. Generally, syllabi framed CEPH competencies as learning objectives, included weekly topics or

specific lessons, and describe assignments. Interestingly, one school of public health listed all CEPH competencies as an appendix in their syllabus template, effectively standardizing a process for evading direct engagement with CEPH criterion. In these documents, the word ‘racism’ was only mentioned as a verbatim competency; the words ‘race’, ‘racial’, ‘unequal’, ‘inequities,’ were not mentioned anywhere in the syllabus. Rather, disparities were framed as ‘wicked problems’ with language such as ‘liberty, paternalism, coercion, and other principles.’ Detailed reading lists were not provided in these syllabi.

Journal Articles with Racial Health Equity Concepts

Of the racial health equity concepts, race was detected most frequently in the titles of journal articles. Overall, 143 distinct articles were assigned within 30 courses from 15 schools of public health. Table 1-4 summarizes the count of journal article titles containing terms from the race word list by racial group. The most often named racial group was ‘Black/African Americans’ with 24 articles in 17 syllabi across 9 schools of public health. The racial group with the fewest journal articles was Middle Eastern/North Africans with two articles assigned in three courses at three schools of public health.

Most schools in the sample (64%) assigned at least one article on racism. Thirty-three distinct journal articles had titles containing ‘racism’, ‘discrimination’, or ‘white supremacy’ (see Table 1-5). Twelve articles were assigned in more than one syllabus or school. The most frequently assigned articles with ‘racism’ titles were Jones 2000 ‘Levels of racism: A theoretic framework and a gardener’s tale’ in the American Journal of Public Health and Bailey 2017 ‘Structural racism and health inequities in the USA: evidence and interventions’ in The Lancet. Each of these articles were assigned in six different courses across five schools of public health. Altogether, the journal

articles on ‘racism’ were assigned in 21 courses across 14 schools of public health. This represented less than a third of the syllabi yet nearly two-thirds of the schools.

Discussion

In this study, I sought to determine what knowledge is transmitted through syllabi to students broadly and regarding racial health equity. The 67 syllabi represented courses across multiple departments, including behavioral science, biostatistics, environmental health, health services, and nutrition. Although these syllabi were intended to address CEPH criteria regarding social, political, and economic determinants of health and discuss racism, fewer than one-third of the courses assigned content naming a racism concept.

As indicators of disciplinary norms, “public health” and “health” unsurprisingly occurred most frequently overall. Although ‘health equity’ appeared to be mentioned relatively more frequently (rank #52) than ‘health disparities’ overall, a greater number of syllabi included content named ‘health inequalities/health inequities’ than ‘health equity.’ Neither ‘race’ nor ‘racism’ were among the 100 most frequently used words. Keyword searches indicated surface-level compliance with CEPH criteria. While most syllabi named each of the conceptual racial health equity terms, the concepts were not consistently listed as learning objectives nor content.

For example, assigned content on race was found in 55% of course syllabi, disparities content in 37%, and racism content in 37% (not mutually exclusive). While these percentages may arguably be better than nothing, they fall short of their intended purposes. Within the public health profession, it is expected that research and program objectives logically connect to their intended outcomes. As a hypothetical comparison, consider courses intended to train the public health workforce to control the spread of COVID-19; if assigned content on infectious disease transmission was found in just 55% of courses, their potential to effectively control COVID-19

would be limited. Similarly, courses mapped to developing Foundational Competency D2-6 should minimally mention the central concepts of race, health equity, and/or racism within its learning objectives and/or assigned content.

Thus, although ‘racism’ words were detected anywhere in the syllabi for 20 schools of public health, evidence of assigned content on race and racism were less frequent. Fifteen schools of public health assigned at least one journal article with title containing a racial group (across 30 core courses). Of the 124 race-related journal articles, more than half specified a racial group in the title (e.g., ‘Black lives’, ‘Arabic-named women’, ‘Diné activities’, ‘Mexican immigration’, or ‘Native Hawaiians and Pacific Islanders’). Journal articles on racism appeared in the syllabus of 14 schools of public health, covering less than a third of the courses (N=21). Overall, my attempt to trace the transmission of racial health equity concepts from learning objectives to assigned content revealed incongruent syllabi at the course level and different approaches between schools of public health.

This study illustrated the ongoing need to define terminology (Braveman, 2014; Braveman et al., 2022; Ford et al., 2019; C. P. Jones, 2001). Interestingly, one syllabus spent more than a page on the course description and included definitions of key terms. The frequency of race over racism, by total word count and overall prevalence in syllabi, align with the continued reluctance to name racism (Zambrana & Williams, 2022). Even with the National Campaign Against Racism to name racism and the updated CEPH criteria to discuss racism as a foundational public health competency, barriers continue to limit the transmission of knowledge of racism as a determinant of health in public health courses (Chandler et al., 2022; Hagopian et al., 2018; C. P. Jones, 2018; Samarron Longorio et al., 2023).

Multiple schools explicitly mapped specific learning objectives to specific lessons and specific assessments. However, most syllabi listed verbatim CEPH competencies as learning objectives. While course instructors may consider these terms as interchangeable, the teaching implications differ if they are intended to be met within a single course or throughout the degree program (Hagopian et al., 2018; Perez et al., 2021). Research across health professions education alludes to the complexities of assessing the effectiveness of competency-based training on structural determinants of health (Caiola et al., 2023; Harvey et al., 2022; Mitchell et al., 2022).

The reading lists represent cultural practices situated in a particular place and time. As the societal manifestations of racism have evolved, so have disciplinary norms pertaining to anti-racist language (LaVeist et al., 2019; Thomas et al., 2011; White, 2011; Zambrana & Williams, 2022). Over time, literature has shifted to name race, stress and coping, racism, structural racism, and white supremacy (Castle et al., 2019; Groos et al., 2018; Hardeman et al., 2018; LaVeist, 1994; Paradies et al., 2015; Williams & Griffith, 2019; Williams et al., 2019). Recent work has called attention to naming white supremacy as a determinant of health (Alang et al., 2021; E. Chen et al., 2023; Cousins & Matias, 2023; Krieger et al., 2021; Manalo-Pedro et al., 2023; Samarron Longorio et al., 2023). Keeping up with the knowledge on racism should be treated with as much urgency as keeping up with the latest strain of COVID-19.

Limitations and Future Directions

As one of the first attempts to review syllabi across schools of public health for racial health equity content, this study encountered limitations that can be improved upon as this area of research develops. First, the sample of syllabi may be subject to selection bias. Despite my efforts to contact all eligible schools of public health, 13 schools were non-responsive. This may have been due to the timing of my request in April and May when staff capacity was likely limited by

end-of-the-year activities such as grading and graduation. Additionally, I did not offer a monetary incentive to compensate staff or faculty who would have obtained the syllabi. Further, a number of contacts indicated that they would first discuss the request with faculty; it is possible that the schools with faculty who did not want to share their syllabi were similarly biased. Appendix A contains maps to illustrate eligible and participating states. Future analysis of regional context could investigate potential effects of state-level legislation regarding academic censorship on public health syllabi.

Second, this analysis was limited by missing data. Some syllabi referenced articles only by author and year. I followed up with each contact to request clarification; if a school was unresponsive, I found potential articles by matching Google Scholar search results by author surname and year in combination with terms from the course title and the lesson's topic. Overall, four readings remained undetermined due to common surnames (e.g., Anderson) or authors with multiple publications in the same year. Additionally, of the 67 syllabi received, 15 syllabi contained only topics without a corresponding reading list. Several syllabi referenced online learning management systems for the week's assigned readings. Few participating schools exported these lists while others shared that it would be too time intensive, illustrating a gap in the ability to manage learning systems. In contrast, a recent study led by the Imperial College London directly queried their learning management system to access the list of 568 articles assigned in MPH courses and conduct a bibliographic analysis of the article authors' geographic origins (e.g., Global North vs. Global South) (Price et al., 2022). Given the ubiquity of learning management systems, future studies could train collaborators in academic programs to export citations.

This research could be extended by expanding the dataset or examining other aspects of the syllabi. As a continuation of the study, analysis could be repeated annually to monitor changes

or evaluate curricular interventions. Additionally, the dataset could be expanded to incorporate recently accredited and reaccredited schools, public health programs, or elective courses. Alternatively, the existing dataset could be analyzed for other factors. For example, institutional attributes could serve as potential predictor variables; a hypothesis to test could be whether minority-serving institutions offer courses with more race-intentional content. Additionally, the present analysis did not evaluate andragogical strategies. Assessment types (e.g., community-based projects, reflections, arts-based, multiple-choice exams, papers) or policies (e.g., grading structure, late work policies) could serve as indicators of the school's values (Merino, 2019; Samarron Longorio et al., 2023).

The reported number content on racism was likely an undercount due to content about racism not using the word 'racism.' Given the publication biases, prior scholars may not have named 'racism' directly (Krieger et al., 2021; Zambrana & Williams, 2022). My inclusion of the terms 'white supremacy', 'discrimination', and 'unequal treatment' likely caught some but not all instances. A future study could convene an expert panel to expand the word lists to include additional search terms.

Because my NLP methodology relied on keywords, I did not count content about racism if their titles did not contain the racism-related keywords. Thus, my analyses possibly led to an undercount of racism-related content. For example, the final tally of racism-related content excluded non-academic works such as The New York Times editorial, "Yes, We Mean Literally Abolish the Police" by abolitionist organizer Mariame Kaba; filmmaker Ava DuVernay's 2016 documentary *13th*, which "analyzes the criminalization of African Americans and the U.S. prison boom"; and *Between the World and Me*, the award-winning book detailing the realities of growing up as a Black man in the U.S., authored by essayist Ta-Nehisi Coates. Alternatively, with the

increase of digital content, the application of NLP on film transcripts or electronic book chapters could provide another route for detecting racism content.

As with any technology, potential misuse or weaponization of machine learning presents a salient concern (Benjamin, 2019). The methods used in this study aimed to facilitate the identification of racism content in schools of public health. It could pose a risk to racial health equity scholars if these results were reappropriated toward modern-day efforts to silence academics who discuss racism and its fundamental role in the history of the United States (Jayakumar, 2022).

Public Health Implications

This study offers several implications for teaching, research, and practice. Course instructors provide public health trainees with foundational knowledge for assuring the public's health (Alang et al., 2021). This responsibility should be acknowledged as part of the political process of legitimizing knowledge about racial health equity (Ford & Airhihenbuwa, 2010b; Heller, Fleming, et al., 2023; Manalo-Pedro et al., 2023; Petteway, 2022). Realistically, many instructors feel ill-equipped to discuss racism in their classrooms (Aqil et al., 2021). Instructors should consider whether their syllabi expose students to updated knowledge on health equity and contemporary discourse critiquing social oppression as structural determinants of health (Harvey et al., 2022; Perez et al., 2021; Rosario et al., 2022; Samarron Longorio et al., 2023; Zambrana & Williams, 2022). The comprehensive reading list produced in this study can offer a starting point for students and educators alike. Additionally, because students matriculate into graduate school with different levels of academic, professional, and personal familiarity with racism, instructors can incorporate scaffolding to accommodate varying degrees of race consciousness (Douglass Horsford, 2014; McSorley et al., 2021). Several syllabi in this CEPH dataset contained extensive

yet optional reading lists engaging with advanced concepts and explicit guidance from instructors setting expectations for reading.

The syllabi analyzed in this study were not restricted to social and behavioral science departments. Similarly, administrators within schools of public health should comprehensively evaluate how opportunities to be exposed to critical theories on social inequality are structured for students within each department and across the school (Garbers et al., 2023; Hagopian et al., 2018; Samarron Longorio et al., 2023; Seiler et al., 2022). Relatedly, to prepare a collaborative public health workforce, deans, department chairs, and other program leaders should consider whether their graduate programs cohesively facilitate students' ongoing comprehension of race and racism. Comprehending how racism as a determinant of health is key for core public health functions (Alang et al., 2021).

Scholars of public health should build upon this study to consider innovative approaches to monitoring the spread of racism narratives through ordinary practices (Figueroa et al., 2023; Harawa et al., 2022). Data science and critical race theory offer tools to advance the science of monitoring anti-racist public health praxis (Ford et al., 2019). Improving racial literacies is integral to changing the public health outcomes central to our discipline. Tracing how these racism narratives evolve in schools of public health can offer insight into the mechanisms that shape critical consciousness. Machine learning tools can expediently handle the scale of analyzing everyday documents from schools of public health more routinely than eight-year reaccreditation cycles. However, the extent to which computational text analysis can reliably return pertinent keyword searches results relies on relevant word lists. Among several scientific benefits of adopting public health critical race praxis as a methodology is a shared lexicon for defining racialized groups and measuring exposures to racism more precisely (Ford & Airhihenbuwa,

2018). Influential organizations with national reach have encouraged contesting deficit narratives by sharing terminology that is explicitly anti-racist (American Medical Association & Association of American Medical Colleges, 2021; National Association of County & City Health Officials, 2018). As public health moves toward deliberate anti-oppressive language in academic journals (Boyd et al., 2020), so should public health graduate training.

On a practical level, national entities such as ASPPH could coordinate member institutions to centralize a syllabus repository as an accountability check for health equity. Although the enforcement of competencies ultimately falls on instructors, school administrators, and the accrediting body, a publicly available repository of syllabi could be instrumental for aligning public health training and advancing health equity. At a minimum, such a tool could introduce alternative readings to new and seasoned instructors (Harvey, 2020). Prospective graduate students could check syllabi to make informed decisions about the extent to which schools enact their espoused values through curricula (Gwayi-Chore et al., 2021; Merino, 2019). Additionally, as an extension of the continued fight for ethnic studies, this level of transparency could mobilize community members to advocate for the inclusion of their perspectives in what is taught to the public health trainees responsible for assuring their health (Maglalang et al., 2021; Solórzano & Delgado Bernal, 2001).

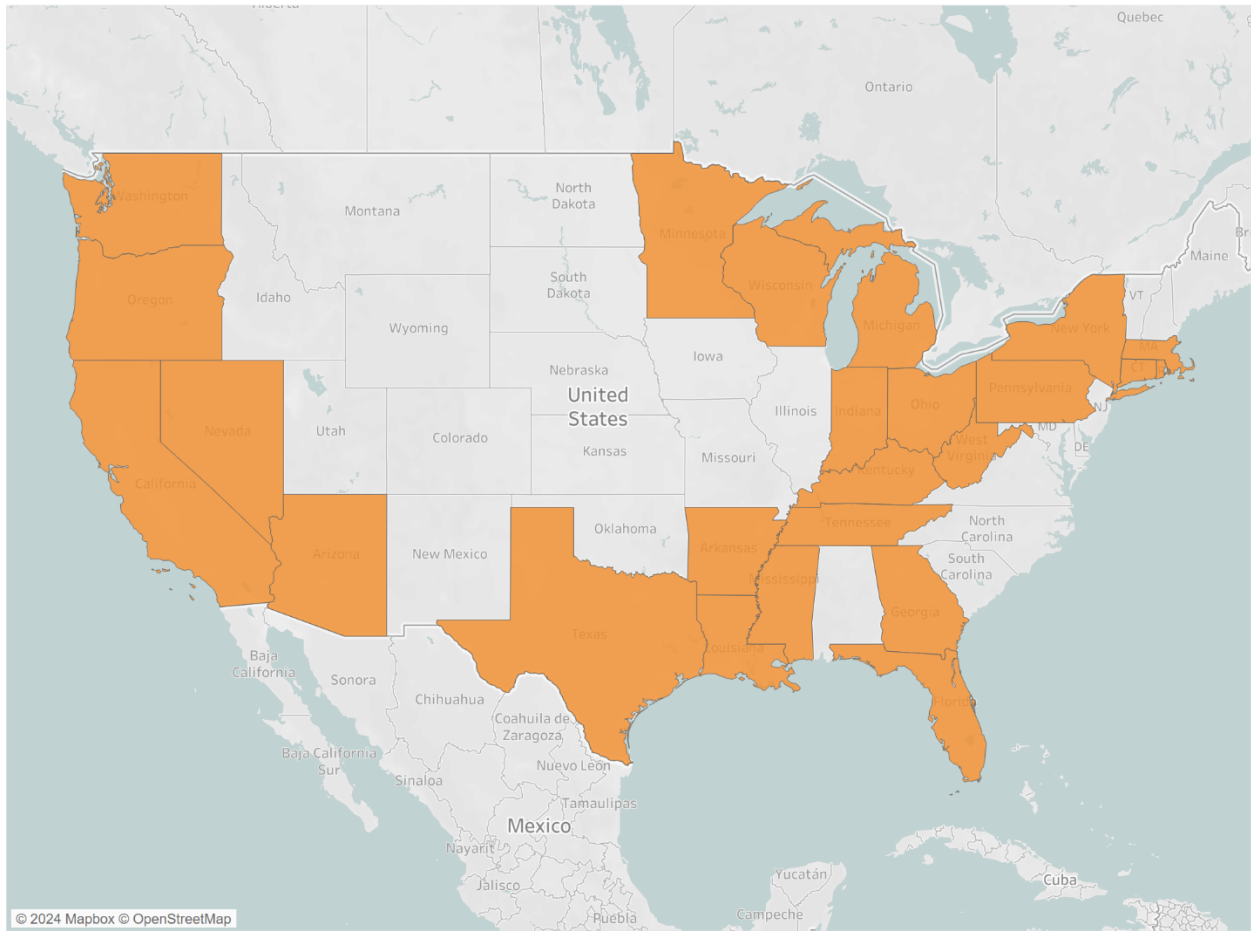
Conclusion

Conventional approaches to address racial health inequities in teaching, research, and practice have been insufficient (Ford & Airhihenbuwa, 2018; Williams et al., 2019). Building upon emerging research in public health, I critically questioned the role of syllabi in legitimizing public health knowledge. To document the transmission of knowledge about racism as a determinant of health, I integrated multidisciplinary approaches including data science methods for NLP,

sociological theory, and educational research. Despite revisions to CEPH competencies in 2016, this study uncovered that public health syllabi generally continue to omit content on racism as a determinant of health. Novel strategies informed by critical race theory offer untapped potential for increasing accountability for advancing racial health equity.

Figures

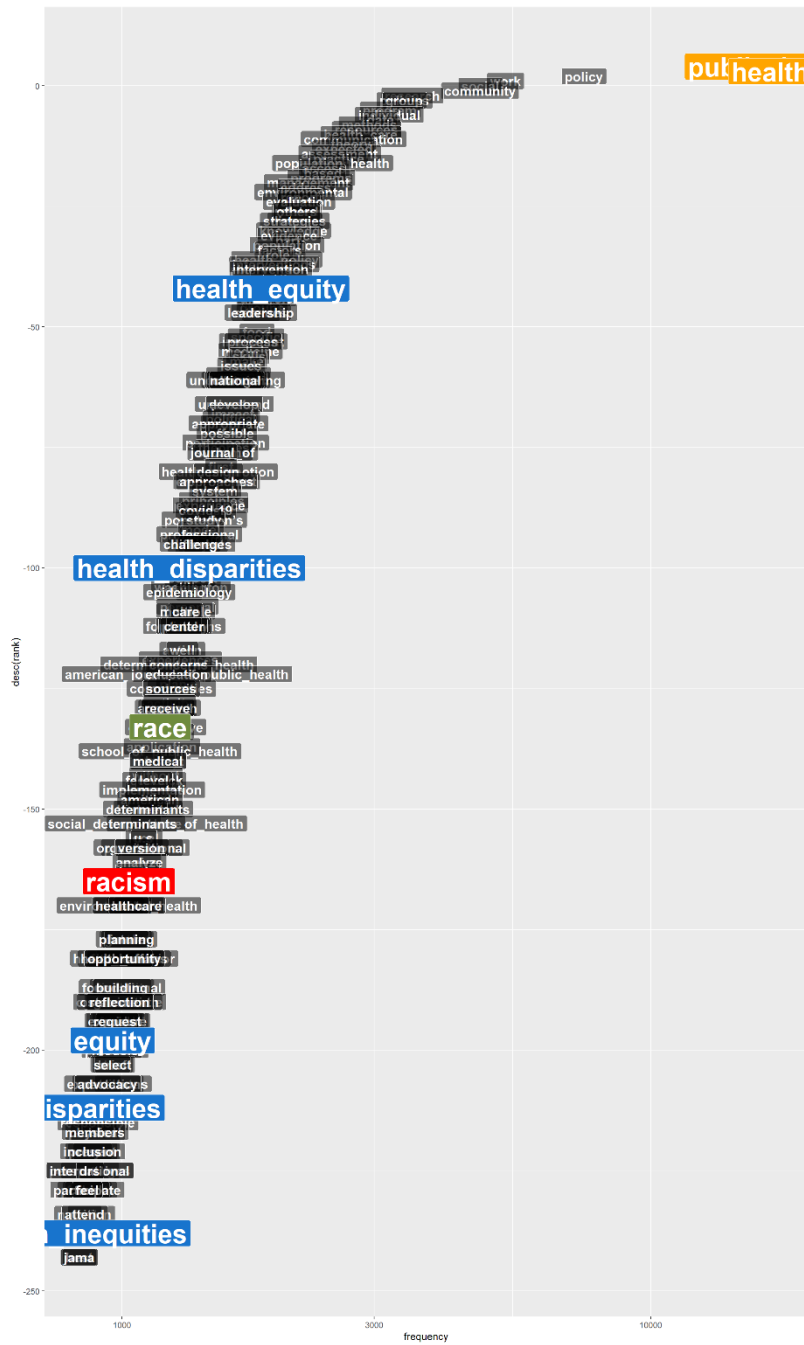
Figure 1-1 *Map of States with Eligible Schools of Public Health*



Map based on Longitude (generated) and Latitude (generated). Details are shown for State. The data is filtered on Us-Based and maximum of 2016 Study. The Us-Based filter keeps Y. The maximum of 2016 Study filter keeps Y.

Note: Eligibility was defined as being a school of public health that submitted a self-study report based on the 2016 criteria.

Figure 1-2 Top 250 Words by Frequency, Descending Rank, CEPH Syllabus Corpus, 2018-2022



Note: This figure plots the top words in the corpus in descending ranked order. The x-axis represents the number of occurrences on a log scale and the y-axis refers to the word's overall ranking by frequency.

Tables

Table 1-1 *Selection of CEPH Syllabus Corpus (2018-2022)*

	Population	Eligible	Included in dataset	Coverage
Schools of public health	60	34	22	64.7%
Courses	Unknown	85	67	78.8%

Note: The population of schools of public health were limited to accredited schools of public health located in the United States of America, excluding territories and freely associated states, as of December 2022. To be eligible, schools of public health must have been reaccredited by CEPH between 2018-2022 using the 2016 CEPH criteria. Eligible courses included courses that addressed Foundational Knowledge D1-10 and Foundational Competency D2-6 criteria, as reported in each school's reaccreditation self-study reports.

Table 1-2 *Keyword Counts by Concept and Syllabus Section (CEPH Syllabus Corpus, 2018-2022)*

Concept	Word Count by Syllabus Section (N)						
	Schools (N)	Syllabi (N)	Course Title	Course Description	Learning Objective	Content (e.g. Reading, Video)	Journal Article Title
Race	19	41	0	9	4	210	143
Health equity	20	45	3	21	89	158	91
Racism	20	45	0	6	24	88	54

Note: Health equity keywords included singular and plural versions of ‘health equity’, ‘health inequity’, ‘health disparity’, and ‘health inequality.’ Racism keywords included ‘racism’, ‘discrimination’, ‘unequal treatment’, and ‘white supremacy.’ Race-related keywords were generic (e.g., ‘race’, ‘ethnic minority’, ‘racial’, ‘ethnicity’) and specific (e.g., ‘Black’, ‘white’, ‘Latina’). Refer to Appendix H for a full list of race-related terms.

Table 1-3 *Syllabi by Percentage Containing Racial Health Equity Content (CEPH Syllabus Corpus, 2018-2022) (N=67)*

Syllabi	%	% of Syllabi Containing Content with Keywords			
		Any	'Race'	'Health Equity'	'Racism'
All	100.0	61.2	55.2	50.7	38.8
Syllabi with CEPH Criterion					
FK D1-10	50.7	31.3	26.9	26.9	19.4
FC D2-6	49.3	32.8	31.3	29.9	20.9
Contains FC D2-6 and/or FK D1-10	76.1	49.3	44.8	41.8	29.9
Syllabi with Learning Objectives					
'Race'	4.5	4.5	4.5	4.5	4.5
'Health Equity'	46.3	31.3	29.9	29.9	9.0
'Racism'	13.4	11.9	11.9	10.4	9.0

Notes: Boolean indicators of any assigned content with keywords were assessed at the syllabus-level; counts were then converted to overall percentages. Content included journal articles, reports, textbooks, non-fiction books, news articles, essays, podcasts, documentaries, recorded talks, guest lectures, and webpages. Foundational Knowledge (D1-10): Explain social, political, and economic determinants of health. Foundational Competency D2-6: Discuss structural biases, social inequities, and racism. Health equity keywords included singular and plural versions of 'health equity', 'health inequity', 'health disparity', and 'health inequality.' Racism keywords included 'racism', 'discrimination', 'unequal treatment', and 'white supremacy.' Race-related keywords were generic (e.g., 'race', 'ethnic minority', 'racial', 'ethnicity') and specific (e.g., 'Black', 'white', 'Latina'). Refer to Appendix H for a full list of race-related terms.

Table 1-4 Summary of Assigned Journal Articles on Race by Named Racial Group (CEPH Syllabus Corpus, 2018-2022)

Racial Group	Schools (N)	Syllabi (N)	Articles (N)	Example Citation
Generic (e.g., ‘race’, ‘ethnicity’, ‘minority’, ‘racial’)	12	19	62	Bowleg, L. (2012). The problem with the phrase women and minorities : intersectionality-an important theoretical framework for public health. <i>American Journal of Public Health</i> , 102(7), 1267–1273.
Black/ African American	9	17	26	Hardeman, R. R., Medina, E. M., & Kozhimannil, K. B. (2016). Structural Racism and Supporting Black Lives - The Role of Health Professionals. <i>The New England Journal of Medicine</i> , 375(22), 2113–2115. https://doi.org/10.1056/NEJMp1609535
Asian	8	8	16	Gee, G. C., & Ponce, N. (2010). Associations Between Racial Discrimination, Limited English Proficiency, and Health-Related Quality of Life Among 6 Asian Ethnic Groups in California. <i>American Journal of Public Health</i> , 100(5), 888–895. https://doi.org/10.2105/ajph.2009.178012
White	8	9	8	Riley, A. R. (2022). Contesting Narratives of Inevitability: Heterogeneity in Latino– White Inequities in COVID-19. <i>American Journal of Public Health</i> , 112(7), 956–958. https://doi.org/10.2105/ajph.2022.306909
Latine	7	8	18	Molina, N. (2011). Borders, Laborers, and Racialized Medicalization: Mexican Immigration and US Public Health Practices in the 20th Century. <i>American Journal of Public Health</i> , 101(6), 1024–1031. https://doi.org/10.2105/ajph.2010.300056
American Indian/ Alaska Native	6	8	11	Van Horne, Y. O., Chief, K., Charley, P. H., Begay, M.-G., Lothrop, N., Bell, M. L., Canales, R. A., Teufel-Shone, N. I., & Beamer, P. I. (2021). Impacts to Diné activities with the San Juan River after the Gold King Mine Spill. <i>Journal of Exposure Science & Environmental Epidemiology</i> , 31(5), 852–866.
Native Hawaiian/ Pacific Islander	2	2	3	Kaholokula, J. K., Look, M., Mabellos, T., Zhang, G., de Silva, M., Yoshimura, S., Solatorio, C., Wills, T., Seto, T. B., & Sinclair, K. A. (2015). Cultural Dance Program Improves Hypertension Management for Native Hawaiians and Pacific Islanders : a Pilot Randomized Trial. <i>Journal of Racial and Ethnic Health Disparities</i> , 4(1), 35–46. https://doi.org/10.1007/s40615-015-0198-4
Middle Eastern/ North African	3	3	2	Lauderdale, D. S. (2006). Birth outcomes for Arabic -named women in California before and after September 11. <i>Demography</i> , 43(1), 185–201. https://doi.org/10.1353/dem.2006.0008
Any race or racial group	15	30	124	

Note: 11 of the 63 articles with generic mentions of ‘race’ were assigned more than once; four of the titles naming Black/African Americans were assigned twice; one title with ‘MENA’ terms was assigned twice; one of the titles with ‘white’ was assigned three times. See appendix for full listing of assigned articles.

Table 1-5 Citations for Assigned Journal Articles Mentioning Racism-Related Words, by Count of Syllabi, Descending (CEPH Syllabus Corpus, 2018-2022)

Citation	Schools (N)	Syllabi (N)
<i>Racism</i>		
Bailey, Z. D., Krieger, N., Agénor, M., Graves, J., Linos, N., & Bassett, M. T. (2017). Structural racism and health inequities in the USA: evidence and interventions. <i>The Lancet</i> , 389(10077), 1453–1463. https://doi.org/10.1016/S0140-6736(17)30569-X	5	6
Jones, C. P. (2000). Levels of racism: a theoretic framework and a gardener’s tale. <i>American Journal of Public Health</i> , 90(8), 1212–1215. https://doi.org/10.2105/AJPH.90.8.1212	5	6
Bailey, Z. D., Feldman, J. M., & Bassett, M. T. (2021). How Structural Racism Works - Racist Policies as a Root Cause of U.S. Racial Health Inequities. <i>The New England Journal of Medicine</i> , 384(8), 768–773. https://doi.org/10.1056/NEJMms2025396	2	2
Chae, D. H., Clouston, S., Martz, C. D., Hatzenbuehler, M. L., Cooper, H. L. F., Turpin, R., Stephens-Davidowitz, S., & Kramer, M. R. (2018). Area racism and birth outcomes among Blacks in the United States. <i>Social Science & Medicine</i> , 199, 49–55. https://doi.org/10.1016/j.socscimed.2017.04.019	2	2
Ford, C. L., & Airhihenbuwa, C. O. (2010). Critical race theory, race equity, and public health: Toward antiracism praxis. <i>American Journal of Public Health</i> , 100(SUPPL. 1), 693–698. https://doi.org/10.2105/AJPH.2009.171058	2	2
Hardeman, R. R., Medina, E. M., & Kozhimannil, K. B. (2016). Structural Racism and Supporting Black Lives - The Role of Health Professionals. <i>The New England Journal of Medicine</i> , 375(22), 2113–2115. https://doi.org/10.1056/NEJMp1609535	2	2
Viruell-Fuentes, E. A., Miranda, P. Y., & Abdulrahim, S. (2012). More than culture: Structural racism, intersectionality theory, and immigrant health. <i>Social Science & Medicine</i> , 75(12), 2099–2106. https://doi.org/10.1016/j.socscimed.2011.12.037	2	2
Williams, D. R., Lawrence, J. A., & Davis, B. A. (2019). Racism and Health: Evidence and Needed Research. <i>Annual Review of Public Health</i> , 40(1), 105–125. https://doi.org/10.1146/annurev-publhealth-040218-043750	2	2
Zambrana, R. E., & Williams, D. R. (2022). The Intellectual Roots Of Current Knowledge On Racism And Health: Relevance To Policy And The National Equity Discourse. <i>Health Affairs</i> , 41(2), 163–170. https://doi.org/10.1377/hlthaff.2021.01439	2	2
Ford, C. L., & Airhihenbuwa, C. O. (2010). The public health critical race methodology: Praxis for antiracism research. <i>Social Science and Medicine</i> , 71(8), 1390–1398. https://doi.org/10.1016/j.socscimed.2010.07.030	1	2
Williams, D. R., & Mohammed, S. A. (2013). Racism and Health I: Pathways and Scientific Evidence. <i>The American Behavioral Scientist</i> , 57(8), 1152–1173. https://doi.org/10.1177/0002764213487340	1	2
Agénor, M., Perkins, C., Stamoulis, C., Hall, R. D., Samnaliev, M., Berland, S., & Bryn Austin, S. (2021). Developing a Database of Structural Racism-Related State Laws for Health Equity Research and Practice in the United States. <i>Public Health Reports</i> , 136(4), 428–440. https://doi.org/10.1177/0033354920984168	1	1
Bassett, M. T., & Graves, J. D. (2018). Uprooting institutionalized racism as public health practice. <i>American Journal of Public Health</i> , 108(4), 457–458. https://doi.org/10.2105/AJPH.2018.304314	1	1
Braveman, P. A., & Parker Dominguez, T. (2021). Abandon “Race.” Focus on Racism. <i>Frontiers in Public Health</i> , 9(September), 689462. https://doi.org/10.3389/fpubh.2021.689462	1	1
Braveman, P. A., Arkin, E., Proctor, D., Kauh, T., & Holm, N. (2022). Systemic And Structural Racism: Definitions, Examples, Health Damages, And Approaches To Dismantling. <i>Health Affairs</i> , 41(2), 171–178. https://doi.org/10.1377/hlthaff.2021.01394	1	1

Citation	Schools (N)	Syllabi (N)
Dean, L. T., & Thorpe, R. J. (2022). What Structural Racism Is (or Is Not) and How to Measure It: Clarity for Public Health and Medical Researchers. <i>American Journal of Epidemiology</i> , <i>191</i> (9), 1521–1526. https://doi.org/10.1093/aje/kwac112	1	1
Díaz, R. M., Ayala, G., Bein, E., Henne, J., & Marin, B. V. (2001). The impact of homophobia, poverty, and racism on the mental health of gay and bisexual Latino men: findings from 3 US cities. <i>American Journal of Public Health</i> , <i>91</i> (6), 927–932. https://doi.org/10.2105/ajph.91.6.927	1	1
Gee, G. C., Walsemann, K. M., & Brondolo, E. (2012). A life course perspective on how racism may be related to health inequities. <i>American Journal of Public Health</i> , <i>102</i> (5), 967–974. https://doi.org/10.2105/AJPH.2012.300666	1	1
King, C. J., Buckley, B. O., Maheshwari, R., & Griffith, D. M. (2022). Race, Place, And Structural Racism: A Review Of Health And History In Washington, D.C. <i>Health Affairs</i> , <i>41</i> (2), 273–280. https://doi.org/10.1377/hlthaff.2021.01805	1	1
Krieger, N. (2016). Living and Dying at the Crossroads: Racism, Embodiment, and Why Theory Is Essential for a Public Health of Consequence. <i>American Journal of Public Health</i> , <i>106</i> (5), 832–833. https://doi.org/10.2105/AJPH.2016.303100	1	1
Krieger, N. (2020). ENOUGH: COVID-19, Structural Racism, Police Brutality, Plutocracy, Climate Change-and Time for Health Justice, Democratic Governance, and an Equitable, Sustainable Future. <i>American Journal of Public Health</i> , <i>110</i> (11), 1620–1623. https://doi.org/10.2105/AJPH.2020.305886	1	1
Malawa, Z., Gaarde, J., & Spellen, S. (2021). Racism as a Root Cause Approach: A New Framework. <i>Pediatrics</i> , <i>147</i> (1), 1–6. https://doi.org/10.1542/peds.2020-015602	1	1
Pallok, K., De Maio, F., & Ansell, D. A. (2019). Structural racism - A 60-year-old black woman with breast cancer. <i>The New England Journal of Medicine</i> , <i>380</i> (16), 1489–1493. https://doi.org/10.1056/NEJMp1811499	1	1
Payne-Sturges, D. C., Gee, G. C., & Cory-Slechta, D. A. (2021). Confronting Racism in Environmental Health Sciences: Moving the Science Forward for Eliminating Racial Inequities. <i>Environmental Health Perspectives</i> , <i>129</i> (5), 55002. https://doi.org/10.1289/EHP8186	1	1
Phelan, J. C., & Link, B. G. (2015). Is Racism a Fundamental Cause of Inequalities in Health? <i>Annual Review of Sociology</i> , <i>41</i> (1), 311–330. https://doi.org/10.1146/annurev-soc-073014-112305	1	1
Schell, C. J., Dyson, K., Fuentes, T. L., Des Roches, S., Harris, N. C., Miller, D. S., Woelfle-Erskine, C. A., & Lambert, M. R. (2020). The ecological and evolutionary consequences of systemic racism in urban environments. <i>Science</i> , <i>369</i> (6510). https://doi.org/10.1126/science.aay4497	1	1
Solomon, T. G. A., Starks, R. R. B., Attakai, A., Molina, F., Cordova-Marks, F., Kahn-John, M., Antone, C. L., Flores, M., Jr, & Garcia, F. (2022). The Generational Impact Of Racism On Health: Voices From American Indian Communities. <i>Health Affairs</i> , <i>41</i> (2), 281–288. https://doi.org/10.1377/hlthaff.2021.01419	1	1
Wakeel, F., & Njoku, A. (2021). Application of the Weathering Framework: Intersection of Racism, Stigma, and COVID-19 as a Stressful Life Event among African Americans. <i>Healthcare (Basel, Switzerland)</i> , <i>9</i> (2). https://doi.org/10.3390/healthcare9020145	1	1
Yearby, R., Clark, B., & Figueroa, J. F. (2022). Structural Racism In Historical And Modern US Health Care Policy. <i>Health Affairs</i> , <i>41</i> (2), 187–194. https://doi.org/10.1377/hlthaff.2021.01466	1	1
<i>Discrimination</i>		
Chae, D. H., Nuru-Jeter, A. M., Adler, N. E., Brody, G. H., Lin, J., Blackburn, E. H., & Epel, E. S. (2014). Discrimination, Racial Bias, and Telomere Length in African-American Men. <i>American Journal of Preventive Medicine</i> , <i>46</i> (2), 103–111. https://doi.org/10.1016/j.amepre.2013.10.020	1	1

Citation	Schools (N)	Syllabi (N)
Gee, G. C., & Ponce, N. (2010). Associations Between Racial Discrimination, Limited English Proficiency, and Health-Related Quality of Life Among 6 Asian Ethnic Groups in California. <i>American Journal of Public Health</i> , 100(5), 888–895. https://doi.org/10.2105/ajph.2009.178012	1	1
Gee, G. C., Spencer, M. S., Chen, J., & Takeuchi, D. (2007). A Nationwide Study of Discrimination and Chronic Health Conditions Among Asian Americans. <i>American Journal of Public Health</i> , 97(7), 1275–1282. https://doi.org/10.2105/ajph.2006.091827	1	1
<i>White Supremacy</i>		
Alang, S., Hardeman, R., Karbeah, J. 'mag, Akosionu, O., McGuire, C., Abdi, H., & McAlpine, D. (2021). White Supremacy and the Core Functions of Public Health. <i>American Journal of Public Health</i> , 111(5), 815–819. https://doi.org/10.2105/ajph.2020.306137	3	3
Total	14	21

2 AIM 2: DETECTING THEORIES AND RACIAL GROUPS IN PUBLIC HEALTH THESIS AND DISSERTATION ABSTRACTS WITH COMPUTATIONAL TEXT

ANALYSIS

Abstract

According to the Council on Education for Public Health (CEPH) 2016 accreditation criteria, public health graduate programs must prepare students to discuss racism and other structural biases. Yet nationwide assessments of students' racial health equity knowledge remain limited. To provide a baseline indicator of student learning, I aimed to determine the extent to which racial groups were studied and whether health was framed using social inequality, biomedical, behavioral, social ecological, or community theories. I analyzed public health abstracts published between 2018-2022 in the ProQuest Dissertations and Theses database (N=13,797).

I conducted computational text analysis to determine normalized words, studied racial groups, and applied theories within abstracts from CEPH accredited schools and programs. I tested classification with topic modeling. Of the 5,180 abstracts that met inclusion criteria, 62% did not mention any racial group, 36% named racial group and theory terms, and 2% named racial groups without theory. Among abstracts naming any racial group (N=1,959), general race terms (e.g., 'race', 'minority') were most common, followed by "Black/African Americans" and "whites." The Middle Eastern/North African group was mentioned in just 25 abstracts. Social ecological (51%), biomedical (51%), and behavioral (50%) theory terms were the most common. Social inequality theory terms (e.g., 'racism', 'racialized', 'critical race theory') were scant (14%). By examining everyday processes of cultural racism in academia, I provided a baseline estimate of public health student learning. Such empirical evidence may bridge the gap between public health's espoused priorities and educational strategies for advancing racial health equity.

Introduction

Graduate training socializes public health students into the public health profession through exposure to the field's approaches for defining health problems and prioritizing interventions (Cross, 2018; Golden & Earp, 2012; Harvey & McGladrey, 2019; Manalo-Pedro et al., 2023; Westbrook & Harvey, 2022). This may manifest as including certain groups in research studies (e.g., by race) or teaching explicit theories about the cause of unequal disease distributions (e.g., racism) (Graham et al., 2011; Krieger, 2016). Access to training on racism as a determinant of health is intended to guide comprehension of and action on structural causes (Bentley et al., 2021; Hagopian et al., 2018; Taboada, 2011). Yet evaluations of racial health equity curricula on graduate students' knowledge remain scarce and inconsistently measured (Chandler et al., 2022). Across the United States and over time, what public health students learn about race and racism—who is studied and which explicit theories are applied—is currently unknown.

A growing body of literature has called attention to schools of public health as reflections of contemporary white supremacist society (Alang et al., 2021; Bowleg, 2021; Ford et al., 2019; Ramirez-Valles, 2021; Ramirez-Valles et al., 2022). With a predominantly white faculty (Goodman et al., 2020), the racialized rules of academic public health often normalize 'white' as the default group and frame people of color as either pathological or invisible (Bacong et al., 2020; Ford et al., 2021; Gee & Hicken, 2021; Graham et al., 2011; Krieger, 2021; Manalo-Pedro et al., 2023). Health equity scholars of color have increasingly named such curricular norms and practices as impediments to students' capacity to advance health equity (Chandler et al., 2022; E. Chen et al., 2023; Ford & Airhihenbuwa, 2018; Hagopian et al., 2018; Merino, 2019; Shaw-Ridley & Ridley, 2010). As academic public health evolves, systematic investigation of what public health students

learn can be integrated into health equity research agendas (Chandler et al., 2022; Samarron Longorio et al., 2023).

Background

How graduate students in public health explain the causes of racial health inequities warrants attention. As part of the revised criteria for accrediting schools and programs of public health, the Council on Education for Public Health (CEPH) requires that graduates demonstrate the foundational competency to discuss racism and other forms of structural bias and social inequities as impediments to health equity (Council on Education for Public Health, 2016). This revision emphasizes the necessity for public health professionals to understand social and structural barriers to assuring the public's health (Alang et al., 2021). Graduate students in public health should be able to examine the distribution of diseases among various populations and explain which factors determine health. Thus, ascertaining how graduate students incorporate racial groups and which explicit theories they apply can offer insight to the collective comprehension of racial health equity among the rising generation of public health leaders.

Biomedical and behavioral explanations dominate epidemiologic theories in public health, as illustrated by the prominence of biomedical and lifestyle theories in NIH grants (Krieger, 2014). Similarly, public health students have conventionally been taught through ahistorical lenses that focus on individual-level genetics, behaviors, and social conditions as risk factors (Fleming, 2020; Harvey, 2020; C. P. Jones, 2018). Given the environmental, multigenerational, and systemic nature of racial health inequities, critics of public health training characterize the outsized focus on individual behavior change as inappropriate at best and fatal at worst (Becker, 1986; Heller, Fleming, et al., 2023; Samarron Longorio et al., 2023; Shaw-Ridley & Ridley, 2010; Williams et al., 2019). Thus, the paucity of structural determinants within social and behavioral science

curricula raises concerns (Harvey & McGladrey, 2019; Komro et al., 2018; Westbrook & Harvey, 2022).

Public health training offers “little theoretical explanation for those conditions, their origins, how they are maintained and socially legitimated, or what might be done to change them” (Harvey, 2020). This directly contrasts the robust body of literature that indicates that the disproportionate burden of worse health among racially/ethnically minoritized groups stems from *exposure to racism* rather than an individual’s *race* (Braveman & Parker Dominguez, 2021; C. P. Jones, 2001; LaVeist, 1994; Neighbors et al., 2022; Paradies et al., 2015; Swilley-Martinez et al., 2023; Williams et al., 2019; Zambrana & Williams, 2022). Eradicating racial health inequities requires explicit theorization of racism and other social inequities (Alang & Blackstock, 2023; Bediako & Griffith, 2008; Bowleg, 2021; Harvey, 2020; Krieger et al., 2021; Patel & Price, 2016; Petteway, 2022).

Relatedly, because racism often manifests differently by racial group, ascertaining which racial groups are examined also matters (Ford & Harawa, 2010; Shaff & Hickson, 2024; Soon et al., 2020). The conventional practice of controlling for race is counterproductive to advancing antiracism (Adkins-Jackson et al., 2022; C. P. Jones, 2001; Swilley-Martinez et al., 2023). Health equity is often curtailed by inequitable data practices such as omission, aggregation, and imprecise definitions (Adia et al., 2020; M. S. Chen, 2019; Doàn et al., 2022; Gee et al., 2023; McSorley et al., 2023; Small-Rodriguez & Akee, 2021; Zambrana et al., 2021). Knowing whether and which racial groups are studied can contribute insight toward understanding what students of public health learn about the connection between race and health.

Theoretical Framework

Sociologists have theorized *cultural processes* as ongoing activities that embed meaning into a culture (Lamont et al., 2014). That is, interactions between actors and institutions shape the distribution of resources and recognition by passing on notions of what is valued and legitimate (Lamont, 2012). Scholars have framed how whiteness has operated in academia generally (Delgado Bernal & Villalpando, 2002; C. I. Harris, 1993; Patton, 2016) and in academic public health specifically (Alang et al., 2021; Petteway, 2021; Ramirez-Valles et al., 2022). To improve measurement of white supremacy and the eradication of its resulting health inequities, racial health equity scholars have articulated the importance of investigating cultural racism (Cogburn, 2019; Hicken et al., 2018, 2021; Michaels et al., 2023).

Cultural racism refers to the normalization of racial hierarchies through society's norms and practices (J. M. Jones, 1988; Lamont et al., 2014; Mills, 1997). That is, cultural racism is codified into institutional policies that frame unequal power relations as rational and neutral (Cogburn, 2019; Hicken et al., 2021; Michaels et al., 2023). Power may materialize culturally by shaping meaning and setting priorities (Bediako & Griffith, 2008; Griffith et al., 2010; Heller, Fleming, et al., 2023). Structural and cultural racism reinforce each other through racialized rules which impact health outcomes (Gee & Hicken, 2021; Michaels et al., 2023). That is, in institutions founded on the values of white supremacy, everyday practices perpetuate racial inequality by merely maintaining the status quo (Michaels et al., 2023; Ray, 2019).

Racialized rules undergird the cultural process of rationalization, which establishes values and shapes decision-making (Lamont, 2012; Lamont et al., 2014). As a microcosm of white supremacist society, the *disciplinary norms* in schools of public health can promote or prevent practices that produce knowledge on racism as a determinant of health (Ray, 2019). Cultural norms

are maintained by the establishment of standards, such as public health students' exposure to explicit theories or racial groups during their training. These standards are subsequently reinforced through evaluation processes, such as whether students and their committees deem the use of certain theories or study of specific racial groups appropriate for public health theses or dissertations (Lamont, 2012). Writing a thesis or a dissertation is a *cultural practice* common to graduate programs. I posit that, as cultural artifacts, the knowledge produced by students can illustrate the culture of academic public health.

Racist norms in academic public health training can be elucidated through the use of critical race theory (CRT) of education (Manalo-Pedro et al., 2023). CRT of education scholars have theorized mechanisms that maintain a non-knowing about racism (Zembylas & Matias, 2023). For example, the *'apartheid of knowledge'* refers to the systematic segregation of knowledge maintained through the devaluing of scholarship by faculty of color (Delgado Bernal & Villalpando, 2002). The apartheid of knowledge on racial health equity research is particularly perilous because such isolation "hinders the open circulation of evidence, hypotheses, theories, concepts, and research questions, hence societal efforts to prevent disease and improve people's quality of life" (Ramirez-Valles, 2021, p. 233).

One approach for detecting norms in education is noticing which groups are studied (Anyon, 1979; Utt, 2018). The data science approach of natural language processing (NLP) automates the quantification of keywords and detection of relationships with the words around them (Grimmer et al., 2022). A key assumption guiding NLP models is that more similar words live near each other. Lucy and colleagues (2020) used NLP to detect race-related biases in U.S. history textbooks. The researchers leveraged wordlists for specific groups of people (e.g., "Black", "woman") to assess how much textual space each group was allocated and investigated frequently

cooccurring words associated with each group. They found that the plurality of topics in the textbooks centered whiteness. Through word counts and word relationships, NLP can reveal biases hidden in plain view.

As the culminating assessment of students' knowledge acquisition and knowledge production during their academic programs, theses and dissertations often reflect the culture of academic public health. Students' research topics must be vetted through committee members, whether through faculty's expertise on studying public health issues (Aqil et al., 2021), concerns regarding available data for smaller or hard to reach populations (Ford et al., 2021), or other determinations of appropriateness for public health (Petteway, 2022). Because completed theses and dissertations result from the practice of negotiating students' scholarly interests with faculty, university, and disciplinary standards, these documents offer empirical evidence of students' learning within the context of their schools of public health. Thus, the words used within students' theses and dissertations may offer insight into the cultural process of rationalization in academic public health.

Current Study

What do graduate students in public health learn? Identifying which theories and racial groups are named in students' culminating academic works can indicate what has been learned. To approximate which concepts were learned, I sought to classify the breadth of knowledge that public health students produced in their theses and dissertations. The following questions guided my analysis of abstracts for public health theses and dissertations:

1. As indicators of disciplinary norms, which words occurred most frequently?
2. As indicators of cultural practices, to what extent were racial groups named?
 - a. How frequently were racial groups named?

- b. Which racial groups were named?
 - c. Do any text patterns distinctively characterize abstracts with racial groups?
3. As indicators of cultural practices, to what extent are explicit theories applied?
- a. How frequently were explicit theories applied?
 - b. Which explicit theories were applied?
 - c. Do any text patterns distinctively characterize abstracts with explicit theories?

Methods

To assess what is learned by graduate students in public health, I determined which words were normalized in students' theses and dissertations using manifest content analysis (Hsieh & Shannon, 2005). I utilized NLP to explore the distribution of words and the usage of keywords of interest (Grimmer et al., 2022). Guided by the assumptions that word frequency indicates importance and that the words surrounding a focal word convey the focal word's meaning, computational text analysis methods automate the counting of words to detect patterns (Grimmer et al., 2022).

This study focused on describing word distributions, examining relationships between words, and testing whether textual patterns could be distinguished (Table 2-1). To describe word distributions, I detected which words were most frequently used (i.e., normalized), whether studies examined race or racial groups as study population characteristics (e.g., 'African American', 'ethnic minority'), and whether theories were applied (e.g., 'health belief model'). I examined the relationships between words by assessing how frequently keywords occurred together and which words were most likely to appear with keywords (i.e., keyness). Lastly, I tested whether the machine learning method of topic modeling could classify abstracts into racial group and explicit theory categories.

Data

Data were sourced from ProQuest Dissertations & Theses (PQDT) Global, an actively maintained digital repository of more than 3 million theses. Abstract texts with a subject of public health for schools located in the United States between the years 2018–2022 were downloaded in bulk directly from the PQDT database. Along with the abstract text, the bulk download included title, author, year published, and URL.

To determine which abstracts were produced by students from CEPH accredited schools and programs, additional attributes were webscraped from each electronic theses and dissertations (ETDs) unique URL. PQDT allows authors to submit different details for their ETD, resulting in varying attributes for each record. I used the webscraping tool Octoparse to extract 315,999 additional ETD details from PQDT. The most common details were degree, school code, university/institution, and department. Institution details for CEPH accredited schools and programs (<https://ceph.org/about/org-info/who-we-accredit/accredited/>) were webscraped from the CEPH website using Octoparse. CEPH details included accreditation type (school vs. program), university name, entity website, entity name (e.g., UCLA Jonathan and Karin Fielding School of Public Health), accreditation expiration date, city, and state.

The ProQuest document metadata and the CEPH institutional data were then used to identify a subset of abstracts from accredited CEPH schools and programs (Figure 2-1). First, the abstract had to come from a university with a CEPH accredited school or program as determined by their existence on the CEPH list. Because CEPH accreditation is limited to schools and programs that offer a professional public health master's degree, standalone MPH programs without accreditation or PhD programs outside of CEPH schools and programs were excluded. Second, because of the broad types of degrees and departments in schools and programs of public

health, the dataset was further filtered to include degree types in combination with department names. The following degree types were considered public health degrees: DBA, DHA, DHED, DPH, DPROF, DRPH, DSC, EDD, PHD, SCD, and SD at the doctoral level; MA, MASTERS, MPH, MS, MSC, MSEH, MSMPH, MSPH, MSW, and MUP at the master's level. Excluded degree types were generally in related health professions (e.g., DNP, MD). Additionally, variations in the spelling of department names were addressed by using regular expressions to find keywords (e.g., "Health Education", "Health Srv"). Seven abstracts from San Diego State University were included as part of dual degree programs (e.g., "MPH" in a "Latin American Studies" department or "MSW" in a "Public Health" department). Refer to appendix [[TBD]] for the full list of search terms used to determine public health departments.

Missingness. Nine of the records in the bulk download from ProQuest did not have abstract text, thus were excluded. Abstracts that were missing department data were manually reviewed to determine whether they were produced by students at the school of public health; abstracts that were verified as public health through this manual process were included in the dataset. Abstracts without metadata for determining inclusion criteria (e.g., degree, school code, or department) and abstracts that were not in English were also excluded.

Analysis

Pre-Processing

I used the *quanteda* package to generate the corpus of abstracts from theses and dissertations in RStudio (Benoit et al., 2018). To optimize the representation of words for analysis, standard pre-processing steps were completed: tokenization, complexity reduction, and document-feature matrix creation (Grimmer et al., 2022). The corpus was tokenized at the word level.

To optimize analysis, I reduced the complexity of the corpus by creating three sets of tokens: a full set which retained all words for readability, a ‘clean’ set for analysis, and a stemmed version. In all sets, common multi-word phrases (i.e., multiword expressions) were compounded to combine sequential tokens that conveyed distinct meanings (e.g., public + health = public_health). Multiword expressions were detected by using the *quanteda.textstats* package (Benoit, n.d.) which computes a collocation score, *lambda*, based on the association of adjacent words (*Identify and score multi-word expressions*, n.d.). To limit noise, separators, symbols, punctuation, numbers, and URLs were also removed. Additionally, stop words were removed from the ‘clean’ token set. Stop words included the default set of common English words (e.g., ‘i’, ‘we’, ‘you’) used by *quanteda* as well as a customized list of frequent words from the corpus that did not contribute meaningfully toward the research question (e.g., ‘results’, ‘significantly’, ‘dissertation’). Keywords separated by ‘/’, ‘and’ or ‘or’ were standardized to represent the same feature (e.g., ‘race/ethnicity’, ‘race and ethnicity’, ‘race or ethnicity’ were standardized as ‘race_ethnicity’). To further reduce complexity, a third set of tokens was generated to represent equivalent words within the broader feature set. Lemmatizing improves token equivalency by combining tokens with common root words known as lemmas (e.g., ‘seeing’ and ‘saw’ originate from ‘see’). However, because word-to-lemma mapping is generally resource intensive, I stemmed the tokens instead (e.g., ‘behavior’ and ‘behavioral’ would become “behav”).

Lastly, I produced multiple document-feature matrices (DFM) for the various analyses to indicate which documents contained which features. All DFMs were generated from the ‘clean’ token set and merged with the ProQuest and CEPH metadata to enable filtering by document-level variables (e.g., year, degree, university). Because my intent was to identify normalized terminology (i.e., very frequently occurring terms) as well as racism-related terms, which I

hypothesized as infrequent, I did not exclude features by count. The full DFM included all 13,797 abstracts and a second CEPH-only subset DFM included 5,180 abstracts. The third DFM contained abstracts from the CEPH Dataset with a reduced feature set based on entropy scores (described in greater detail below). The fourth DFM was a weighted version of the low-entropy DFM with frequencies log-transformed to reduce the distribution skewness while preserving relative frequencies.

Word Distributions

Top Words.

I assessed the distribution of terms across the corpus. Each term was ranked to indicate its relative frequency, the number of times it occurred, and the number of documents the term appeared in. Top words were determined using `quanteda`'s `topfeat()` function. This function computes a simple count of each feature across the corpus. Top features were generated on the CEPH Dataset to provide the overall distribution, a stemmed version of the CEPH Dataset to combine similar words, and a low-entropy version of the CEPH Dataset with a reduced feature *set*. I identified which words occurred most frequently overall and by year.

Keyword Searches.

I developed two seeded dictionaries of theoretically informed keywords to investigate two domains: racial groups and explicit theories. As the first known use of public health theories in computational text analysis, these dictionaries provide an initial compilation of relevant terms. Though beyond the scope of this dissertation, recently developed techniques for improving the development of seed word dictionaries can be applied to refine these terms in the future (Watanabe & Zhou, 2022). The full dictionary is available in Appendix H.

The seeded dictionary based on *racial groups of interest* was informed by generic and specific keywords for racial groups. Generic keywords included terms like ‘race’, ‘ethnic’, ‘minority,’ and ‘BIPOC.’ Specific keywords primarily came from the 2020 U.S. Census detailed racial categories, including Indigenous nations (e.g., ‘Diné’, ‘Māori’), alternative spellings (e.g., ‘Latinx’, ‘Latina’) and variations (e.g., ‘Black’, ‘African American’). Racial group terms were collapsed into the following eight categories: American Indian/Alaska Native; Asian/Asian American; Black/African American; Latinx; Middle Eastern/North African; Native Hawaiian and other Pacific Islander; White; and unspecified. Multiword seeded terms (e.g., ‘Asian American’) were also added to the compound word dictionary for pre-processing.

The *explicit theories* dictionary contained keywords from social and behavioral sciences literature on public health. These included Harvey & McGladrey’s (2019) review of social and behavioral sciences syllabi, Harvey’s (2020) identification of social theories of health inequality, Krieger’s (2014) review of epidemiologic theories of disease distribution, and the textbook *Theory at a Glance* (Rimer et al., 2005). The explicit theory dictionary included terms organized around five key categories: behavior, biomedical, community, social ecology, and social inequality. While social ecology terms refer to multiple levels of influence (e.g., interpersonal, society), social inequality refers to unfairness (e.g., racism, capitalism) (Harvey, 2020). Words that may be applied to multiple categories were only included with qualifiers (e.g., ‘environment’ was not a dictionary term, but ‘food_environment’ was for social ecology and ‘environmental_justice’ was a term for social inequality). Socioeconomic status terms were generated based on terms from Nuru-Jeter and colleagues (2018).

Within the corpus, I searched for keywords from the seeded dictionaries. The keyword-in-context (KWIC) function returns each instance of a search term and returns windows of text

occurring prior to and after the search term. I ran separate KWIC searches for each key category in each domain. Then at the document level, I created Boolean indicators to indicate whether that document contained at least one instance from that category. For example, the Asian term indicator variable `group_asian` was set to 'TRUE' for documents containing at least one instance of terms such as 'Filipino', 'Japanese', 'Khmer.' I added another indicator per dictionary to indicate whether the abstract text contained any of the categories within that dictionary (i.e., `group_any`, `theory_any`).

Word Relationships

Feature Co-Occurrence.

To demonstrate the relationships between categories, I detected which categories cooccurred with other categories within the same domain. First, using the `dfm_lookup()` function, I converted all instances of keyword terms to their respective category keyword. That is, 'black', 'african_american', 'black_americans', and 'black_non-hispanics' were recoded as 'black.' Then, I generated feature co-occurrence matrices (FCMs), which enumerate how frequently a list of features cooccur. Boolean FCMs tabulate whether features appear together within the same document whereas frequency FCMs indicate how many times the features were mentioned in the same document. I produced network plots for each domain to show which racial groups cooccur and which theories cooccur.

Keyness.

Various tools have been developed to measure such word similarity, such as word embeddings and cosine similarity. Word embeddings are a series of numbers (i.e., vectors) that summarize the meaning of each unique word in a corpus (Liu et al., 2020). Semantic similarity between words can be approximated by calculating the difference between word embeddings. For

example, the GloVe algorithm fits word embedding models by generating global vectors based on cosine similarity (Pennington et al., 2014). Semantic similarity varies by corpus. For example, “race” could be similar to “ethnicity” in health disparities abstracts but more similar to “sprint” in kinesiology abstracts. Customizing word embeddings for this unique dataset of academic writing can thus yield more appropriate results than using pretrained embeddings on corpora from social media or news articles. However, this approach is computationally intensive.

Keyness is a text statistic that determines relevant features based whether they are located within or beyond the window of words around a keyword term. The `quanteda textstats_keyness()` function runs a chi-square test of independence to compare the frequency of words within the window (i.e., target) to the frequency of words outside of the window (i.e., reference) (Benoit, n.d.). I used this approach to determine which features were statistically significantly similar to the keywords of interest ($\alpha = 0.05$). To account for the disproportionate distribution of racial groups in the dataset, I set the minimum frequencies for keyness features based on racial group abstract frequencies. For the most frequent racial groups, I set the most stringent threshold (e.g., minimum frequency to 50 and the minimum document frequency to 10). For the least frequent racial groups, I set the lowest criteria (e.g., minimum frequency to 2 and the minimum document frequency to 2).

Topic Modeling

Building upon the raw counts of keywords and their distributions in relation to other features for each document and across the corpus, the prevalence of related ideas can be estimated by modeling topics. Topic modeling refers to the process of classifying document texts into clusters of similar content which reflect a latent (i.e., unobserved) topic (Grimmer et al., 2022). These topic assignments for documents are estimated by iterating through conditional probability distributions

for each feature. That is, the algorithm determines the likelihood that a feature belongs to a specific topic under the condition when all other features have been assigned topics. Because each document likely represents more than one set of ideas, topic prediction can be approached in various ways.

The most common topic modeling method is latent Dirichlet allocation (LDA), an unsupervised technique for discovering topics. LDA topic models estimate Bayesian probabilities at three levels of a hierarchy: the corpus level, the document level, and the word level (Blei et al., 2003). The assumed prior distributions are represented as *alpha*, which guides the topic-document distribution, and *beta*, which guides the word-topic distribution. Topic models generate estimates for *theta*, the predicted probability that the *document-level* word distribution reflects the *topic-level* word distribution. Concurrently, each topic model predicts *phi* scores for each word for each topic, where *phi* represents the predicted probability that the word belongs to that topic. However, because LDA predictions are solely based on feature frequencies and distributions, some scholars have critiqued the suitability of this technique for advancing social science (M. E. Roberts et al., 2016).

Instead, I used seeded LDA topic modeling, which leverages researchers' theoretical sensitivity by applying a dictionary of keywords and related terms to guide topic estimation (Lu et al., 2011; Watanabe, 2021). I developed two seeded LDA topic models based on the racial group and explicit theory seeded dictionaries from the keyword searches. Both seeded LDA topic models were applied to each abstract so that each document had a predicted theta score for every category in each domain. For each topic model, every document was assigned a 'predicted topic' based on which category had the greatest theta score. Because some abstracts did not match any words in

either one or both word lists, both models included a residual ‘garbage’ topic to allow for the topic model to assign ‘other’ topics beyond the seeded categories.

Topic Model Validation.

In the absence of consensus on topic model validation (Birkenmaier et al., 2023), I engaged in multiple steps of validation to strengthen the internal and external validity of the topic models. To improve the models’ internal validity, I undertook three approaches: feature selection (i.e., removing words that were so common that they inhibit the model’s ability to distinguish between categories; retaining words with high keyness scores), model configuration (i.e., choosing appropriate hyperparameters), and output evaluation (i.e., reviewing results for face validity) (Manning et al., 2008). The technical details from this stage of analysis are listed in the appendix. To enhance the models’ external validity, I incorporated both computational text analysis on the full dataset and human-coding for a smaller validation set (N=270).

For external validation, I applied both computational text analysis and human-labeling strategies. As a crude indicator, I compared the predicted topics to the KWIC results to assess the level of agreement between the keyword search and the topic model prediction for the full dataset. For a more robust validation, I curated a validation set of abstracts that exemplified each topic in each dictionary (N=145 racial group; N=125 explicit theories). The racial group validation set was selected by filtering document-level data that indicated which racial group was identified through the KWIC search. Based on the assumption that titles reflect true topics, this subset was further narrowed down based on the explicit mention of a racial group or explicit theory in the title. Similarly, the explicit theory validation set was selected by filtering document-level data that indicated which explicit theory was identified through the KWIC search. For example, a lexical search of the phrase “belief model” within the corpus included a 2022 dissertation titled, “Exposure

to Malaria Awareness Messages and Preventive Health Behaviors among Informal Workers in Ghana.” Because the author explicitly referenced the “health belief model” in their abstract I labeled its “true topic” as ‘behavior’. Because thesis titles tend to emphasize the subject rather than the theory, titles were not a key source for the theory validation set curation process. Additional details are included in the appendix.

Leveraging these validation sets, I evaluated seeded LDA topic model performance based on how well the abstract’s true topic was predicted. For each document in the validation set, I generated predicted probabilities for each racial group category and each explicit theory category. Each topic model was assessed stringently using two thresholds for classification accuracy (described further in Appendix F). Topic models were also validated broadly using the area under the curve (AUC) to assess how well the topic models could discriminate between classes. I calculated the AUC to identify how often the model estimated higher predicted probabilities of a topic for its ‘true’ abstracts (true positives) than other abstracts (Ling et al., 2003). For the validation set, the ‘true’ topic was based on the human coded label. For the full dataset, ‘true’ topics referred to whether dictionary terms had been found through the KWIC search. Because abstracts may mention multiple racial groups or theory terms, this approach did not require mutually exclusive classes.

Results

Abstract Inclusion/Exclusion

Within the PQDT, 13,797 abstracts were indexed as ‘public health’ and published between 2018-2022. Of these, 37.5% (N=5,180) were included in the CEPH Dataset (Table 2-1). Seventy-five abstracts were manually included; 53 abstracts without department data in PQDT were verified as CEPH through university-specific digital archives (N=53) and 22 abstracts were

reclassified as CEPH based on university-level categorization (e.g., DrPH coded as DProf). On average, 2,759 abstracts were published each year, with the fewest dissertations published in 2022 (N=2,226) and the most published in 2019 (N=3,292) (see appendix).

Excluded abstracts (N=8,617) were indexed as ‘public health’ but did not meet inclusion criteria based on university, department, or degree. Of the 527 universities represented in the corpus, 360 did not have an accredited CEPH school or program (see appendix). Nearly half of the excluded abstracts (N=3,731) were published at universities without CEPH accredited schools or programs, such as Duke University (N=184) or Capella University (N=157). Some of these universities had started the CEPH accreditation process (e.g., California State University, Los Angeles; University of Alabama; University of Arkansas). More than half of the excluded abstracts were produced by non-public health departments (e.g., nursing, psychology, medical sciences) at universities with CEPH accredited schools or programs (N=4,440). Seventy-one of the abstracts were excluded because they were not traditional public health degrees (e.g., MMedSci, SD, or DNP).

Word Distributions

Top Words

After pre-processing, there were 39,215 distinct features (i.e., words or combined words) in the corpus. The top 10 words reasonably reflect a corpus of health research abstracts: ‘health’ (n=6,484), ‘data’ (n=5,223), ‘women’ (n=4,202), ‘care’ (n=3,814), ‘research’ (n=3,813), ‘hiv’ (n=2,556), ‘disease’ (n=2,519), ‘exposure’ (n=2,306), ‘model’ (n=2,149), and ‘community’ (n=1,998). Notably, these top words include one specific group of interest (women) and one specific health outcome (HIV), indicating frequently researched areas. The top 300 words included three related to racial health equity: ‘disparities’ (rank #192; 640 mentions), ‘race’ (rank #193; 639

mentions), and ‘african_american’ (rank #220; 603 mentions). Words such as ‘equity’, ‘justice’, ‘bias’, ‘ethnicity’, and ‘racism’ were ranked lower than #300, suggesting that they were not central in students’ abstracts. Table 2-2 shows the top 25 stemmed words per year which provide insight to patterns over the five-year period. This view generally aligns with the overall top words, with ‘health’ ranked #1 every year. The only top word referring to a specific group was ‘women’, which was ranked highest in 2019 (#2) and lowest in 2022 (#8). During this period, two specific health outcomes appeared among the top words: ‘hiv’ and ‘covid-19’. In 2022, ‘social,’ ‘vaccin’, ‘covid-19’, and ‘experi’ appeared in the top 25.

Keyword Searches

Table 2-4 summarizes how many abstracts mentioned terms from the racial group wordlist and/or the explicit theory wordlist. More than half of the abstracts (N=2,883) used a theory-related term without naming a racial group, 35.9% (N=1,859) named both racial group and theory terms, 6.5% (N=338) omitted both types of terms, and 1.9% (N=100) named a racial group without using theory-related terms. Nearly two-thirds of the abstracts (N=3,221) did not mention any racial group terms. Of the abstracts that named a racial group (N=1,959), nearly all (95%) also mentioned a theory-related term.

Table 2-5 summarizes detected racial group categories by the count and percent of CEPH abstracts (not mutually exclusive) and the overall word count of terms from the racial group wordlist. Of the abstracts naming any racial group (N=1,959), more than half used generic racial terms (e.g., ‘race’, ‘minority’). Among the specified racial groups, Black terms appeared in the most abstracts (15%; N=779). The next most frequent racial groups were white (N=506) and Latinx (N=474). The Asian / Asian American and American Indian / Alaska Native groups appeared in 3.5% and 2.5% of abstracts, respectively. The Native Hawaiian / Pacific Islander and

Middle Eastern / North African groups were each detected in less than 1 percent of all abstracts. When racial groups did appear in abstracts, the minoritized racial groups were mentioned more frequently per abstract (range of mean 2.8-3.8) than either unspecified terms (2.5) or ‘white’ terms (1.8). This may indicate that when abstracts name a specific racial group, they are discussed more thoroughly than the generic terms.

Table 2-5 summarizes detected explicit theory categories by the count and percent of CEPH abstracts (not mutually exclusive) and the overall word count of terms from the explicit theory. The most frequent theories were social ecology (N=2,637; 50.9%), biomedical (N=2,625; 50.7%), and behavioral (N=2,567; 49.6%). The remaining theories were notably less frequent: community (N=1,060; 20.5%) and social inequality (N=718; 13.9%). The top terms for each explicit theory category are listed in the appendix (Table 5-9). Behavioral theories related to behavior, stress, attitudes, and benefits. The top terms for biomedical theories were related to disease, infection, diagnoses, and genetics. ‘Local’, ‘participation,’ and ‘empowerment’ were top terms for community theories. Top terms for social ecology related to community, socioeconomic status, and social determinants. The most frequent terms for social inequality were related to stigma (N=701), discrimination (N=384), inequity (N=305), racism (N=292), and the life course (N=122) (appendix Table 5-10).

Word Relationships

Feature Co-Occurrence

The network plot in Figure 2-2 depicts a feature co-occurrence matrix (FCM) of the top 10 stemmed words. Nine edges (i.e., lines) extend from each node (i.e., point), indicating that all 10 words co-occur with every other word. That is, not only are these features frequently mentioned, they are also mentioned in the same abstracts. As indicated by the largest nodes, the most frequent

features were ‘health’, ‘data’, and ‘care’. The ‘health’ and ‘data’ points possess the greatest number of thick edges; this is logically coherent because the corpus consists of abstracts from health data. Thus, this network plot indicates that ‘health’, ‘data’, and ‘care’ are normalized concepts in the CEPH dataset whether abstracts discuss ‘model[s]’, ‘program[s]’, ‘women’, ‘intervent[ions]’, ‘research’, ‘differ[ences]’, or ‘diseas[es]’.

As depicted in Figure 2-3, examining the cooccurrence of racial groups adds another dimension to the unequal distribution of racial group terms. The thickest edge connects the Black and unspecified racial group nodes, indicating that generic racial group words are most often used to discuss Black health; this relationship appears central to studies on race in these abstracts. The next thickest edge connects the Black and white nodes; the greater size of the Black node indicates that Black terms occur more frequently than white terms.

Of the remaining racial groups, the Latinx group was the most connected to the central nodes of Black, white, and unspecified terms. The Asian and Native Hawaiian racial group terms cooccurred most frequently with each other; the greater size of the Asian node indicates that Asian terms were mentioned more frequently. This aligns with critiques of the outdated blanket term ‘Asian (American) and Pacific Islander’, which is used even when Pacific Islanders are not included (Chang et al., 2020). The thickest edge for the American Indian / Alaska Native node connects to the ‘unspecified’ group, indicating that research on American Indian / Alaska Native health issues are often separate from studies with other racial groups. Notably, the MENA group was essentially isolated; its two thin edges connect to the ‘unspecified’ and ‘white’ groups. Together, this figure suggests that studies of racial groups fixate on the Black-white binary.

The network plot of co-occurring explicit theory terms in Figure 2-4 emphasizes the dominance of behavioral and biomedical theories. Behavioral theories were the most central, as

indicated by the thickest edges connecting to the behavior node. Behavioral and biomedical terms most frequently co-occurring overall, as depicted by the thickest edge connecting the two largest points. The edge connecting behavior and social inequality was the second thickest. Community, social ecology, and social inequality categories infrequently cooccurred with each other.

Keyness

The keyness text statistic (chi-square test of independence) shows which words were statistically significantly associated with each racial group across the CEPH dataset. These associated words generally referred to people (e.g., ‘students’, ‘women’), race (e.g., ‘race’, ‘racial_ethnic_groups’), and comparison groups (e.g., ‘black’, ‘hispanic’). Other words included measures of difference (e.g., ‘disparities’, ‘rates’) or specific health outcomes (e.g., ‘cancer’, ‘mortality’). Some of the words were highly associated with a specific racial group: ‘immigrants’ (Asian), ‘refugee’ (MENA), and ‘men’ (Black). Oftentimes, associated words were terms from another racial group category wordlist. For example, the American Indian / Alaska Native group was highly associated with the word ‘asian’ (Figure 2-5). Further investigation revealed that American Indian / Alaska Native groups were mentioned in abstracts that compared multiple racial groups including Asians. American Indian / Alaska Native and Asian / Asian American groups are often omitted from comparative racial health disparities studies; the few instances where both racial groups were included occurred statistically significantly more frequently than expected.

The associated words revealed norms within each explicit theory category (Appendix Figure 5-12). Associated words generally referred to health outcomes (e.g., malaria, obesity), public health services (e.g., program, implementation, testing), or people (e.g., women, students). As shown in Figure 2-6, the biomedical theory category was not associated with any people terms. This resonates with critiques of the biomedical model’s framing of the human body as machines

(Tsai et al., 2021). For social inequality theories, health outcomes included ‘mental_health’, ‘hiv’, and ‘stress’ and people terms included ‘black’, ‘women’, and ‘white’. Rather than listing public health services, however, the remaining words were ‘experiences’, ‘racial’, ‘social’, and ‘sexual’; this may indicate that studies in this area were distinctively exploring people’s experiences with inequality rather than describing public health services.

Topic Modeling

Topic models leverage these word relationships to distinguish between and classify texts. However, despite multiple attempts at optimizing topic model hyperparameters (see Appendix F), the racial group and explicit theory topic models did not yield significant predictive ability with either the validation set or the CEPH dataset. This section summarizes the indicators of discrimination (i.e., how well the model could distinguish categories) for both topic models.

I compared the racial group topic model against the racial group validation set (N=125). When I assessed whether higher thetas were predicted for the ‘true’ racial group category, the discrimination AUC point estimates show that racial group categories were detected roughly half of the time (Figure 2-7). The unspecified racial group had the best discriminative ability with an AUC point estimate of 60.2% (95% CI=46.6%-73.9%). That is, when testing how well the seeded topic model could predict racial groups, the seeded dictionary terms were most helpful at determining whether the text in the validation set abstracts (N=125) contained unspecified/generic racial categories (e.g., ‘communities_of_color’). When I assessed whether higher thetas were predicted for the ‘true’ explicit theory category, the discrimination AUC scores similarly indicated working half of the time (Figure 2-8). Behavioral theories had the highest point estimate and confidence band (57.6%; 95% CI=44.3-71.0) and social inequality theories had the lowest point estimate and conference band (47.5%; 95% CI=34.8-60.3).

Full CEPH Dataset

Both topic models were also compared against binary KWIC indicators for the full CEPH set. Each racial group category demonstrated the discriminative ability for classifying abstracts roughly half of the time. The more frequently mentioned racial group categories had narrower confidence interval bands than others. However, the additional abstracts did not appear to significantly improve the topic model's discriminative ability. The explicit theory topic model similarly demonstrated discriminative ability roughly half of the time. The social ecological theory category had the highest point estimate (52.6%; 95% CI=51.0-54.2%). It appears that even with commonly studied topics in the most abstracts, the discriminative ability of the seeded topic models does not fare much better than a coin toss. Overall, seeded topic modeling had limited ability to clearly distinguish between abstracts with racial group and explicit theory categories.

Discussion

Examining students' knowledge is crucial for assessing the everyday practices through which the culture of academic public health perpetuates health inequities or disrupts hegemony. Empirically documenting which terms are normalized, which populations are studied, and which theoretical approaches are applied may advance health equity training by tracing the fissures between the espoused values of the field of public health and the front-line realities of public health practice. My study provided a starting point for categorizing such knowledge on a large scale by focusing on graduate students' abstracts as a common cultural practice in academic programs. These findings build upon contemporary research regarding public health training by providing empirical indicators of normalized terms, racial groups studied, theories used, and their relative distributions.

Although often overlooked as an antecedent for health equity, what the rising generation of public health leaders have learned during their graduate training can be approximated by categorizing ETD abstracts. This study offers at least two advantages over existing evaluations of students' knowledge on racism. The sole systematic review on anti-racist pedagogy found 11 published articles, six of which mentioned evaluating students, each with different study designs (Chandler et al., 2022). Through this study's approach, I used computational text analysis to examine 5,180 abstracts with a reproduceable method for detecting students' learning across universities and over time at scale.

As an indicator of academic public health's cultural values, I sought to describe which words were normalized in public health students' abstracts. The top words illustrate contemporary public health research and practice in at least four ways. First, these counts demonstrate the stability of 'health' and 'disease' as central concepts to public health. Second, the top words resemble a range of public health services (e.g., 'data', 'research', 'intervent', 'program', 'develop'). Because these words consistently appear each year, they suggest that students' abstracts have generally covered similar content, as expected from an academic discipline. Third, the group of interest mentioned in the top words was 'women', indicating the salience of gender/sex; this could also be interpreted as indicative of the imperceptibility of race. Fourth, the appearance of 'covid-19' demonstrates that top terms can change. The historic global pandemic 'covid-19' overtook 'hiv' as the focal disease in 2022. However, this also illustrates the outsized disruption to real-world public health required to shift trends in public health abstracts. The appearance of COVID-19 in the top 25 terms two years after it was declared a pandemic also suggests a potential two-year delay between a current event and knowledge production. This delay appears reasonable,

given the length of time it takes for studies to be conducted, analyzed, written, and approved by students' committee members.

The top terms within students' abstracts (e.g., 'health', 'data', 'research', 'care') resemble the centrality of so-called 'neutral' public health concepts and activities. Juxtaposed against the paucity of explicitly value-laden words (e.g., 'justice', 'equity'), most students' abstracts upheld the narrative of apolitical, race-neutral public health research. Indeed, a 2017 review of CEPH school websites revealed that one-third did not mention 'diversity', 'inclusion', or 'equity' as central to their school's mission (Merino, 2019); five schools mentioned 'social justice' as a core component of their mission. Yet as critical health scholars have emphasized, health equity asserts that everyone deserves to live healthy lives—an inherently political position (Alang & Blackstock, 2023; Heller, Fleming, et al., 2023; C. P. Jones, 2018). My study's findings contribute to the growing literature of disciplinary self-critique regarding the incommensurability of neutrality and health equity (Nguemni Tiako et al., 2022; Petteway, 2021).

I also sought to determine which racial groups were studied. Most students' abstracts (N=3,220; 62%) did not refer to racial groups generically or specifically. Of the 1,959 abstracts used racial group terms, generic racial terms (e.g., 'race', 'race_ethnicity') were mentioned the most followed by Black / African Americans. Latinx, Asian Americans, and American Indians / Alaska Natives were mentioned in fewer abstracts, and studies on Native Hawaiians / Pacific Islanders or Middle Easterners / North Africans were scarce. Notably, 'white' racial groups were mentioned in fewer than one-tenth of the subset. The relatively fewer mentions of 'white' may illustrate the common practice of treating 'white' as the default human (Bray & McLemore, 2021). This may manifest as selecting 'white' as a referent for comparison or avoiding marking white people as raced (Bacong et al., 2020; M. S. Chen, 2019; Small-Rodriguez & Akee, 2021; Soon et

al., 2020; Yusuf et al., 2020). Further, racial subgroups were infrequently specified, obfuscating within-group heterogeneity. These results align with extant literature regarding the invisibility of certain racial groups in public health data through omission, homogenization, or ‘othering’ (Bacong et al., 2020; M. S. Chen, 2019; Small-Rodriguez & Akee, 2021; Soon et al., 2020; Yusuf et al., 2020).

Students primarily mentioned behavioral theories in their abstracts. This is consistent with examinations of public health curricula which found that behavioral theories dominated in social and behavioral sciences syllabi (Harvey & McGladrey, 2019). Relatedly, I found that terms reflecting social inequality theories were mentioned in only 5.3% abstracts, a smaller portion than the 16% of course descriptions explicitly addressing structural determinants of health (Komro et al., 2018). This small percentage echoes the scarcity of social inequality theories mentioned in public health literature (Castle et al., 2019; Hardeman et al., 2018; Krieger et al., 2021; Mannor & Malcoe, 2022) and NIH grants (Krieger, 2014). It is also likely that beyond introductory exposure to theories on social inequality, students did not receive dedicated training on the application of such theories to research settings.

Encouragingly, however, some students invoked theories of social inequality. Although infrequent, social inequality terms—including ‘racialization’, ‘political_economy’, ‘ecosocial_theory’, ‘critical_race_theory’, ‘minority_stress’, and ‘hegemony’, among others—were detected in students’ abstracts. This suggests that students were both exposed to these theories and had faculty committee approval that such theories were pertinent to public health. Analyzing students’ abstracts, then, may also reveal insights typically omitted from top public health journals. Concerns regarding the cultural processes that repress such perspectives have been documented at the journal level but may originate even earlier in graduate school (Boyd et al., 2020; Krieger et

al., 2021; Ramirez-Valles et al., 2022). Given the slow pace at which the racial composition of graduate students and faculty in public health has changed (Goodman et al., 2020), examining everyday processes in public health knowledge production may yield more timely indicators on the ways the apartheid of knowledge operates (Delgado Bernal & Villalpando, 2002; Petteway, 2022).

In addition to developing word lists for detecting keyword distributions, I also generated seeded topic models to estimate the racial group and explicit theory topics. Seeded topic models predicted higher scores for ‘true’ abstract topics approximately half of the time, suggesting that text patterns were not distinctive at the abstract level. Ultimately, these models had poor predictive ability, which could be indicative of multiple aspects of the study. The constraints of topic modeling, incompleteness of word lists, and indistinguishable data are discussed at length in the limitations section. Theoretical and methodological applications of machine learning in the field of public health are generally nascent (Dankwa-Mullan et al., 2021), with innovative attempts to document racism narratives in other health-related texts underway (Figuroa et al., 2023). As the literature on detecting racism narratives in health-related texts expands, the rules from which machines learn must also improve (Nicholls & Culpepper, 2021; Walter & Ophir, 2019). Computational text analysis methods easily automate the detection of racial groups and explicit theory terms yet struggle to classify abstracts into these categories.

Nevertheless, this study advances current methodological approaches to examining public health training through applied machine learning. Because dominant narratives which are often not perceptible affect how racial groups are discussed, this study demonstrated the potential for computational text analysis to detect underlying relationships between words. Beyond simply querying the ProQuest database for ETDs, I leveraged computational text analysis tools to visually

depict the imbalance of racial groups studied and explicit theories applied. This approach can be applied toward measuring who/what is centered and marginalized for numerous concepts in public health.

Limitations and Future Directions

Future studies could build upon the work of this study by restricting the selection criterion even more. Notably, the process for determining inclusion criteria for the CEPH Dataset was novel and thus potentially inaccurate. Due to the lack of a common list of public health departments, key phrases (e.g., ‘health policy’) were used to identify potential departments. However, nutrition, for example, may be part of one school of public health but not another. Additionally, different clerical choices at the university level may have inadvertently placed abstracts out of scope (e.g., classified generally as “GRADUATE STUDIES”). Thus, I conducted multiple rounds of manually reviewing abstracts that partially met inclusion criteria (e.g., at a university with a school of public health and an MPH but from a department not matching typical public health categories; at a university with a school of public health but missing department name).

While this process yielded an almost complete accounting of dissertations, future studies could be conducted in collaboration with CEPH or ASSPH to provide a comprehensive listing of departments within each accredited school or program or even an annual listing of completed theses and dissertations to ensure completeness. Another potential source of data for estimating completeness for PhD recipients would be the National Science Foundation Survey of Earned Doctorates, an annual census of doctorate earners. Education scholars have examined this robust dataset to identify longitudinal trends regarding students’ educational trajectories by race (Fernandez, 2020; Solórzano, 1995). Merging this survey with the PQDT metadata could also expand variables for potential multilevel regression analyses. Alternatively, as opposed to the

current study's focus on CEPH accredited entities, a comparative analysis between the CEPH Dataset and the broader dataset (which encompassed departments in other health professions, social sciences, physical sciences, and humanities) could yield an interdisciplinary view of graduate students' research on public health topics. Yet another approach could analyze student grants, such as the Kirschstein Predoctoral Individual National Research Service Award and Predoctoral Fellowship to Promote Diversity in Health-Related Research, to expand on emerging critiques of public health funding mechanisms (E. Chen et al., 2023; M. S. Chen, 2019).

The topic models were constrained by at least three factors. First, the poor detection rates may be indicative of the difficulty of detecting narratives in social science research. Computational text analysis methods have been critiqued for their inability to capture the nuances of social science concepts (Baden et al., 2022; Hirst et al., 2014; Nicholls & Culpepper, 2021). Social science researchers who have used computational text analysis have recommended against its application for detecting poorly defined concepts or applying multiple methods so that human experts can supervise the algorithms accordingly (Amershi et al., 2014; Baden et al., 2022; Carlsen & Ralund, 2022; Lewis et al., 2013). Ultimately, topic modeling is an innovative tool that is rapidly developing with constant updates and new approaches for discovering latent concepts in text data (Watanabe, 2021; Watanabe & Zhou, 2022). For example, a text classification R package to streamline training, testing, predicting, and evaluating topic models is currently under development (Benoit et al., n.d.). Future attempts at predicting thesis and dissertation topics could leverage structural topic modeling, keyword assisted topic models, Bidirectional Encoder Representations from Transformers topic modeling, or as yet unpublished techniques (Eshima et al., 2023; Grootendorst, 2022; M. E. Roberts et al., 2019).

The second methodological limitation was the subjectivity of the explicit theory word list. The categories and terms were based on published peer-reviewed literature, but the articles from which the terms were drawn were not developed for text classification. The extent to which theories should be represented in the word list (e.g., author names, specific constructs) was subjective and thus not comprehensive. Half of the abstracts with social inequality theories contained a minimum of two mentions of at least one word from the category wordlist. However, the other half (n=323) were categorized as social inequality based on a single mention of one word (e.g., 94 with ‘stigma*’, 64 with *inequit*, 39 with ‘discrimination’). This indicates the risk of missing abstracts that integrate novel theories not yet introduced to public health audiences (and thus omitted from the theory lists). This could be remediated by convening an expert panel to agree on seeded words, though taking on such an endeavor likely constitutes its own study. Another computational approach may be to reverse engineer a word list based on frequent features in abstracts from dissertations that explicitly cite specific theories. These strategies should work to assure label fidelity to improve hypothesis validity.

The related task of determining the boundaries for discrete explicit theory keyword categories was challenging due to the combined use of frameworks and theories (e.g., social ecological framing is often invoked for determining behavioral influences). Several abstracts contained more than one explicit theory category. The multi-label approach allowed each document to be assigned more than one category per domain; further investigation into these relative categorical rankings per document and phi scores per word may improve measurement. Multiple labels may also capture the fluidity of racialization, with Indigenous peoples from Latin America historically connected to Indigenous peoples in contemporary United States, or former

colonial territories (Chávez-Moreno, 2023; Sabado-Liwag et al., 2022; Small-Rodriguez & Akee, 2021).

Third, the disappointing performance of the topic models may point to internal features of the text in the dataset. That is, seeded topic model prediction will continue to be constrained if the text remains indistinguishable. Because public health graduates have been socialized to write in formulaic structures, it is likely that the abstract texts were not distinct enough to be detected by the algorithms [cite Petteway poetry]. Indeed, cursory inclusion of ‘race’ as a control variable in a quantitative study absent the context of social inequality obfuscates the role of racism, impairing students’ learning, and limits the potential for public health interventions to eradicate racial health inequities (Braveman & Parker Dominguez, 2021; C. P. Jones, 2018; Neighbors et al., 2022; Shaw-Ridley & Ridley, 2010). Public health students and their advisors to articulate more precisely how they conceptualize the role of race in the generation of race-based differences in health (Ford & Airhihenbuwa, 2010a). Recent frameworks on racism and power should also be incorporated into public health graduate curricula (Lett, Asabor, et al., 2022; Martinez et al., 2022; Samarron Longorio et al., 2023). Incorporating recently published frameworks on naming racism into theoretically driven seed word lists could improve the algorithm’s ability to distinguish defining features of studies on race and racism (Adkins-Jackson et al., 2022; Alang & Blackstock, 2023; Heller, Fleming, et al., 2023).

Additionally, which topics are covered by abstracts in the dataset also constrained the topic model. The data was disproportionately skewed with extremely few abstracts for NHPI and MENA groups. I log-transformed the feature frequencies to reduce skewness. Unfortunately, the range of content examined in the few studies on these groups limited the pool of features from which to

determine word associations. Future analysis could examine abstracts on specific racial groups with a broader time frame or across disciplines to develop more refined group-specific models.

A final possibility for enhancing this research beyond the frequency of groups studied and theories applied could be to examine the quality of the dissertations. Though beyond the scope of the current study, qualitative analysis of the ways race and racism are described would provide additional insight into the racism narratives in students' theses and dissertations. A close reading of a sample of full-text dissertations could yield patterns reflecting the nuances of racial health equity that cannot be detected by machine learning. Recently published frameworks that describe the role of racism and power in public health literature could guide potential facets to examine (Adkins-Jackson et al., 2022; Alang & Blackstock, 2023; Heller, Fleming, et al., 2023).

Implications

Concerning graduate level education for public health, this study has implications for decision makers, educators, and students. First, deans and department chairs in schools of public health should explicitly articulate how theory informs each institution's approach to training public health practitioners and researchers. This study uncovered a scarcity of abstracts mentioning social inequality terms. This finding reflects arguments extant literature that state student training is inadequate to equip students to transform structural determinants of health (Bowleg, 2021; Hagopian et al., 2018; Komro et al., 2018; Petteway, 2022; Thomas et al., 2011). Although CEPH, ASPPH, and APHA have at times championed the advancement of racial health equity, students are often exposed to and adopt the field's priorities through the everyday socialization processes of their graduate training. Beyond complying with CEPH accreditation, decision makers at schools of public health should strategically identify ways for students to demonstrate comprehension of

the social environment in their respective focuses on health policy, health care services, community interventions, measurement, and surveillance.

Secondly, by examining students' abstracts as knowledge production, this study explicitly framed students' knowledge as valid. Few empirical studies have been published on student learning about racial health equity (Chandler et al., 2022; Samarron Longorio et al., 2023). Of several possible roadblocks, students' knowledge may be ignored due to disciplinary assumptions regarding whose knowledge is valued (Manalo-Pedro et al., 2023). Petteway (2023, p. 41) has argued, 'traditional forms/venues of public health knowledge production and communication often serve to invalidate, devalue, and distort expressions of knowledge rooted in and arising from those of us 'at the margins.''' Instead, normalizing students as legitimate knowers and future scholar-practitioners may accelerate nondominant strategies for health equity (Chávez et al., 2006; Le et al., 2023; Perez et al., 2021; Petteway, 2022; Taboada, 2011; Yosso, 2005). Educators can shift the culture of academic public health to uplift students' insights. Rather than view students as 'empty vessels', public health instructors could recognize the various knowledges that students bring with them into the classroom (Manalo-Pedro & Allen, 2023; Pasick et al., 2012). The recent increase in attention to anti-oppressive faculty training offers guidance for educators in public health to embrace the transformative potential of teaching (Aqil et al., 2021; Bentley et al., 2021). Public health educators could democratize power relations in the classroom through dialogue; humanizing students in the classroom may enhance students' abilities to humanize community members in the field (Chávez et al., 2006).

Thirdly, graduate students should consider the role of structural and cultural racism in shaping the discipline's conventional approaches (Michaels et al., 2023). Thus far, cultural racism has been applied in empirical public health research primarily through investigations into the

exposures of personally mediated racism and racism-related stress (e.g., vigilance) and the outcomes of individual health (e.g., premature mortality, premature birth, cardiovascular health) (Hicken et al., 2018; Michaels et al., 2022). Health professions education is not immune from societal power relations that structure which populations are studied and which theories are taught (Bonini & Matias, 2021; Harvey & McGladrey, 2019; Maglalang & Rao, 2021; Tsai et al., 2021). By acknowledging this arbitrariness, students can direct their energies toward academic counterspaces to center the people and perspectives otherwise missing from their training (Afolabi et al., 2021; Manalo-Pedro et al., 2022; McSorley et al., 2021; Solorzano, 2023). Although such a task places undue burden onto students, such supplementation may serve community members more directly with approaches aligned more authentically with their needs (Petteway et al., 2019; Sabado-Liwag et al., 2022; Walters et al., 2020).

As a baseline assessment of knowledge production among public health graduate students, the broader implications for public health practice extend from the distribution of racial group terms. Most abstracts did not mention any racial group terms; while this could be perceived as missing data, a critical perspective would interpret these omissions as emblematic of academic public health's culture of race evasiveness (Chang-Bacon, 2022; Harper, 2012; Mills, 2007). Determining which racial groups were included in 3,320 students' studies would require analysis of the dissertation full text. Faced with these indicators of racial ignorance in the cultural processes of graduate students' knowledge production, it would be naive to presume that most graduates would be able to apply race conscious approaches in their public health practice (Chandler et al., 2022; Cross, 2018; Petteway, 2023). Continuous monitoring of these and other indicators of cultural racism, within and beyond academic public health, can strengthen the field's capacity to

dismantle racism and other forms of oppression (Ford et al., 2021; Hicken et al., 2021; Petteway, 2021).

Further, the health of Black people was mentioned in 15% of the abstracts (N=779). Acknowledging the relevance of race is but the first step toward understanding the role of race in perpetuating racial health inequities (LaVeist, 1994). Health equity scholars have argued the number of studies on Black health has not led to substantial improvements in their health outcomes, particularly when deficit-framing has been applied (Bowleg, 2021; Ford et al., 2019; Lett, Adekunle, et al., 2022; Neighbors et al., 2022; Samarron Longorio et al., 2023; Shaw-Ridley & Ridley, 2010). With only 657 abstracts referring to social inequality theories overall, a minority of the abstracts mentioning Black people explained determinants of Black health using theories of racism or other social inequalities. To prepare a workforce responsible for protecting the public's health, training must intentionally incorporate concrete approaches to address structural racism and white supremacy (Alang et al., 2021; Patel & Price, 2016; Rosario et al., 2022; Samarron Longorio et al., 2023).

Finally, although this study was descriptive rather than explanatory, the miniscule representation of some racial groups warrants consideration of implications. The paucity of abstracts on understudied populations could reflect the lack of support for marginalized students and the general aversion to changing disciplinary norms (Coombe et al., 2022; Fox et al., 2023). Just 25 of the 5180 abstracts from the past five years contained terms related to Middle Eastern / North African people, foreshadowing the recent silence from and inaction by public health professionals on Palestinians' current public health crises (Kayum Ahmed et al., 2023; Kumar & Rothman, 2023). Indeed, generations of graduate students from marginalized racial groups have faced various barriers to centering their own communities in their research (Demararig et al., 2023;

Nadal et al., 2010; Ramirez et al., 2019; Walters & Simoni, 2009). In the absence of supportive mentorship, these students may become wary of pursuing unconventional research questions that align more directly with their community's nuanced contexts, particularly when confronting epistemic erasure (McSorley et al., 2021, 2023; Petteway, 2023). Yet empowering individuals from marginalized backgrounds to bravely assert their cultural intuition in graduate school has galvanized niche research agendas from which subsequent generations of scholars leverage, inching closer toward health equity (Manalo-Pedro & Allen, 2023; Manalo-Pedro et al., 2022; Pasick et al., 2012; Ramirez-Valles et al., 2022; Solorzano, 2023; Taulii et al., 2013; Zambrana & Williams, 2022). Funders should be encouraged to allocate dissertation fellowships focused on these understudied populations.

Conclusion

Applying computational text analysis to uncovering what public health graduate students study has the potential to advance public health graduate training, data science methods in education research, and racial health equity theory. This study begins to fill gap of racial ignorance in public health training as a barrier to antiracist public health research and practice. I provided a baseline assessment of knowledge production among public health graduate students, previously unknown. This included a comprehensive breakdown of racial groups and explicit theories named in public health dissertations and theses, illustrating normative terms. Methodologically, I took an innovative approach to operationalizing cultural indicators of students' knowledge through secondary data, generated procedures for identifying CEPH accredited schools from ProQuest, and developed dictionaries and topic models for detecting key concepts in students' abstracts. Theoretically, I applied ideas from critical race theory to expose norms in public health graduate education, providing a lens for conceptualizing exposure to cultural racism in academic public

health as a broader determinant of health equity. As training grounds for public health research, practice, and policy, schools of public health are uniquely positioned to redirect energy from cycling between hegemony and racial health inequities toward critical consciousness and health justice (Alang & Blackstock, 2023; Heller, Fleming, et al., 2023; Samarron Longorio et al., 2023).

Figures

Figure 2-1 Inclusion/Exclusion Criteria for CEPH Dataset

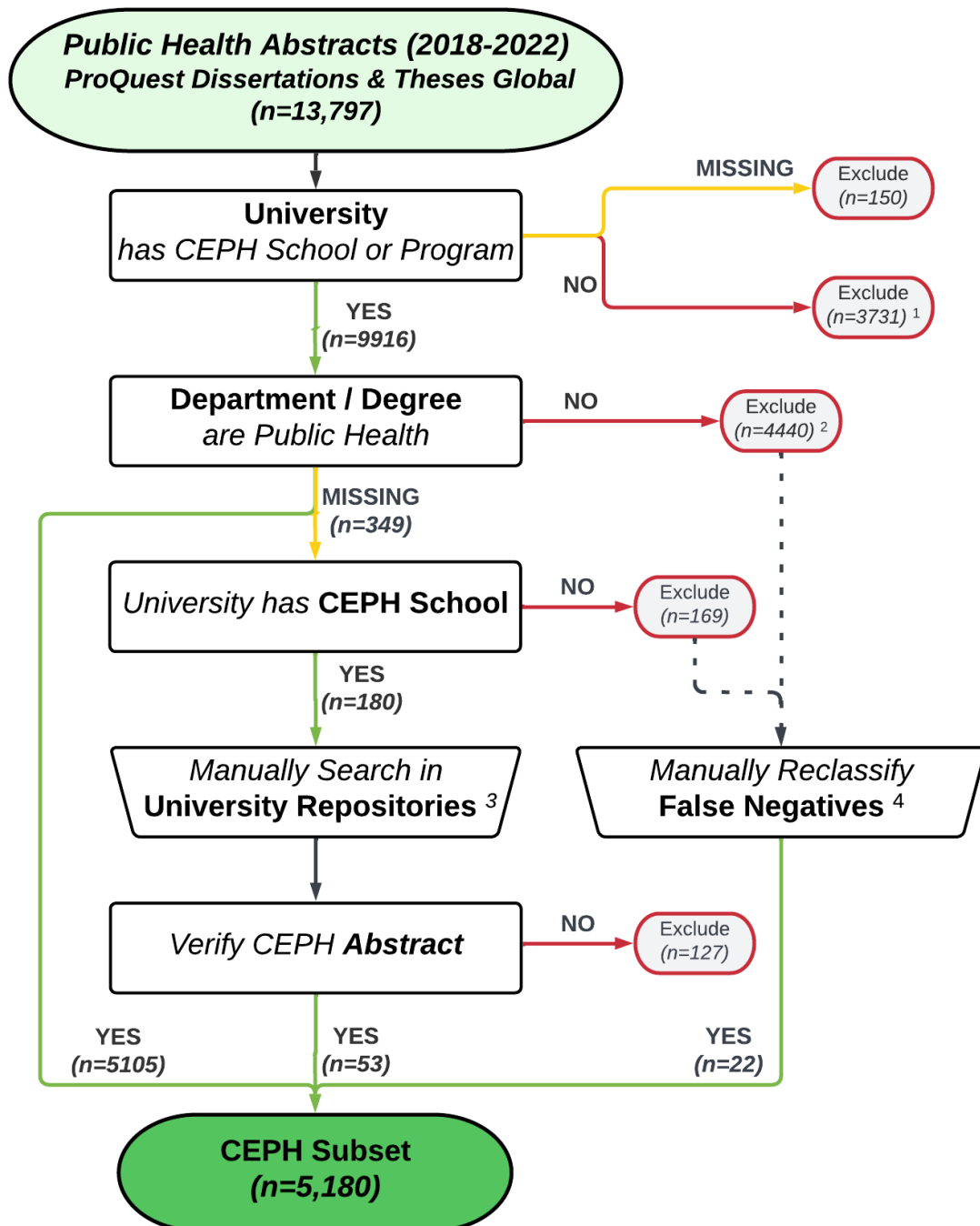
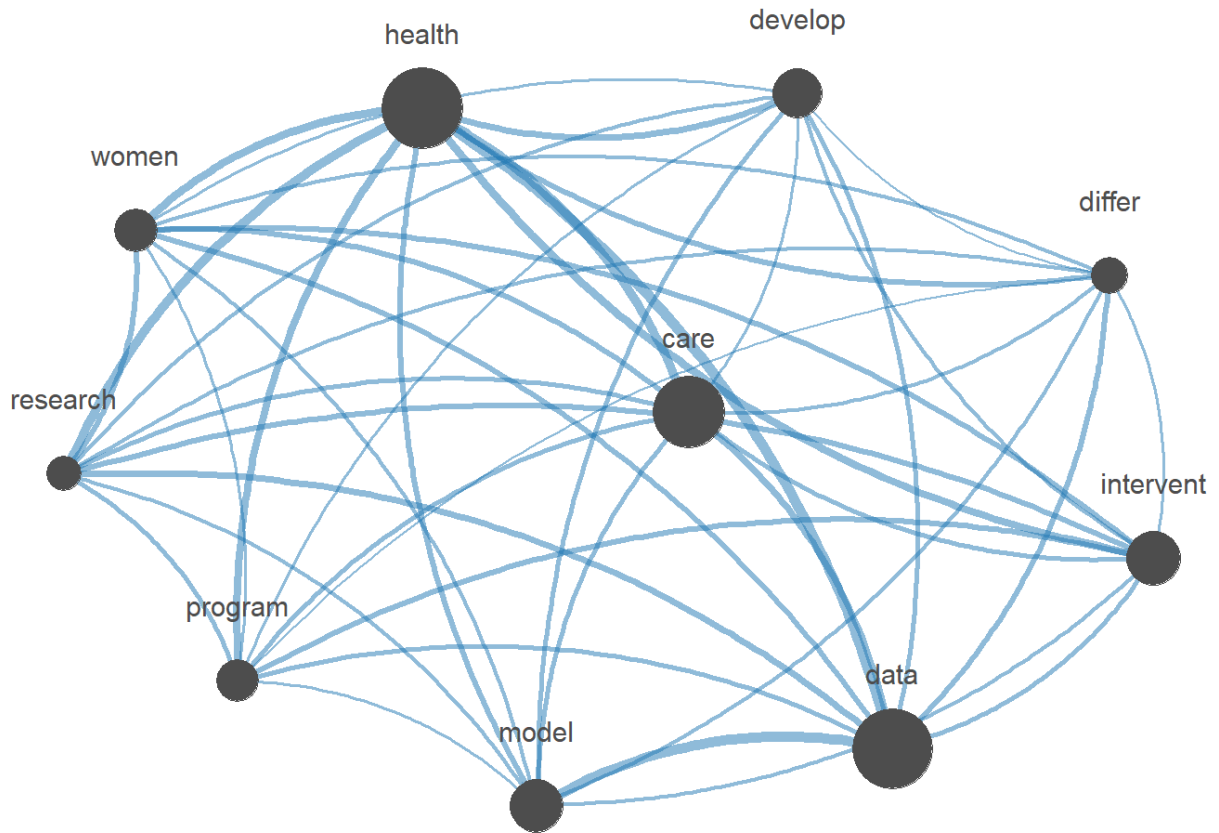
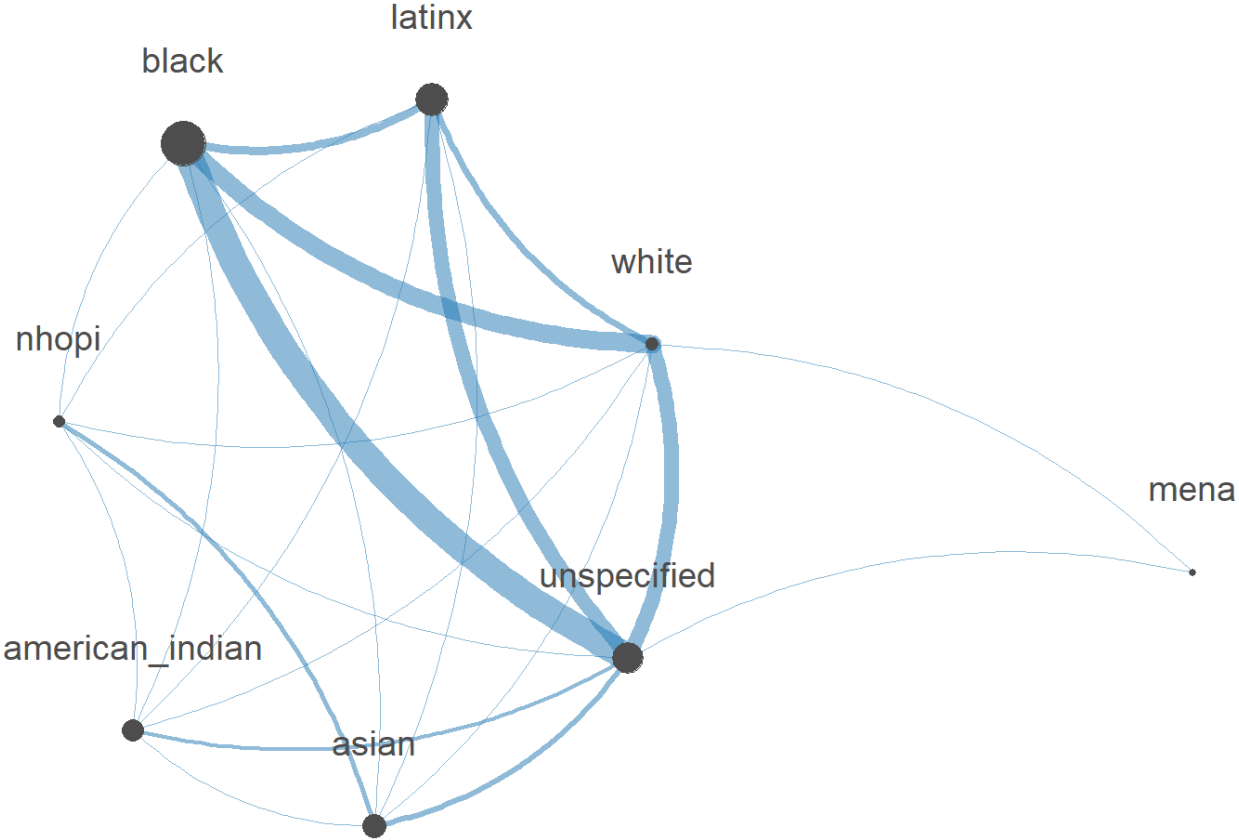


Figure 2-2 Network Plot of Co-Occurring Top Words (Frequency)



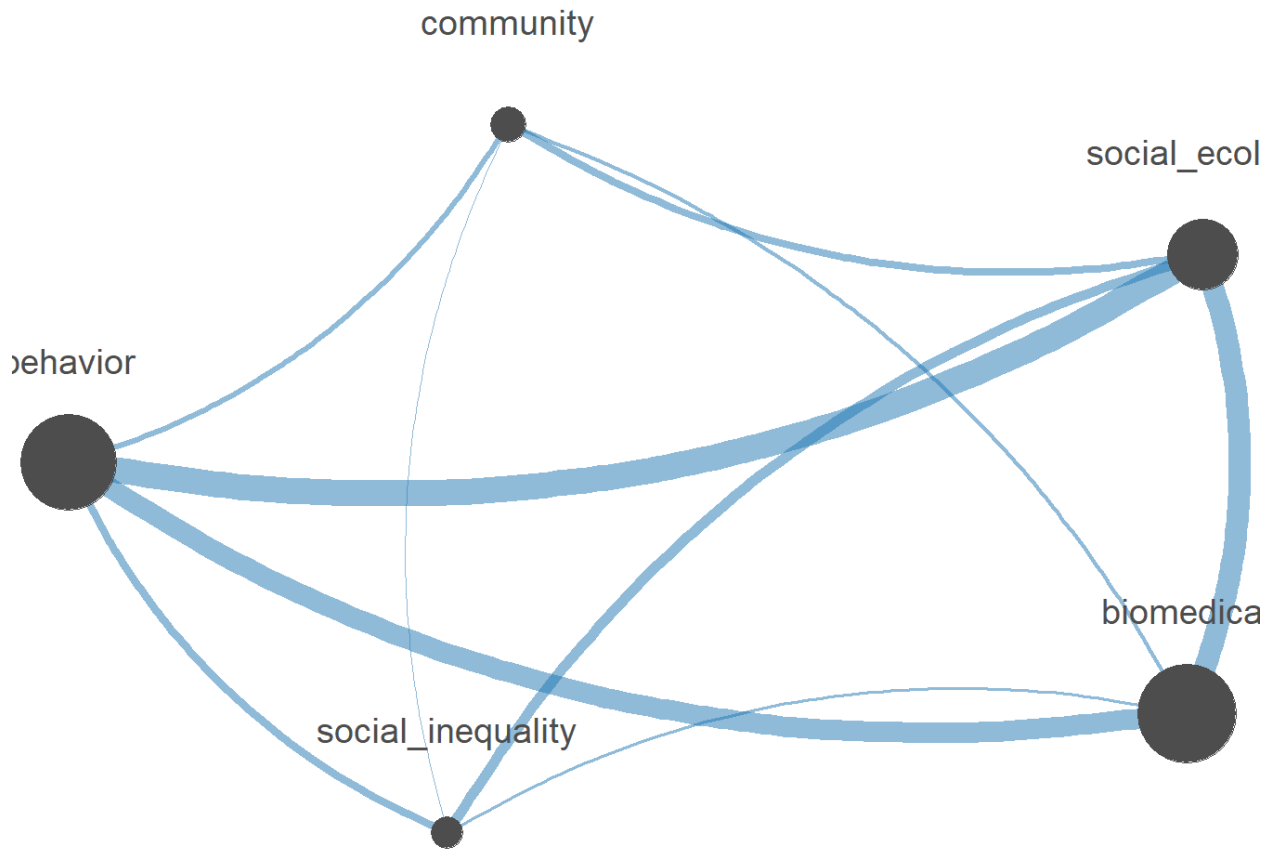
Note: Nodes are scaled by frequency, with larger points representing more frequent occurrences. The edges connect the nodes of co-occurring features. Thicker edges indicate more frequent co-occurrences.

Figure 2-3 Network Plot of Co-Occurring Racial Group Terms (Frequency)



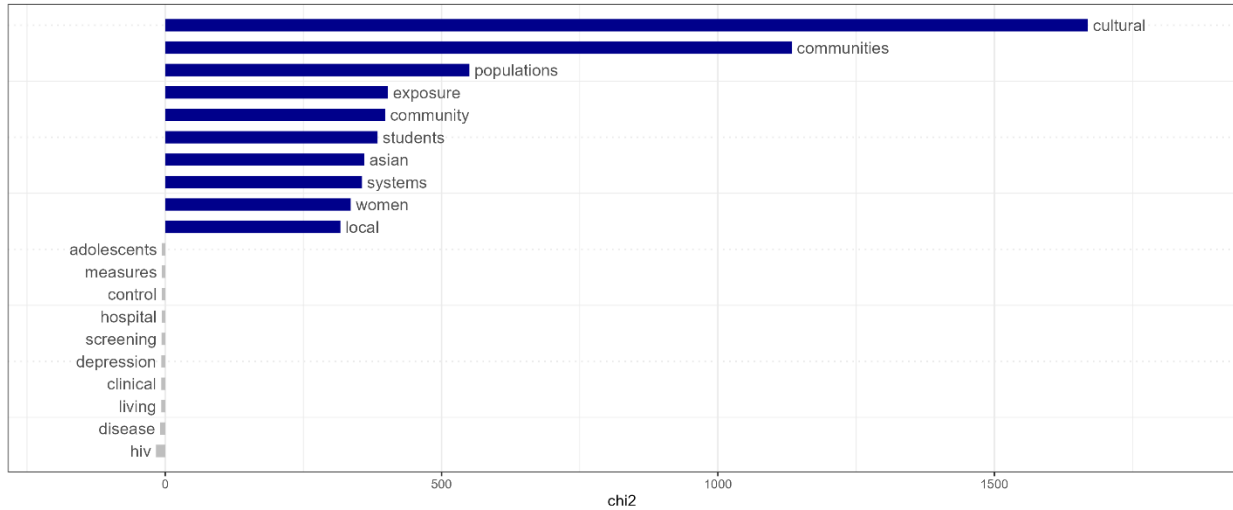
Note: Nodes are scaled by frequency, with larger points representing more frequent occurrences. The edges connect the nodes of co-occurring features. Thicker edges indicate more frequent co-occurrences. MENA = Middle Easterner / North African; NHOPI = Native Hawai’ian or other Pacific Islander

Figure 2-4 Network Plot of Co-Occurring Explicit Theory Terms (Frequency)



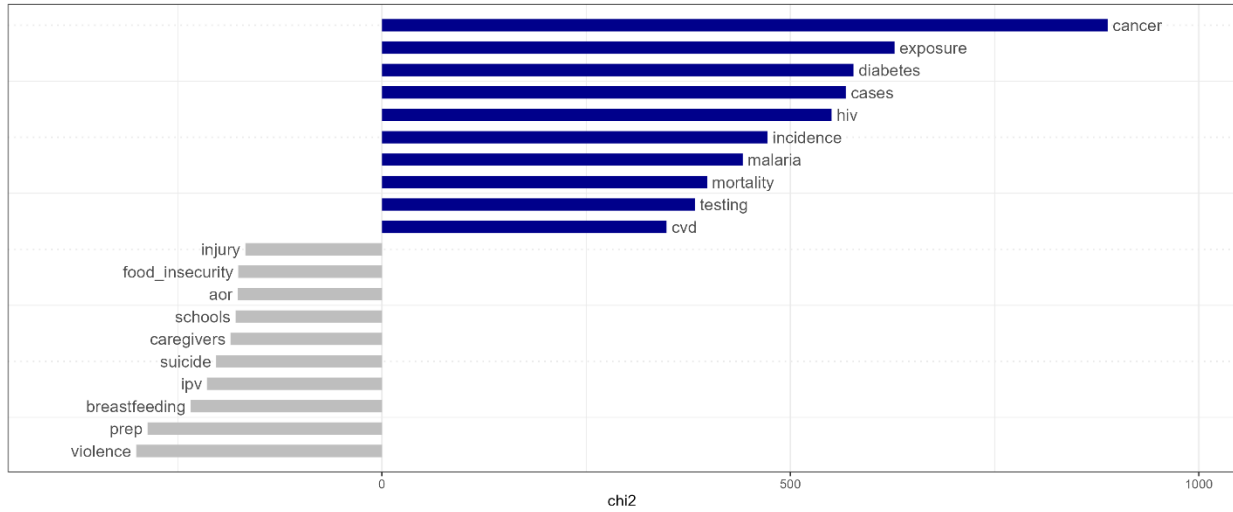
Note: Nodes are scaled by frequency, with larger points representing more frequent occurrences. The edges connect the nodes of co-occurring features. Thicker edges indicate more frequent co-occurrences.

Figure 2-5 *Keyness Text Statistics for Highly Associated Words, American Indian / Alaska Native*



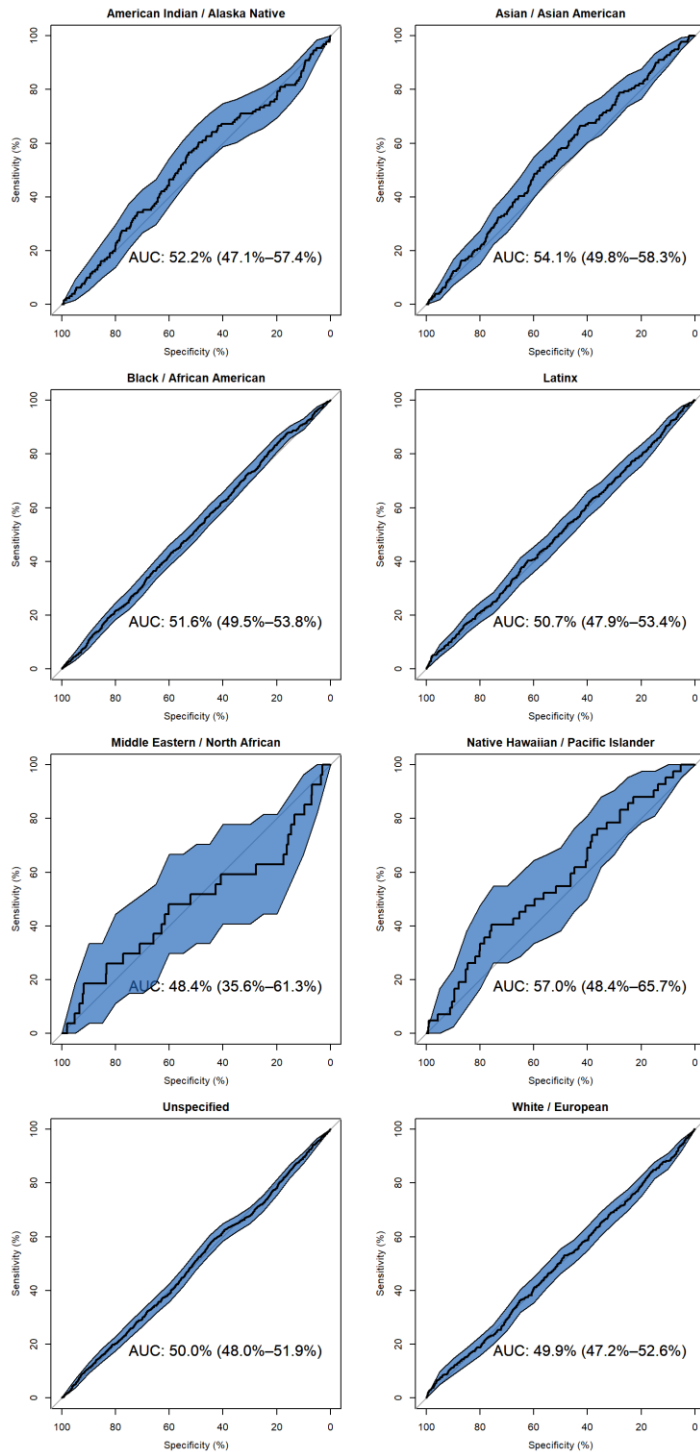
Note: The graph shows which words were the most statistically significantly associated with terms in the American Indian / Alaska Native racial group category word list. Based on chi-squared tests of independence, word counts were either higher than expected in the target window (blue) or higher than expected outside of the target window (grey). The target window was set to 86 words before and 86 words after each dictionary term (equivalent to the mean length of abstracts = 172 tokens). Associated words are shown by descending chi-squared value.

Figure 2-6 *Keyness Text Statistics for Highly Associated Words, Biomedical Theory*



Note: The graph shows which words were the most statistically significantly associated with terms in the biomedical explicit theory category word list. Based on chi-squared tests of independence, word counts were either higher than expected in the target window (blue) or higher than expected outside of the target window (grey). The target window was set to 86 words before and 86 words after each dictionary term (equivalent to the mean length of abstracts = 172 tokens). Associated words are shown by descending chi-squared value.

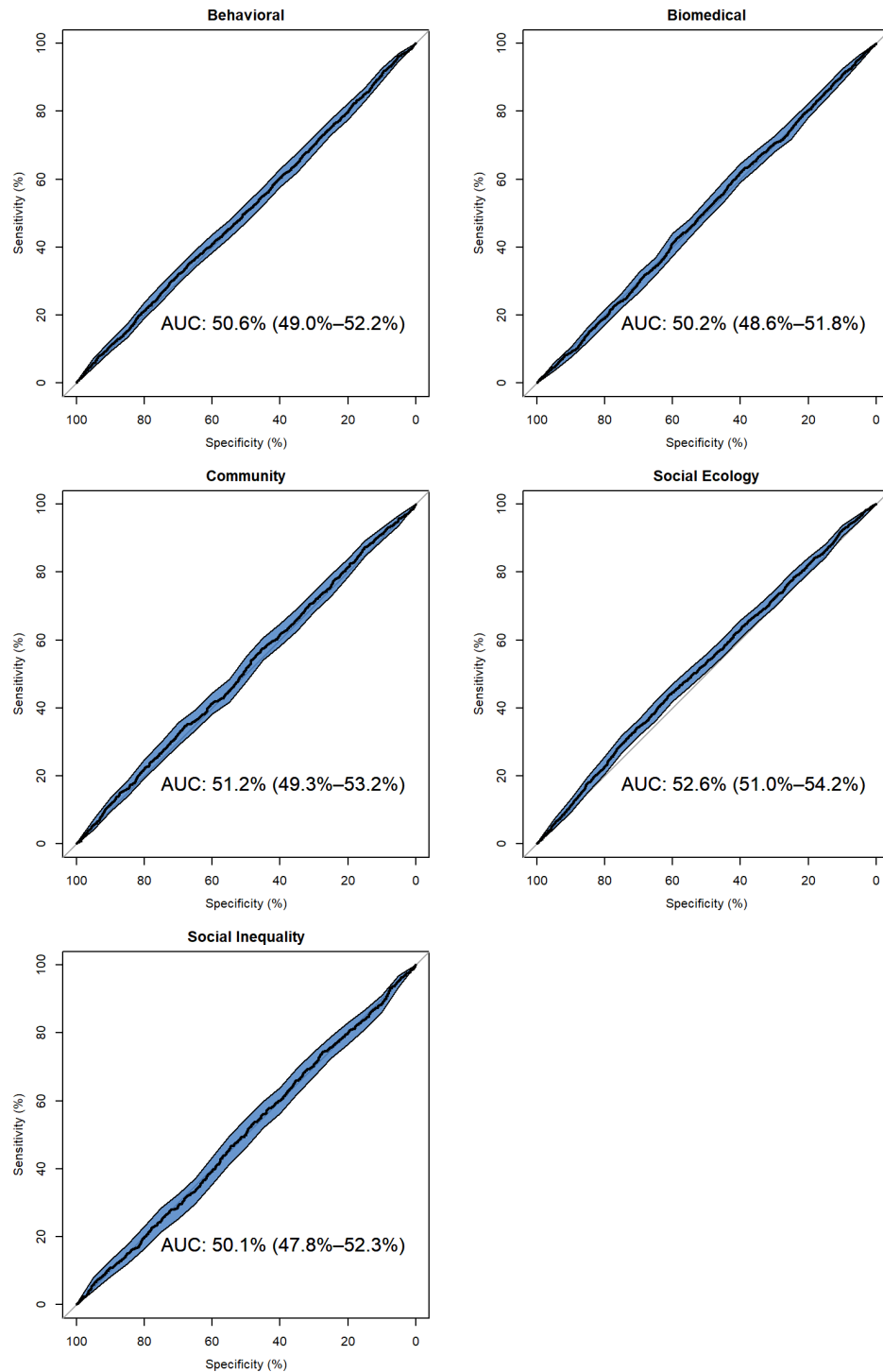
Figure 2-7 AUC for Racial Group Classification Discrimination, CEPH Abstracts



Note: predicted thetas for each category

in each domain were compared against binary indicators of whether any terms from the category's wordlist were detected through the keyword-in-context search (e.g., `is_black==1`).

Figure 2-8 AUC for Explicit Theory Classification Discrimination, CEPH Abstracts



Note: predicted thetas for each category in each domain were compared against binary indicators of whether any terms from the category’s wordlist were detected through the keyword-in-context search (e.g., `is_biomed==1`).

Tables

Table 2-1 *Research Questions Mapped to Natural Language Processing Methods*

Research Question	Sub-Question	NLP Method
As indicators of disciplinary norms, which words occurred most frequently?	Do the top words change between years?	Top features
As indicators of cultural practices, to what extent were racial groups and explicit theories named?	How frequently were racial groups/explicit theories named?	Keyword-in-context
	Which racial groups/explicit theories were named?	Feature co-occurrence matrix
	Do any patterns uniquely characterize text on racial groups/explicit theories?	Keyness text statistic Seeded topic modeling Topic model validation

Notes: NLP = Natural Language Processing. Top features: most frequently occurring words in the dataset. Keyword-in-context (KWIC): quantify and locate words of interest. Feature co-occurrence matrix: quantify how frequently a list of features occur within the same document. Keyness text statistic: determine which features are statistically significantly located within a set window of words around each dictionary term based on chi-square test of independence. Seeded topic modeling: classify large amounts of document texts into clusters of similar content which reflect a latent topic. Topic model validation: validate label fidelity by assessing topic prediction accuracy and discriminative ability.

Table 2-2 *Abstracts in CEPH Dataset by Inclusion Criteria, ProQuest ETD Abstracts (2018-2022)*

Abstracts	Included	Excluded	Total
Published at University with CEPH			9,916
Department and Degree Are Public Health	5,105		
Department and Degree Are Missing			
University has CEPH School			
University Repositories Search: Verified CEPH	53		
University Repositories Search: Verified NOT CEPH		127	
University Does NOT Have CEPH School		169	
Department and Degree Are NOT Public Health		4,440	
Manual Reclassification of False Negatives	22		
Published at University Without CEPH		3,731	3,731
University Detail Missing		150	150
Abstracts Total	5,180	8,617	13,797

Notes: Manual reviews conducted within university repositories for Brigham Young University, East Tennessee State University, West Virginia University, Louisiana State University and Agricultural & Mechanical College; University of Pittsburgh; Yale University. I manually reclassified 22 false negatives: department listed as ‘Graduate studies’ or dual degree (Latin American Studies) (n=15) or records in public health departments but degree is not public health (e.g., MSW, DProf) (n=7).

Table 2-3 Counts of Stemmed Features by Year, Descending, ProQuest ETD Abstracts CEPH Dataset (2018-2022)

	2018		2019		2020		2021		2022	
1	health	1314	health	1529	health	1338	Health	1256	health	1077
2	data	1029	women	1190	data	1041	Data	1061	data	945
3	women	846	data	1147	research	869	women	815	research	793
4	research	843	research	1006	model	813	model	806	care	678
5	intervent	779	care	977	women	811	program	773	model	673
6	care	751	intervent	924	diseas	800	research	753	aim	625
7	program	728	model	809	care	797	care	721	intervent	593
8	model	699	program	735	differ	713	intervent	719	women	586
9	develop	649	diseas	720	intervent	710	exposur	661	exposur	577
10	behavior	639	differ	683	program	597	differ	619	behavior	558
11	differ	622	develop	642	develop	591	diseas	599	diseas	544
12	exposur	596	provid	639	hiv	583	develop	598	differ	525
13	communiti	570	communiti	632	exposur	580	evalu	530	provid	518
14	diseas	562	hiv	623	aim	570	communiti	521	develop	511
15	measur	555	inform	613	provid	555	aim	511	communiti	498
16	provid	528	measur	605	group	526	provid	498	program	497
17	hiv	522	behavior	574	communiti	525	measur	492	inform	471
18	inform	505	aim	564	measur	518	prevent	483	chang	465
19	chang	488	exposur	563	food	515	inform	481	measur	460
20	group	483	hospit	558	polici	508	implement	480	social	448
21	evalu	475	access	542	educ	502	test	477	vaccin	433
22	polici	460	evalu	529	test	502	support	456	experi	421
23	state	445	chang	523	behavior	501	hiv	445	evalu	418
24	prevent	441	educ	508	inform	486	behavior	435	covid-19	415
25	educ	440	test	507	evalu	472	clinic	417	prevent	405

Legend: top 10 words grouped by related terms

population	health	disease	difference	assess	act
women	health	diseas	differ	data	intervent
	care	hiv	exposur	research	program
		covid-19		model	develop
				aim	behavior

Table 2-4 *Summary of Abstracts by Detected Keywords (N=5,180)*

Contains Racial Group	Contains Explicit Theory		Total
	Yes	No	
Yes	1,859 (35.9%)	100 (1.9%)	1,959 (37.8%)
No	2,883 (55.7%)	338 (6.5%)	3,221 (62.2%)
Total	4,742 (91.5%)	438 (8.5%)	5,180

Table 2-5 *Summary of Abstracts with Detected Terms by Racial Group, Descending Frequency*

(N=5,180)

Racial Group Category	Abstracts		Mentions	
	N	%	N	Per Abstract
Unspecified	1,064	20.5%	2,626	2.5
Black / African American	779	15.0%	2,629	3.4
White	506	9.8%	916	1.8
Latinx	474	9.2%	1,631	3.4
Asian / Asian American	179	3.5%	646	3.6
American Indian / Alaska Native	131	2.5%	543	4.1
Native Hawaiian / Pacific Islander	42	0.8%	158	3.8
Middle Eastern / North African	27	0.5%	76	2.8
Any Racial Group	1,959	37.8%		

Table 2-6 *Summary of Abstracts with Detected Terms by Explicit Theory, Descending Frequency*

(N=5,180)

Explicit Theory Category	Abstracts		Mentions
	N	%	
Social Ecology	2,637	50.9%	9,442
Biomedical	2,625	50.7%	12,346
Behavioral	2,567	49.6%	8,757
Community	1,060	20.5%	2,059
Social Inequality	718	13.9%	2,246
Any Explicit Theory	4,742	91.5%	

3 AIM 3: REVEALING RACIAL HEALTH EQUITY KNOWLEDGE IN PUBLIC HEALTH DISSERTATIONS

Abstract

Background: To strengthen the public health workforce's capacity to advance health equity, public health graduate students in the United States must comprehend how structural racism impedes the fields' efforts to eradicate racial health disparities. **Objective:** To demonstrate what public health graduate students know about racial health equity. **Methods:** I conducted a critical race discourse analysis to categorize and contextualize whether and how racism was discussed in public health theses and dissertations published between 2018-2022 (N=5180). Using computational text analysis, I detected the proportion of students' abstracts that contained both racial group and explicit theory words. Then, on a stratified random sample of these abstracts (N=25), I reviewed full text dissertations. I categorized dissertations as naming racism and/or operationalizing racism to generate a typology of racism narratives. The student-author and institutional contexts were also reviewed. **Results:** Roughly one-third of abstracts (N=1,859) contained both explicit theory and racial group terms. Eight percent of studies (N=403) named terms associated with both social inequality theory and racial groups. Within the full-text sample, I identified 10 cases of dissertations that operationalized racism. I identified three types of racism narratives: exposure to racism (N=9), potential exposure to racial inequity (N=3), and another exposure among people (N=13). **Conclusions:** Students infrequently produced dissertations that named racism and operationalized racism. **Policy implications:** Public health graduate programs should incorporate transdisciplinary lenses to accelerate students' comprehension of the historical antecedents to contemporary racial health inequities. Health equity research should be include uncovering the barriers and facilitators for learning to study racism.

Introduction

Deciding which determinants of health to prioritize in public health research studies, policies, and practices depends on how the causes are framed (Braveman & Parker Dominguez, 2021; Krieger, 2014; Phelan & Link, 2015). To strengthen the public health workforce's capacity to advance health equity, public health graduate students in the United States must comprehend how structural racism impedes the fields' efforts to eradicate racial health disparities (Council on Education for Public Health, 2016; Hagopian et al., 2018). That is, beyond documenting differences in health by race, public health professionals should monitor differential exposure to racism within populations (C. P. Jones, 2001; LaVeist, 1994; Thomas et al., 2011). As the trove of resources for anti-racist public health grows, so too is the potential for trainees to address sociohistorical and structural determinants of health (Caiola et al., 2023; Ford et al., 2019; C. P. Jones, 2018). **Whether students name and operationalize structural racism as a distal yet as pertinent exposure to harm can reveal progress toward racial health equity** (Adkins-Jackson et al., 2022; Braveman & Parker Dominguez, 2021; Ford & Airhihenbuwa, 2010a; Heller, Little, et al., 2023).

While empirical studies on what public health graduate students know about racial health equity are scarce (Chandler et al., 2022), students' theses and dissertations (hereafter, dissertations) offer a rich and underexamined dataset for addressing this literature gap. As existing documents generated by graduate students as culminating academic deliverables, dissertations provide unobtrusive evidence of the culture of academic public health (Wildemuth, 2009). Dissertations represent the negotiation of multiple knowledges within a sociocultural, historical context where the student-author is both a consumer and producer of knowledge (Delgado Bernal & Villalpando, 2002; Delgado, 1984; Laughter et al., 2021; Petteway, 2022; Posselt et al., 2020). The content in

dissertations can be analyzed to identify patterns in the ways student-authors name and operationalize racism while the student and institutional characteristics catalogued as dissertation metadata can provide context. **Through naturalistic observation, attention to both the contents and contexts of students' dissertations can illuminate potential barriers and facilitators to improving graduate training for racial health equity.**

This paper offers theoretical, methodological, and empirical contributions in pursuit of racial health equity. Analyzing the cultural process of knowledge production conceptually broadens the determinants of health inequities, expanding the focus on proximal individual behavior change toward critical action to transform institutions (Ford & Airhihenbuwa, 2018; C. P. Jones, 2018; Petteway, 2023). Methodologically, critical anti-racist discourse analysis of existing dissertations can broaden the racial health equity research agenda to incorporate transparent assessments of academic public health's contributions to addressing structural racism (Alang et al., 2021; Laughter & Hurst, 2022; Wildemuth, 2009). By examining public health dissertations, I provide much needed empirical research about students' knowledge of racial health equity (Chandler et al., 2022). By disrupting white supremacist hegemony in academic public health (Heller, Fleming, et al., 2023; Petteway, 2022), this study can yield valuable sights for public health research, practice, and teaching.

Naming and Operationalizing Racism as Determinants of Health

As the underlying motivation for the revised CEPH accreditation criteria, public health graduate students' comprehension of racist mechanisms is thought to facilitate their preparedness to disrupt structural barriers to health equity through research and practice (Hagopian et al., 2018). Although public health instructors may feel insufficiently prepared to teach with anti-oppressive lenses (Aqil et al., 2021), extant literature on racial health equity outline multiple strategies for

engaging in anti-racist public health praxis (Alang et al., 2021; Bowleg, 2021; Ford & Airhihenbuwa, 2010b). For example, the National Campaign Against Racism simplifies the daunting challenge into three key tasks: naming racism, asking how racism operates, and strategizing and organizing to dismantle racism (C. P. Jones, 2018).

As defined by Camara Jones (2018), racism refers to the “system of structuring opportunity and assigning value ...that unfairly disadvantages some individuals and communities, unfairly advantages other individuals and communities, and saps the strength of the whole society through the waste of human resources.” ‘Race’ is not biologically defined; rather, ‘race’ reflects a socially constructed racial hierarchy (LaVeist, 1994; D. E. Roberts & Rollins, 2020). That is, racialized groups, comprised of distinct ethnic groups with various cultures, are created as historical patterns of inequality evolve to reflect contemporary racial relations (Braveman & Parker Dominguez, 2021; Ford & Harawa, 2010; Martinez et al., 2022). Thus, the unifying characteristic of a particular ‘race’ is the shared struggle either against the inequitable distribution of resources as non-white people of color or for maintaining white supremacy as possessors of whiteness (Chávez-Moreno, 2023; Cousins & Matias, 2023). It is the exposure to racism that becomes embodied and manifested as disproportionate morbidity and premature mortality among racially oppressed groups (Krieger, 2000). Therefore, the theoretical justification for examining health differences by racial group must be tied to a shared exposure to racism (Adkins-Jackson et al., 2022; Braveman & Parker Dominguez, 2021).

However, naming racism in public health research has been stymied (Zambrana & Williams, 2022). Pervasive cultural barriers to anti-racist knowledge production include the focus on the individual level, ahistorical context, and the perpetuation of meritocracy (C. P. Jones, 2018). As an antidote, studies should define the populations of interest and articulate how exposure to

racism is conceptualized (Bediako & Griffith, 2008; Hicken et al., 2021; Swilley-Martinez et al., 2023). Critiquing social oppression in research can shift public health culture away from its focus on individual deficits (Samarron Longorio et al., 2023). It follows, then, that studies should justify the inclusion of racial groups in the context of social, political, and economic pathways to the contemporary conditions that produce embodied harm (Braveman & Parker Dominguez, 2021; Hicken et al., 2021; Krieger, 2020). Together, defining racial groups and specifying exposure to racism challenges the illusion of a fair playing field (Adkins-Jackson et al., 2022; Chávez-Moreno, 2023; Needham et al., 2022). Thus, operationalizing racism can improve research by specifying more precise exposures and improve practice by clarifying which structural determinants of health inequity to modify.

Contextual Factors Affecting Students' Knowledge of Racial Health Equity

Systematic reviews on literature naming and operationalizing racism demonstrate ongoing barriers to disseminating what is known about racial health equity (Boyd et al., 2020; Castle et al., 2019; Groos et al., 2018; Hardeman et al., 2018). Graduate students are learning from scholars actively contributing to a fractured public health knowledge base (Delgado Bernal & Villalpando, 2002; Ramirez-Valles et al., 2022) while simultaneously figuring out their own place in knowledge production (McSorley et al., 2021). As student-authors, their dissertations represent negotiations between the student, their institution, and various visible and invisible power structures (Heller, Fleming, et al., 2023; Laughter et al., 2021; Posselt et al., 2020).

Students' experiences prior to and during their graduate training can influence their interest on racial health equity research (Cross, 2018; Samarron Longorio et al., 2023). Students matriculate with various levels of familiarity with racism and racial health disparities (Yosso, 2005). Their cultural intuition is shaped by their experiences as individuals, former students, and

professionals, as well as the lessons gleaned from family, former teachers, and patients (Delgado Bernal, 1998; Manalo-Pedro & Allen, 2023; Petteway, 2022; Taboada, 2011). Additionally, the social context of the period when the student-author produces their dissertation is also relevant, as public health crises and social movements may shift the field's norms (García & Sharif, 2015; Maglalang et al., 2021).

The students' institution can also influence knowledge of racial health equity. A scholar's institution often conveys access to prestige and resources for research support (Posselt & Grodsky, 2017). Yet students of color often attend more accessible institutions, such as private for-profit colleges or public minority-serving institutions (Allen et al., 2018; Fernandez, 2020), nuancing assumptions about race conscious knowledge may be produced. Relatedly, the racial climate on campus and in the local community can contribute to the school's norms on producing anti-racist scholarship, regardless of the student's racial identity (Gwayi-Chore et al., 2021; Merino, 2019; Ward, 2022). Indeed, the dearth of faculty of color in public health and higher education more broadly are rooted in inequitable educational trajectories (Allen et al., 2018; Fernandez, 2018; A. I. Flores et al., 2019; Goodman et al., 2020; Manalo-Pedro & Allen, 2023; Ramirez-Valles et al., 2022).

Racism Narratives for Characterizing Racial Health Equity Knowledge

Systematic reviews have noted the limited use of naming and operationalizing racism in public health literature (Castle et al., 2019; Hardeman et al., 2018; C. P. Jones et al., 1991; Krieger et al., 2021; Lett, Asabor, et al., 2022; Mannor & Malcoe, 2022; Martinez et al., 2022; Swilley-Martinez et al., 2023). Building from this body of literature, racial health equity scholars have attempted to categorize the usage and omission of racism as various racism narratives (Figueroa et al., 2023). Identifying racism narratives disrupts hegemonic white supremacy by considering

alternative interpretations that reveal structural inequities (E. Chen et al., 2023; Delgado, 1989; Harper, 2012).

Critical race scholars in education have uncovered biases that downplay the role of racism in generating inequities by race (Annamma et al., 2017; Chang-Bacon, 2022; Douglass Horsford, 2014; Laughter et al., 2021). Dominant narratives often minimize racist norms by repeating racist tropes rooted in genetic determinism or cultural deficits (Solórzano, 1997). For example, lower GPAs among racially minoritized students may be attributed to individuals' poor performance (i.e., 'anything but racism') rather than the institution's failure to support all students (Harper, 2012). Another narrative may use euphemisms to describe racist climates, such as harmful environments (i.e., 'instead of racism') (Harper, 2012). Instead, dominant narratives can be challenged naming the role of racism in perpetuating racial inequities (Solórzano, 1997). Likewise, racism narratives may offer an analytical tool for characterizing public health students' knowledge of racial health equity (Samarron Longorio et al., 2023).

As a nascent attempt to systematically document public health graduate students' knowledge about racial health equity, **the aim of this study was to categorize and contextualize whether and how racism was discussed in theses and dissertations.** The following research questions were addressed:

1. How are racial groups and explicit theories used together in public health theses and dissertations?
2. Do student-authors name racism? Do student-authors operationalize racism?
3. What characterizes trends of naming and operationalizing racism?
4. In which contexts did student-authors produce their dissertations and theses?

Methods

To describe and interpret what public health graduate students know about racial health equity, this study uncovered examples of racism narratives in students' dissertations (Briscoe & Khalifa, 2015; Ford & Airhihenbuwa, 2010a). I utilized critical race methodology to conduct naturalistic observation through multi-faceted document analysis. Dissertations may reveal students' knowledge because, as existing documents, they are nonreactive measures collected through unobtrusive methods (Wildemuth, 2009). Dissertations are produced through the negotiation of the individual student author's scholarly interests, the institution's academic standards as enacted through faculty committee members, and the public health profession through its disciplinary norms (Gildersleeve et al., 2011; Laughter et al., 2021; Mullet, 2018; Posselt et al., 2020).

Grounded in the assumption that racism is endemic to American society, I examined both the contents and contexts in which students' produced knowledge in full-text dissertations (Laughter & Hurst, 2022). In contrast to content analysis alone (i.e., describing the text), discourse analysis makes meaning of texts as the products of their contexts (Hardy et al., 2004; Mullet, 2018). I followed the Critical Anti-Racist Discourse Analysis (CARDA) framework for analyzing documents from education settings to shape racism-conscious educational practice (Laughter & Hurst, 2022). Questions from the CARDA method guide analysis of external context (e.g., how do the institution and individual negotiate the text?) and internal content (e.g., how does the text address racism (or not?)) (Laughter & Hurst, 2022). Additionally, I leveraged both human- and machine-enabled coding. Machine-enabled coding was primarily used to ensure thorough detection of explicit keywords whereas human-enabled coding was applied toward detecting racism-related concepts. To ensure transparency of the coding process, I, as an instrument of the

research process, documented my coding logic in comments and memos in the qualitative analysis software, MAXQDA (versions 2022 and 2024).

I leveraged my cultural intuition to engage in self-reflection throughout analysis (Delgado Bernal, 1998; Laughter & Hurst, 2022). I examined the data based on my familiarity with interdisciplinary literature in public health and education (i.e., theoretical sensitivity (Thornberg & Dunne, 2019)), and through the epistemic privilege afforded by my personal and professional lenses (Sweet, 2020). My scholarly interests in knowledge production stem from my 15-year journey of seeking non-dominant knowledges (e.g., ethnic studies and feminist epistemologies) as a counterhegemonic tool for healing from the multigenerational trauma of U.S. colonial schooling in the Philippines (Constantino, 1970; Desai, 2016). My knowledge of anti-racist public health training has been shaped through more than a decade of public health experience in various capacities. (See appendix Table #.) Rather than claim that my analyses are unbiased, I am conscious of the multitude of ways that my worldview has been shaped.

Data

Abstract text for electronic theses and dissertations (ETD) were downloaded from ProQuest Dissertations and Theses Global database. Data was restricted to ETDs published between 2018-2022, which corresponds with the first five-year period when schools of public health reported on their 2016 CEPH accreditation criteria. The initial dataset contained all ETDs indexed as 'public health' (N=13,842). These abstracts were then narrowed down to a CEPH Dataset (N=5,180), as described in Aim 2. Results from the keyword-in-context analysis were used to generate the **racial health equity (RHE) subset** (N=1,959). Abstracts that met the following criteria were included in the RHE subset: (1) named at least one specific racial group (e.g., Black, White, Latinx) or used a generic racial group term (e.g., 'race', 'racial', 'racial_ethnic_minorities')

AND (2) used at least one word indicative of a theory (e.g., social inequality = ‘racism’, ‘social_capital’, ‘ecosocial’; behavioral = ‘attitude’, ‘belief’).

The RHE subset was used as the sampling frame for the **racial health equity full-text sample** (hereafter, full-text sample). To generate the full-text sample, I selected 25 theses and dissertations through stratified random sampling. I dichotomized the RHE subset by degree to include masters theses (N=10) and doctoral dissertations (N=15). Doctoral dissertations and master’s theses differ such that the former are typically lengthier and have been developed over a longer timeframe (4+ years vs. 2 years), potentially enabling the student-author to examine more complex ideas. Additionally, given the scarcity of social inequality theories in the RHE subset, I set a sampling quota of 10 for ETDs with abstracts containing social inequality terms (Boolean indicator). Each degree type was split into two pools: “abstract mentions social inequality” and “abstract does not mention social inequality.” From the pools of abstracts mentioning social inequality theories, I randomly selected 5 master’s degree theses and 5 doctoral degree dissertations. The remaining ETDs came from the pools of abstracts that did not name social inequality (masters = 5, doctoral = 10).

PDFs of full-text sample were downloaded from PQDT. One of the ETDs was embargoed until September 2024, so this record was dropped from the sample. To replace it, another ETD was sampled using the same criteria (degree type and social inequality theory indicator). To prevent the replacement ETD from being another embargoed record, I added an additional search criterion to exclude records from 2022. The PDFs for the full-text sample were then imported into MAXQDA. At this stage, one PDF did not have optically recognizable text so was replaced based on similar criteria. After confirming that the replacement text was recognizable, I downloaded and imported the replacement record in MAXQDA.

Aligned with the social constructivist perspective that students' perspectives are shaped by their positionality, I incorporated dissertation **metadata** reflecting the contexts in which the student-author produced their dissertation. As detailed in Aim 2, student-author and institution attributes from ProQuest were collected for each ETD through webscraping with Octoparse. The ProQuest attributes extracted in this study included the student-author's name (for identification purposes), year of publication, degree attained with the ETD, and the university they attended. Additional student author-level data was extracted from sources beyond the ProQuest metadata to note potential exposures to racial health equity knowledge beyond the incumbent public health training. The student-author's racial or other salient identities were noted if provided within the dissertation text (e.g., Acknowledgements, CV, Researcher positionality). I also noted student-author's baccalaureate and master's degree and institution for each author when available. I gathered institution-level characteristics for the institutions listed for the ETD in ProQuest metadata. Institutional attributes included U.S. & World News rankings of the school of public health, CDC region (e.g., West, Midwest), institution control (i.e., private, private for-profit, public), and minority-serving institution (MSI) status (M. H. Nguyen & Ramirez, 2023).

Computational Text Analysis

To explore co-occurrences of racial groups and explicit theories in abstracts, I conducted computational text analysis with keyword-in-context searches with `quanteda` package for R. For documents mentioning each racial group, I searched the abstract text for keywords by theoretical category. That is, within the set of abstracts that named terms such as 'Black' or 'African American', I searched for behavioral theories (e.g., 'attitude'), biomedical theory (e.g., 'disease'), community theory (e.g., 'empowerment'), social ecology theory (e.g., 'neighborhood'), and social inequality theory (e.g., 'racism'). For each racial group-theory category combination, I

documented the number of ETDs (binary indicator whether it was found or not), which words were found, and their corresponding word counts. Similarly, I searched the abstract text of ETDs mentioning explicit theory for racial group category keywords. For example, among abstracts with ‘social inequality’ words, I searched for how many mentioned generic racial group words (e.g., ‘race’, ‘minority’) or specific racial group words (e.g., ‘Black’, ‘white’). I also summarized the racial health equity subset by author and institution characteristics.

Discourse Analysis

Because knowledge is produced within socio-cultural contexts at specific times and places, the student-author and institutional attributes were used to contextualize each ETD in the full-text sample. Analyzing the external relationships that control the production of the text is a critical step in the CARDA method (Laughter & Hurst, 2022). The dissertation text is the outcome of negotiations between the individual graduate student-author at a stage in their professional trajectory and the accredited institution representing the academia, broadly, and the public health profession, specifically (Posselt et al., 2020). Student-author attributes were used to describe the student-authors’ relationship to their topic of study. Institutional attributes were used to approximate the racial campus climate (e.g., MSI status, region), public health prestige (ranking), and institutional control. These external contextual factors were used to interpret patterns within the dissertation contents.

Additionally, because the ETDs reflect a snapshot of student authors’ knowledge at a specific timepoint, I also considered the year that the ETD was published. All studies were published after the launch of APHA’s National Campaign against Racism in 2015 and the CEPH reaccreditation update, which was introduced in 2016 but first applied in school reaccreditation reports in 2018. This timeframe is also situated after the Movement for Black Lives initially began

in 2013 (in response to the acquittal of George Zimmerman for the murder of Trayvon Martin) and gained national attention (after Michael Brown was killed in 2015). In 2020, COVID-19 was declared a pandemic, George Floyd was publicly murdered, and public health organizations acknowledged racism as a public health crisis (Paine et al., 2021). The ETDs included studies two years prior (2018, 2019) and two years after (2021, 2022) this pivotal year. These societal factors likely contributed to student-authors' approaches to naming and operationalizing racism and were considered throughout the analytical process.

Content Analysis

Informed by the National Campaign Against Racism (C. P. Jones, 2018), my coding scheme focused on two dimensions of the content: whether text named racism and whether the study operationalized racism. Because public health research has inconsistently used 'racism' to describe social inequality in research (Figueroa et al., 2023; Krieger et al., 2021; Zambrana & Williams, 2022), I used content analysis to identify explicit mentions of racism and non-explicit references to racism (Hsieh & Shannon, 2005). After familiarizing myself with each study by reading the front matter (e.g., abstract, acknowledgements, table of contents, introduction), I coded each full-text document for organizational, substantive, and theoretical categories (Maxwell, 2013).

For the first round of organizational coding, I conducted lexical searches to locate mentions of racism and racial groups. Using the MAXQDA Dictio feature, I conducted a search for terms from the racial group word list from Aim 2; matching results were auto coded with their corresponding racial group label (e.g., 'Latinx', 'unspecified racial group'). Then I searched for 'racism' and racism-related terms (e.g., 'critical race', 'racializ*', 'discrimination'). To ensure consistency, I compared these search results with the abstract-level classification (i.e., whether

keyword search on abstract text detected a social inequality theory). For example, if the abstract did not contain a social inequality theory, I would not expect to find the word ‘racism’ in the full-text PDF. I investigated unique cases where this did occur; these scenarios informed the development of the racism narrative typologies. Then, I coded each section to label their contents (e.g., ‘Abstract’, ‘Background’, ‘References’). If documents contained multiple abstracts (e.g., multi-paper dissertations), a comment was added to distinguish paper abstracts from the overall dissertation abstract.

For the second round of coding, I developed a substantive coding schema based on whether racism was named or not and whether racism was operationalized or not. To ascertain whether racism was explicitly named, I used deductive directed content analysis which leverages *a priori* framework for coding (Hsieh & Shannon, 2005). Based on the codes generated through the lexical search for explicit terms, I categorized which section of the dissertation mentioned racism. Instances where ‘racism’ was mentioned outside of the student-author’s dissertation text were considered not naming racism. For example, if ‘racism’ was only mentioned in the student-author’s CV or in the list of references, the document was considered ‘not naming racism.’

To ascertain whether racism was operationalized, I used summative content analysis, an approach intended to discover latent content (Hsieh & Shannon, 2005). First, I assessed whether the study explicitly used an anti-racist methodology by searching for ‘Public Health Critical Race Praxis’, ‘critical race theory’ or ‘racism’ within the dissertation text. ETDs containing these terms were categorized as operationalizing racism. Then I determined whether the study measured exposure to race-related inequality. To detect potential semantic alternatives to racism, I reviewed whether the use of race was justified, how studies framed their groups of interest, and how the exposure was theorized (Martinez et al., 2022). Because quantitative studies that treat race as a

control variable attempt to remove the effects of racism, studies including race as a covariate were not categorized as operationalizing racism (Swilley-Martinez et al., 2023). Studies containing sociohistorical context in the background section to connect prior racist policies to contemporary health inequities were categorized as operationalizing racism (Chowkwanyun, 2011; Krieger, 2020). Further, ETDs that used race as an interaction term with a social determinant of health (e.g., socioeconomic status, gender) operationalized racism via intersectional oppression (Adkins-Jackson et al., 2022). Specific race-related mechanisms, such as racial residential segregation, also operationalize the differential exposure to social inequity among racial groups, and were considered operationalizing racism (Castle et al., 2019; Harper, 2012).

Lastly, to summarize the patterns of naming racism and operationalizing racism, I developed typologies of racism narratives using ideal-type analysis (Stapley et al., 2022). Based on the racism narrative type and student-author and institutional contexts of each study, I classified each ETD as either maintaining dominant cultural practices or advancing knowledge on anti-racist public health praxis (C. P. Jones, 2018).

Trustworthiness

As a primarily qualitative approach, the credibility of my analysis was strengthened by explicitly engaging in reflexivity, deliberately searching for disconfirming cases, and addressing multiple levels of context (Creswell, 2014; Mullet, 2018). I leveraged peer debriefing with lab mates and committee members to check whether my coding logic was sound and clearly articulated. I wrote memos in MAXQDA to explain how my personal background, professional experience, interpretation of the literature, and related findings shaped my coding logic (Delgado Bernal, 1998). To ensure consistent coding across ETDs, I compare coded segments from different documents side-by-side using MAXQDA summary grid and summary table features.

Limitations

Using this novel research design to approximate student-authors' knowledge on racial equity through their dissertations, this study had limitations. As an innovative study categorizing racism narratives in public health dissertations, I could not compare the validity of my approach directly with existing literature. Additionally, a potential limitation of directed content analysis is that participants may react as the researcher probes (Hsieh & Shannon, 2005). However, this was not a concern because, as a naturalistic observation, the documents already existed. This analysis could be enhanced by growing the human-enabled coding portion of the study. Student-authors' intentions were not known. Another primary limitation of this study is that I was the sole coder. However, utilizing multiple approaches to examine the use of racism and race in student-authors' abstracts and full-text documents enabled me to triangulate my findings.

Results

Table 3-1 summarizes the student-author and institution characteristics across the CEPH dataset, the RHE subset, and full-text sample.

Racial Groups and Explicit Theories

Table 3-2 shows which theory categories were used when Black or African Americans were mentioned. The most frequently occurring category was "social ecology" (N=493; 63%), followed by "behavioral" (N=465; 60%), then "biomedical" (N=411; 53%). As shown in Table 3-3, among the abstracts that used a social inequality theory, the most often named racial group was "unspecified" (e.g., 'racial', 'ethnic'), which was mentioned in 255 abstracts (36%). The next most frequent racial group was "Black / African American" which was mentioned 867 times in 204 abstracts (28%). Together, these results suggest that racial groups are infrequently concurrently examined in studies on social inequality.

Fifty-one universities produced the 204 abstracts that mentioned “Black / African American” people and “social inequality theory” terms, revealing a wide range of institutions from which students graduate. Ten minority-serving institutions produced 22 of the studies. The single university that produced the most studies was Walden University (N=30), a private for-profit institution that was ranked #202 in public health by U.S. News. The 15 highest U.S. News ranking schools of public health generated nearly half of the studies (N=96).

Table 3-4 displays the keywords that were detected in the abstracts for four of the records from the full-text sample. As an example, the first row shows results for a 2020 DrPH dissertation from the University of California, Berkeley titled “Moving Further Upstream to Promote Racial Equity: A Mixed Method Analysis of Private Nonprofit Hospital Community Benefit.” The detected keywords include ‘inequities’, ‘racial’, and ‘racialized.’ (See appendix for the detected keywords for the remaining records of the full-text sample.)

Naming Racism

Racism was explicitly named in 344 times in 11 full-text ETDs (Figure 3-3). The ‘racism’ word count per document ranged from 1-118. ‘Racism’ appeared most frequently in the background and discussion sections. Nine of the 11 dissertations came from the ‘social inequality theory’ segment of the stratified sample. The other two ETDs did not mention ‘racism’ in their abstracts, demonstrating that racism can be named in the body of the text even when racism was not mentioned in the abstract.

Notably, one PhD dissertation mentioned ‘racism’ 118 times. The following excerpt demonstrates how they incorporated racism into their theoretical framework:

“Drawing from LatCrit, this theoretical framework posits a consciousness about how the concepts of race, ethnicity, nativism and citizenship status are

politicalized in a social process that disadvantages people of color in the U.S. In addition to being conscious about race, one's racial position and racial stratification, this combined framework includes being conscious about one's ethnicity, and nativity and citizenship status and how that fits within the racial positioning and stratification present in U.S. society. Therefore, similar to CRT and PHCR addressing the relationship between race, racism and power, this theoretical framework also seeks to address the relationships between ethnicity, racist ethnicism and power; nativity and citizenship status, racist nativism and power; and the intersectionality of these relationships and their contribution to how particular Latino groups are stratified along these dimensions." (Doctoral dissertations > 2054024738_Latinos'_Use_of_Mental_Health-: 54 - 55)

This student-author used Critical Race Theory (CRT), Public Health Critical Race (PHCR) praxis, and Latino Critical Theory (LatCrit) to explain racial stratification based on one's "ethnicity, and nativity and citizenship status" as it pertains to Latino groups. The student-author articulated their understanding of racism as a sociopolitical process that "disadvantages people of color."

Operationalizing Racism

Racism was operationalized in 10 full-text ETDs. Nine of the 10 dissertations came from the 'social inequality theory' segment of the stratified sample; the tenth ETD did not mention 'racism' in their abstracts. Student-authors took various approaches to operationalizing racism, including mentioning histories of racialization processes in the background section, applying anti-racist methodologies, conceptualizing racial inequality as an exposure, framing quantitative results as racial health inequities, and recommending structural changes.

The following excerpt from a dissertation conclusion demonstrates how the operationalization of racism enabled research on otherwise overlooked exposures:

“Each chapter has its own implications, but the findings are more significant taken together; i.e., the historical and political construction of racially-identified municipal space highlighted in Chapter 2 provided the groundwork for contemporary inequities in fiscal and population health in Chapter 3, which were necessary to understand the racialized impact and public health consequences of Wayne county’s tax foreclosure crisis in Chapter 4. What this series helps demonstrate is that processes and patterns of Whiteness and anti-Blackness are inextricably linked; for example, this research suggests that we cannot fully understand or address tax foreclosure as a cause of dispossession in Detroit and other majority-Black cities unless we address the “mechanisms of the racial tax state” that redistribute wealth upward and enable White suburbs to hoard resources at the cost of poor and Black communities (Henricks & Seamster, 2017).” (2592287836_Race,_Property,_and_Population, p. 163)

Although this specific excerpt does not explicitly use the word “racism”, the student-author explains how each of their three papers worked together to logically connect ostensibly race-neutral tax policies to differential health by race (e.g., shorter life expectancy and greater disability, mentioned elsewhere in the dissertation). After providing historical and political context for local tax policies, they connect these mechanisms to the unequal distribution of resources between “majority-Black cities” and “White suburbs.” This segment illustrates how analyzing exposure to racial inequity challenges dominant approaches to racial health disparities (i.e., individual level, ahistorical context, and the perpetuation of meritocracy).

For studies that examine structural determinants of health, conclusions that solely recommend individual-level behavior change would seem illogical. Thus, the practical need to identify racist mechanisms underscores the necessity of logically framing racism as a determinant of health throughout each study. In the next section, I demonstrate how the two dimensions of naming racism and operationalizing racism yielded three typologies for racism narratives in students' dissertations.

Typologies of Racism Narratives

Based on the full-text sample, I developed three typologies to summarize the approaches that student authors used to frame their studies on differences in health by race. A summary of the typologies is shown in Table 3-5; lists for each type are in the appendix. This section describes each typology, common attributes among these dissertations, and excerpts to demonstrate exemplary segments from dissertation sections (i.e. justification, study design, findings, recommendations).

Exposure to Racism

Nine ETDs named racism and operationalized racism (hereafter, exposure-to-racism type). These studies described the structural aspects of racism as determinants of health (e.g., housing, incarceration, environment, access to health care). Six ETDs explicitly mentioned critical race concepts (e.g., intersectionality, whiteness, racist nativism). Three ETDs explicitly engaged with public health critical race praxis to guide the study design. Most of the studies in the exposure-to-racism type focused on a specific non-White racial group (namely, Latinos, Black people, Indigenous Maya Kaqchikel, Indigenous P'urhépecha, Asian Americans, and Pacific Islanders), which allowed for assessing within-group differences. Three ETDs compared racial groups (e.g., Black-White). The exposure-to-racism type commonly justified the need for the study by offering

historical context about the disproportionate harm enacted on the racialized group of interest; this context then informed the problem definition, theoretical framework, study design, interpretation of results, and recommendations.

One exemplar study examined barriers to chronic disease management from the perspective of Indigenous Maya in Guatemala. The student-author graduated from the University of Washington in 2021 with their MPH in global health. Additionally, this student-author and their non-faculty committee member identify as Indigenous Maya who speak Kaqchikel; this positionality and skill enabled them to examine the linguistic and cultural factors that created nutrition-related barriers. Although chronic disease management and cultural barriers are common public health topics, this thesis exemplified the exposure-to-racism type by grounding the study in the historical harm of colonization and centering Indigenous perspectives throughout the study.

Beyond listing indicators of worse health, the justification for this study includes historical context to situate contemporary harm as the outcome of racism. In fact, historical oppression is named from the first line of the abstract: “Our Indigenous Maya communities in Guatemala have experienced oppression, exclusion, and racism through ongoing colonization that systemically denies us the right to live happy, healthy lives.” (2591344492_Barriers_to_Nutrition-Related_, p. 3). The Introduction section describes the disproportionate burden of non-communicable chronic diseases among Indigenous people in Latin America, income inequality between Indigenous and non-Indigenous groups in Guatemala, a 13-year shorter life expectancy among Indigenous Maya, and the 36-year civil war in Guatemala that disproportionately killed Indigenous Maya. The Introduction then mentions unfair treatment as a barrier to accessing health care:

“these facilities [governmental biomedical health services] tend not to be the first choice for Indigenous peoples seeking healthcare given the reality of

discrimination, linguistic barriers, educational differences, and differences in cultural expectations that they face in these settings. (Hitziger et al., 2017; Berry, 2008). Further contributing to poor health outcomes is the fact that many of the doctors, nurses and other healthcare practitioners at state-run facilities do not speak any of the Mayan languages, and therefore cannot fully understand the needs nor dissatisfaction of the indigenous communities within which they work (Lawton, 2015).” (2591344492_Barriers_to_Nutrition-Related_, p. 5).

Based on this assertion that linguistic and cultural barriers faced by Indigenous Maya result from historic and ongoing colonization, a qualitative exploratory study was designed. The study sought to understand how “Indigenous Maya people, talk and conceptualize health, diseases, and food and how they are connected” by conducting interviews with Indigenous Kaqchikel Maya people. Conscious of the power imbalance between Indigenous and western approaches to health, the student-author compared both worldviews (i.e., “the Two-Eyed Seeing framework developed by Mi’kmaw Elder Albert Marshall”). The researchers developed the interview questions and conducted interviews in Kaqchikel. The research team leveraged community relationships to purposively sample Indigenous Kaqchikel Maya participants who were either health experts trained in western medicine or patients with nutrition-related chronic diseases.

The student-author applied a critical perspective to interpreting the qualitative data guided by their comprehension of oppression as the underlying root cause of chronic disease. The main themes centered Indigenous ways of being as essential for health: “The concept of health is understood as something more complex and collective than the western definition by both health experts and patients”; “Indigenous people’s relationship and history with food is one shaped by colonization, war, trauma, and poverty”; “Kaqchikel language is essential to the health and

happiness of our people”; “Experts believe that nutrition-related chronic illnesses are due to behavioural and dietary lifestyles, while patients believe their illnesses are brought about by emotions or past traumas.” By centering Indigenous perspectives, the student-author identified barriers to nutrition that fundamentally emanated from the colonial context of Indigenous Kaqchikel Maya.

As such, instead of a shallow recommendation to provide culturally relevant interventions for healthy eating and physical activity, the student-author advocated to stop the erasure of Indigenous peoples’ histories, languages, food systems, and ways of life and to regain access to land. The following excerpt from the Discussion section illustrates the student-authors’ knowledge of sociopolitical determinants of health and ability to discuss racism as a challenge to health equity:

“the need to integrate Maya languages in the health system to improve health outcomes of Indigenous peoples in Guatemala. Yet, we must underscore that these efforts should parallel efforts to educate providers, researchers, organizations, etc. on the history of Indigenous peoples. Particularly, the historic and ongoing colonialism that is connected to nutrition and access to healthy foods and land.”

(2591344492_Barriers_to_Nutrition-Related_, p. 25)

Throughout this thesis, the student-author demonstrated their understanding of exposure to racism as a determinant of health. The underlying causes of nutrition-related diseases were contextualized with the history of colonialism and contemporary sociopolitical oppression. The Kaqchikel language was incorporated throughout the study design. The interpretation of the results exposed collective challenges to health perpetuated by ongoing colonization. The recommendations advocated for changing structures instead of changing behaviors.

Potential Exposure to Racial Inequity

Three ETDs either named racism or operationalized racism. The potential-exposure-to-racial-inequity type is characterized as studies that demonstrate a partial grasp of racism as a determinant of health. Studies that name racism without operationalizing racism do not meaningfully study unequal power relationships between racial groups. Conversely, studies that operationalize racism without naming racism may examine unequal power relationships between racial groups but refrain from explicitly labeling the exposure as racism.

In two cases, racism as a determinant of health was not integral to the analysis even though ‘racism’ was mentioned within the study. In these intervention evaluation studies, the Background sections justified including Latinos as the group of interest based on poor health outcomes. Analytically, these studies focused on culturally tailored interventions for chronic disease management and prevention. The student-authors did not explain how racism produced the conditions for the disproportionate burden of chronic disease among Latino communities nor how unequal power relations created barriers to managing chronic disease.

For example, a 2018 master’s thesis leveraged the Health Belief Model for a mixed methods formative evaluation of “Diabetes Garage,” an innovative diabetes intervention developed for Hispanic/Latino (H/L) men. The literature cited in the Background suggested that H/L men had worse diabetes outcomes because of a lack of engagement, which justified the need for a culturally tailored intervention. In alignment with the Health Belief Model, the Diabetes Garage was framed as a “cue to action” and individual behavior was the focal outcome of the evaluation. The quantitative pre/posttest assessed diabetes knowledge, concepts from the Health Belief Model (e.g., perceived vulnerability, perceived benefits), self-efficacy, psychological well-being, nutrition and physical activity behaviors, and anthropometrics (e.g., weight, blood pressure,

waist circumference, fasting glucose, and HbA1c). By the end of the intervention, certain health outcomes had improved, participants gained knowledge, and shifted beliefs.

The research team conducted a qualitative focus group to document the participants' nuanced perceptions, which were framed by the student-author as "modifiable" individual beliefs. This section of the results had a subheading for "Mexican-American culture." One participant commented that cultural norms could be barriers to diabetes management: "Speaking for Hispanic people it's a macho thing." Within the same subsection, the student-author supported the claim that food consumption was a challenge because food was "intertwined with their family" with the following quote:

"When it comes to a restaurant, the buffets are terrible. I always used to—the concept is we eat with our eyes instead of with our stomach. We see it, we want it, consume and coming from a very poor family, there were 5 of us and my mother would feed us and she would said "and don't leave the table until you eat it up"; to eat it up and that's the way I am, you put it on the plate and I'll eat it up!" (2174557759_Formative_Evaluation_of_the_He, p. 53)

The participant recalled the experience of eating at buffets as "a very poor family." This conflation of low socioeconomic status with Mexican American culture subtly perpetuates an ahistoric, deficit-based racialization of Latinos. An alternative analytical lens could have disentangled the history of Mexican American labor struggles, economic exploitation, and food insecurity as distinct from the cultural value of caring for family.

Given the dissertation's focus on behavior change, the sole mention of racism in the Discussion seemed out of place:

“For H/L, specifically those of Mexican origin, a review of federal- and state-level policies surrounding immigration have had an impact on H/L health and their ability to engage in health related practices, including stress related to structural racism and discrimination, reduced access to social institutions and safety nets, worse access to healthcare, and limited access to material conditions (Barquera et al., 2018; Philbin, Flake, Hatzenbuehler, & Hirsch, 2018).”

(2174557759_Formative_Evaluation_of_the_He, p. 57)

This excerpt described immigration policy as a pertinent determinant of health through disproportionate stress as well as limited access to health care and other resources. However, the connection between these structural manifestations of racism and the intervention evaluation was unclear; most of the participants had health insurance and were born in the United States. The paragraph ended by stating, “a culturally tailored diabetes education program aimed specifically at H/L men ...could increase rates of self-care and lower the rates of diabetes in the El Paso border area, a conclusion that is supported by the results of this study.”

(2174557759_Formative_Evaluation_of_the_He, p. 57) While the behavior change intervention appeared to benefit participants, the thesis overlooks the opportunity to contextualize local diabetes disparities among H/L men as a byproduct of immigration enforcement stressors, potential spillover effects due to racist nativism, and the area’s history of segregation and discrimination.

Only one dissertation operationalized racism without naming racism. The cross-sectional regression analysis of secondary data conceptualized racial residential segregation as the exposure, infant mortality (IM) as the outcome, and race as a potential modifier. The following excerpt introduced the study:

“The past history of racial segregation, the higher IM ranking, and rate disparity across races for Tennessee were reasons to evaluate an association between prenatal care (PNC), places of residence utilizing neighborhoods as units of analysis (measured by census tracts consisting of rurality and racial concentration), and IM across racial groups residing in the State of Tennessee.”
(2325355392_The_Impacts_of_Race,_Residence, p. 15)

The justification for the study described the history of racial residential segregation and health care. They mentioned that W.E.B. Dubois “lost his son to a treatable infection in a place where White doctors refused to treat Black patients.” The theoretical framework section elaborated on the development of the theory of racial residential segregation and concentrated poverty. Because racial residential segregation can “increase advantages for Whites while promoting disadvantages for minorities”, it was justified as an appropriate theory for assessing disparities in IM (i.e., “This disadvantage is evidenced by the Black-White IM rate gap (1.9) for the State of Tennessee”).

The student-author used data from the 2010 U.S. Census and the Pregnancy Risk Assessment Monitoring System for 2009-2011. No infant deaths were reported for certain residential-racial group combinations which limited the student-author’s ability to fully test their hypotheses. Racial concentration (operationalized as the percentage of census tract total population who are reported as Black or African American) was not associated with IM by race. Although the quantitative results did not support the student-author’s theorized hypothesis that racial concentration would be associated with IM across residential-racial group combinations, the student-author provided several alternative analytical approaches that could be applied in future research. The student-author also provided practical and policy recommendations for improving

birth outcomes at the individual, interpersonal, community, and societal levels. In the following excerpt, the student-author recommends redistributing resources to address inequities:

“At the societal level, legislators could institute policies to provide funding which is earmarked for developing health facilities in highly impacted areas across Tennessee to decrease IM disparity. Funding can ameliorate PNC disparity by providing easier access to Blacks, Hispanic women, and women of Other races in areas identified by this study. Policies could specifically mandate how many facilities each impacted area should have to service the population at the local level and state level. The state and local governments could supply bonuses or supplemental income to physicians and other health care providers to attract them to work in high racial concentrated areas with the potential benefit of decreasing IM risk.” (2325355392_The_Impacts_of_Race,_Residence, p. 151)

Racial residential segregation was conceptualized as the exposure, yet the word ‘racism’ was not mentioned the body of the dissertation. Three references contained ‘racism’ in their titles (Bailey et al., 2021; Chae et al., 2018; Feagin & Bennefield, 2014). Notably, they tested Hispanic ethnicity separately from racial groups. It is unclear whether these conclusions would have differed if the student examined other aspects of racism (e.g., racialization as non-whites, racial concentration by white race, local policies).

Another Exposure Among People

Most of the dissertations neither named nor operationalized racism (N=13). Four of these studies pertained to non-White populations outside of the United States (Malawi, Dominican Republic, Chile, Mexico) and four studies examined specific racial/ethnic groups in the United

States (Mexican Americans, Asian Americans, and African Americans). The remaining studies focused on people in the United States and controlled for race.

While all dissertations in the another-exposure-among-people type omitted connections between racism and the exposures of interest, some ETDs operationalized other aspects of social inequality. For example, two ETDs connected the exposure to harm to gender inequality. The first study on HPV vaccination among Malawian mothers operationalized attitudes about violence against women as a proxy for empowerment without contextualizing how the vestiges of British colonial rule may have shaped contemporary gender norms (Kamlongera & Katenga-Kaunda, 2023; Katenga-Kaunda, 2015). In the second study, the student-author examined patriarchal gender roles as barriers to physical activity by regressing social roles (i.e., marital status, employment status, phase of motherhood) on moderate-to-vigorous physical activity. They “controlled for race” without justifying the inclusion of race nor providing explanations for significant differences observed by racial group (e.g., statistically significantly fewer non-Hispanic white women were excluded from analysis due to missing data on leisure time physical activity). Along with other ETDs that focused primarily on socioeconomic status (e.g., education or poverty level as predictors, ahistorical framing of neighborhoods), these examples reveal limitations on what can be known when the concept of racism is omitted from health disparities research among racialized people.

Other ETDs in the another-exposure-among-people type did not consider inequality, as demonstrated through the following example of obesity among active-duty navy members. In the background section, the student-author cited an article that found a stronger link between posttraumatic stress disorder and obesity among “women and certain ethnic minority groups” (2026817188_Providers'_Treatment_for_Overw, p. 45). However, the student-author did not

elaborate on potential explanations for racial differences in obesity in their background or discussion. “Ethnicity” was used as an independent variable for one research question and as a control variable for another research question. The racial composition of the sample was primarily used to illustrate its demographic representativeness with the broader military population. Even though the quantitative analysis found a statistically significant positive correlation between “being Asian and receiving weight management care,” this result was not examined further.

Student-Author and Institutional Context

Examining the student-author and institution attributes offers some context to the conditions in which they operationalized racism. The following observations are descriptive and not intended to imply causal relationships.

The ETDs mentioning racism most frequently included three doctoral student-authors whose dissertation committee members included leading experts in research on racism and health. The three doctoral student-authors graduated in 2018, 2020, and 2021 from top schools of public health in the West and Midwest. Two of these doctoral student-authors mentioned their own racial identities (i.e., “first-generation PhD Latina,” “Jewish white woman born and raised in an affluent suburb”). Attending an institution with access to renowned scholars along with the self-awareness to acknowledge racial positionality likely contribute to naming and operationalizing racism.

The next ETDs with most mentions of racism were two master’s theses that specified types of racism in their titles: “Environmental Racism in the Eastern Coachella Valley: P’urhépecha Parents’ Testimonios on Childhood Asthma-Related Symptoms and Its Relationship to the Salton Sea” and “Associations of Structural Racism and Forced Sexual Intercourse Among High School Students in the United States.” The former thesis on environmental racism was produced in the MPH/MA in Latin American Studies program at a public, minority-serving institution in the West.

The latter thesis on structural racism was produced through the epidemiology department in a top ranked school of public health at a public university in the West. Several efforts to address racial campus climate at this institution have been detailed in public health journal articles (Gwayi-Chore et al., 2021; Hagopian et al., 2018; Seiler et al., 2022). These cases hint at the long-term intentionality involved in creating racial campus climates supportive of naming and operationalizing racism. Additionally, these master's student-authors graduated in 2021 and 2022, after George Floyd's murder in 2020.

Student-author and institutional contexts across the potential-exposure-to-racial-inequity warrant further investigation. The formative evaluation of the diabetes intervention for H/L men was conducted in the U.S.-Mexico border town of El Paso; the student-author earned their MPH with a concentration in Hispanic and Border Health. One of the competencies for the Hispanic and Border Health Concentration is to “describe the roles of history, power, privilege, economics, environment and other structural inequalities that restrict health equity and produce health disparities in Hispanic and border communities.” Yet the thesis superficially mentioned racism while omitting substantial discussion of history and power.

The dissertation on residential segregation and IM represents another unusual case. The student-author framed racial segregation and concentrated poverty as an exposure to harm but did not name racism in the body of their text. They cited several references that either included ‘racism’ in their titles (e.g., Bailey; Feagin) or within the article (Mehra et al., 2019; Wallace et al., 2017). This student-author matriculated into their online PhD program as an experienced professional and graduated in 2019. This was after APHA launched the National Campaign Against Racism but before the CDC declared racism a public health crisis. The timing of students’ graduate programs

within their career trajectory and in the broader context of contemporary public health priorities likely represents another dimension that influences naming racism.

Discussion

In this study, I aimed to categorize and contextualize whether and how racism was discussed in theses and dissertations. Out of the abstracts in scope for the five-year period (N=5,180), roughly one-third (N=1,859) contained both explicit theory and racial group terms. Eight percent of studies (N=403) named terms associated with both social inequality theory and racial groups. My examination of the *contents* of recently published students' theses and dissertations yielded some examples of student-authors operationalizing racism as a determinant of health, warranting continued focus on strengthening research that *studies racism*. My examination of the *contexts* of where these studies were produced supports a relatively newer research focus on *learning to study racism*.

Studying Racism

Sampling the racial health equity subset for full-text dissertations provided rich examples of text for categorizing the ways that student-authors name and operationalize racism. There was clearly a spectrum of approaches: analyzing exposure to racism (N=9), potential exposure to racial inequity (N=3), and neither naming nor operationalizing racism (N=13). Ten of the studies articulated how structural biases, social inequities, or racism presented challenges to achieving health equity.

The small percentage of studies naming racism and operationalizing racism among dissertations and theses parallel systematic reviews of public health literature (Castle et al., 2019; Groos et al., 2018; Hardeman et al., 2018; Mannor & Malcoe, 2022; Martinez et al., 2022; Swilley-Martinez et al., 2023). Studies that used race as a control variable often included 'race' within a

string of demographics without explaining its relevance to the study's key goals. This resembles a recent systematic review of published epidemiological literature (Swilley-Martinez et al., 2023) and prompts returning to previous critiques of comparative studies (Bediako & Griffith, 2008). The majority of studies in the full-text sample reflected mainstream public health approaches which normalize individualism, ahistoricism, and meritocracy (C. P. Jones, 2018).

Most studies omitted transnational histories of colonialism, imperialism, racial capitalism, and other systems of oppression based on white supremacy when describing a racial group's contemporary disadvantages. White supremacy was explicitly mentioned in two dissertations. Socioeconomic status was frequently incorporated as a predictor or covariate. Racial capitalism was explicitly operationalized in two dissertations: a qualitative study compared survival work and meaningful work with formerly incarcerated API, challenging Asians' racialization as a model minority and rebuking neoliberal capitalism through meaningful community work; a quantitative study of Detroit examined fiscal municipal policies in White suburbs in connection with life expectancy. All but one ETD named 'cultural' or 'traditional' factors. In the Discussion for several ETDs examining specific racial groups, culturally appropriate behavior change interventions were recommended. While this can be effective—as in the Diabetes Garage intervention for H/L men in El Paso—the core issue that becomes overlooked is why culture was devalued in the first place. This underscores the need to examine racialization as a historical antecedent and the equitable redistribution of resources as the response (Chowkwanyun, 2011; Hicken et al., 2018; C. P. Jones, 2018).

The harms of colonization were named in six ETDs while colonialism was omitted in four ETDs on populations outside of the United States. The study on definitions of health among Indigenous Kaqchikel Maya exemplified how to connect historical/ongoing oppression to

contemporary nutrition-related inequities. In contrast, in the study on diet quality among Mexican adults, corn tortillas were framed as a traditional food without naming centuries of Spanish colonization nor relatively recent neoliberal trade policies that worsened access to ancestral diets (Otero, 2011; Schram et al., 2018). The study on women's empowerment in Malawi emphasized gender inequality without considering the role of colonialism in shaping gender dynamics (Kamlongera & Katenga-Kaunda, 2023). Such global health studies reinforce the extractive practice of Western research in former colonies and the broader Global South (Bump & Aniebo, 2022; Rodney, 2016). The minimization of colonialism perpetuates "settler colonial erasure and racial capitalist exploitation" and should be disrupted through bidirectional decoloniality, an epistemological approach that "confronts Global North settler colonialism and racial injustice as forcefully as the various colonialisms perpetrated in the Global South" (Wispelwey et al., 2023).

Learning to Study Racism

This study demonstrated various levels of conceptual and analytical engagement with racism as a determinant of health, despite all student-authors attending accredited schools and programs of public health within the same five-year period after the revised competency. Racialized structures are embedded throughout society and must be dismantled to advance health equity. This emphasizes the need for scholars in public health to acknowledge the situatedness of knowledge and the various influences on knowledge production (Collins, 1986). This study engaged in critical discourse analysis to examine not only the contents of dissertations but their contexts, namely attributes of the student-author and institution.

The potential-exposure-to-racial-inequity type illustrates possible constraints between student-authors and their institutions. ETDs that name racism but do not operationalize racism suggest institutional contexts that may be receptive to the idea of racism as a determinant of health

but potentially lack the capacity to meaningfully engage students in anti-racist praxis. On the other hand, ETDs that operationalize racism without naming racism may indicate that the student-author possesses an understanding of racism as a determinant of health but may not be at liberty to explicitly name racism. Without input from the student-authors themselves, it is not possible to determine the specific barrier. However, extant literature points to underprepared professors or structures that censor racism research (Aqil et al., 2021; Margolis & Romero, 1998; Ward, 2022; Zambrana & Williams, 2022).

Because students matriculate into public health graduate school with various racial literacies, leaders in schools and programs of public health must do more to ensure students graduate with this foundational competency (Douglass Horsford, 2014). Developing students' race consciousness entails gaining knowledge about structural determinants of health as well as cultivating awareness of their own social locations (Alexander et al., 2020; Cross, 2018; Samarron Longorio et al., 2023). While some student-authors named their positionality in relation to the group of interest, this was not standard practice in the full-text sample, even within the 'exposure to racism' type. Notably, the three student-authors who most frequently named racism and operationalized racism included leading scholars of racism and health as dissertation committee members. Indeed, the responsibility for naming and operationalizing racism in public health should not rest solely on scholars of color (Aqil et al., 2021; Garbers et al., 2023; Ramirez-Valles et al., 2022).

However, the reality of public health's predominantly white faculty (Goodman et al., 2020; Ramirez-Valles et al., 2022) should prompt administrators to strengthen efforts to recruit and retain students and faculty who focus on racism (Gwayi-Chore et al., 2021; Ramirez et al., 2019; Taboada, 2011). Strategies for assessing our respective roles in disrupting whiteness in public

health are warranted (Alang et al., 2021; Cousins & Matias, 2023; Ford & Airhihenbuwa, 2018; Manalo-Pedro et al., 2023; Shaw-Ridley & Ridley, 2010). This may include actively redistributing institutional resources toward promoting anti-racist cultural processes in research, practice, and teaching (Manalo-Pedro & Allen, 2023; Manalo-Pedro et al., 2022, 2023).

Incorporating ethnic studies into public health curricula can enhance students' appreciation for history and motivation for transformative change (Chowkwanyun, 2011; Maglalang et al., 2021; Manalo-Pedro et al., 2022). Among the ETDs mentioning racism, one student-author stood out in the full-text sample as the only concurrent MPH/MA in Latin American Studies student at a minority-serving institution university. Nationally, few public health programs offer concurrent degrees with ethnic studies departments or focus on specific racial groups (see appendix Table 5-24). Five dual-degree MPH programs are listed on the ASPPH academic program finder: MA in Latin American Studies (N=4) and MA in Asian American Studies (N=1). Interdisciplinary learning opportunities may accelerate the development of innovative approaches for racial health equity.

Implications for Teaching, Practice, and Research

By disrupting white supremacist hegemony in academic public health (Heller, Fleming, et al., 2023; Petteway, 2022), this study offers valuable insights for public health teaching, practice, and research. By examining public health dissertations, I provide much needed empirical research about students' knowledge of racial health equity (Chandler et al., 2022). As a baseline indicator, my lexical search of keywords in abstracts found that theories of social inequality were infrequently applied to examine racial health disparities. Through my analysis of students' dissertations, I identified that various racism narratives continue to exist after CEPH introduced the competency to discuss racism. More than half of the dissertations I manually reviewed

analyzed racial data without naming racism or other structural determinants of health. This suggests the need for curricular change that directly enhances students competency to discuss racism and other structural determinants of health (Ruth et al., 2020; Samarron Longorio et al., 2023).

Analyzing the cultural process of knowledge production conceptually broadens the determinants of health inequities, expanding the focus on proximal individual behavior change toward critical action to transform institutions (Ford & Airhihenbuwa, 2018; C. P. Jones, 2018; Petteway, 2023). Rather than view education as only a tool for increasing patients' and community members' health literacy for health promotion and disease prevention, public health professionals should act on their responsibility to train public health graduate students to develop professional racial health literacy. Public health professionals serving local communities could offer this applied knowledge as field placement supervisors or as alumni mentors.

Knowledge production should be recognized as a determinant of health inequity, which should be intervened on and monitored periodically (Ford et al., 2021; Petteway, 2022, 2023). The racial health equity research agenda should include naturalistic observations of existing documents as evidence of cultural racism. Transparency can help to keep academic public health entities accountable for dismantling cultural racism (Alang et al., 2021; Garbers et al., 2023; Laughter & Hurst, 2022; Wildemuth, 2009).

Limitations and Future Directions

Although all published ETDs within the study timeframe were included in the abstract analysis, this dataset does not include graduate students who were not required to produce theses as part of their degree requirements. Additionally, by focusing on published dissertations, I excluded graduate students who did not complete their degree requirements. It is possible that

students had intended to conduct dissertation research that named or operationalized racism but did not complete their degrees. Social media analysis of hashtags (e.g., #phdlife, #academictwitter) and retweets of articles naming racism could be leveraged to assess the racial health equity knowledge of these excluded students.

Faculty committee members across institutions likely hold onto public health norms that minimize the role of racism in racial health disparities (Aqil et al., 2021; Bowleg, 2021; Goodman et al., 2020; Ramirez-Valles, 2021). Given the racist history of who has had access to graduate education in the U.S., broader academic culture has largely been driven by elite white men who benefit from dominant narratives that obscure structural racism (Margolis & Romero, 1998; Patton, 2016). Indeed, despite being actively discouraged early in their careers, few notable scholars have persevered in the field long enough to produce impactful research that unambiguously named racism as a determinant of health (Neighbors et al., 2022; Williams & Griffith, 2019; Zambrana & Williams, 2022). The extent to which contemporary students continue to navigate acts of silencing in public health remains to be investigated (Dotson, 2011). Because I used secondary data in this study, I was unable to hear student-authors' reasons for not naming racism. Future work could conduct interviews with alumni to center their perspectives on possible barriers to naming or operationalizing racism through public health training (García & Sharif, 2015; Gwayi-Chore et al., 2021; Margolis & Romero, 1998; Nguemini Tiako et al., 2022).

Building upon this study's focus on naming and operationalizing racism, future research could also analyze ETDs for the third component to the National Campaign Against Racism. Areas of collective action against racism include Communication and Dissemination, Education and Development, Global Matters, Liaison and Partnership, Organizational Excellence, Policy and Legislation, Science and Publications (C. P. Jones, 2018). Student-authors' dissertations could be

monitored to assess their adoption of recently published frameworks for anti-racist teaching (Manalo-Pedro et al., 2023; Samarron Longorio et al., 2023), research (Adkins-Jackson et al., 2022; Amani et al., 2022), and practice (Alang et al., 2021; Heller, Fleming, et al., 2023). Even if racial health equity agendas shift, research methods leveraging computational text analysis and critical discourse analysis can continue revealing patterns in racism narratives to inform public health praxis.

Conclusion

Critical analysis of public health theses and dissertations can illustrate how the rising generation of public health scholars are conceptualizing racial health equity. Naming and operationalizing racism are not yet the norm in public health dissertations. However, by building upon the seminal work of prior generations, integrating transdisciplinary frameworks that contextualize racialization, and critically challenging counterhegemonic narratives of erasure, rising scholars are expanding the field's capacity for critical racial health equity literacy (Chandler et al., 2022; Manalo-Pedro et al., 2023; Samarron Longorio et al., 2023).

Figures

Figure 3-1 *Inclusion/Exclusion Criteria from CEPH Dataset to Racial Health Equity Subset and Racial Health Equity Full-Text Sample*

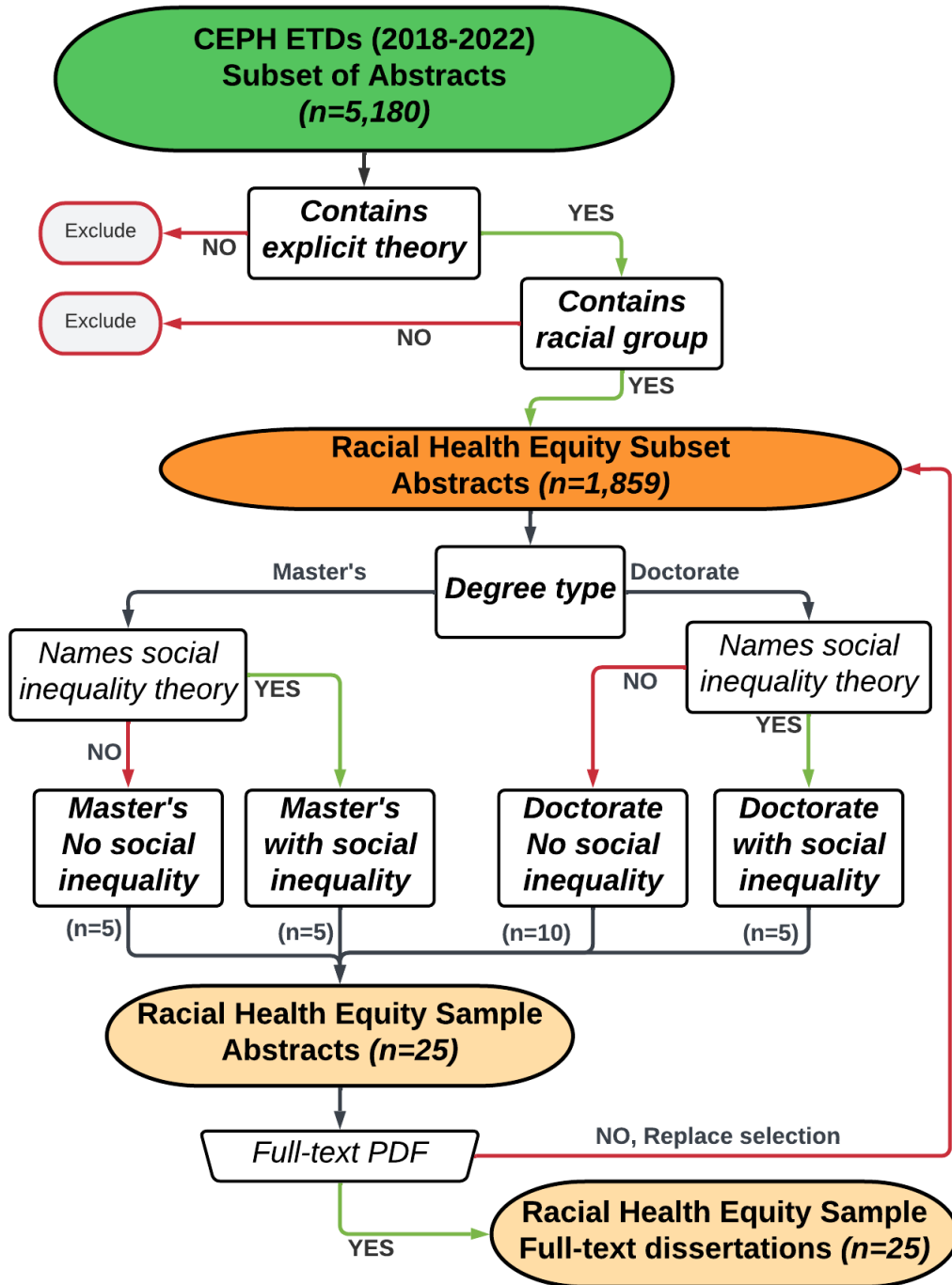


Figure 3-2 Multi-stage Analysis of Content and Context

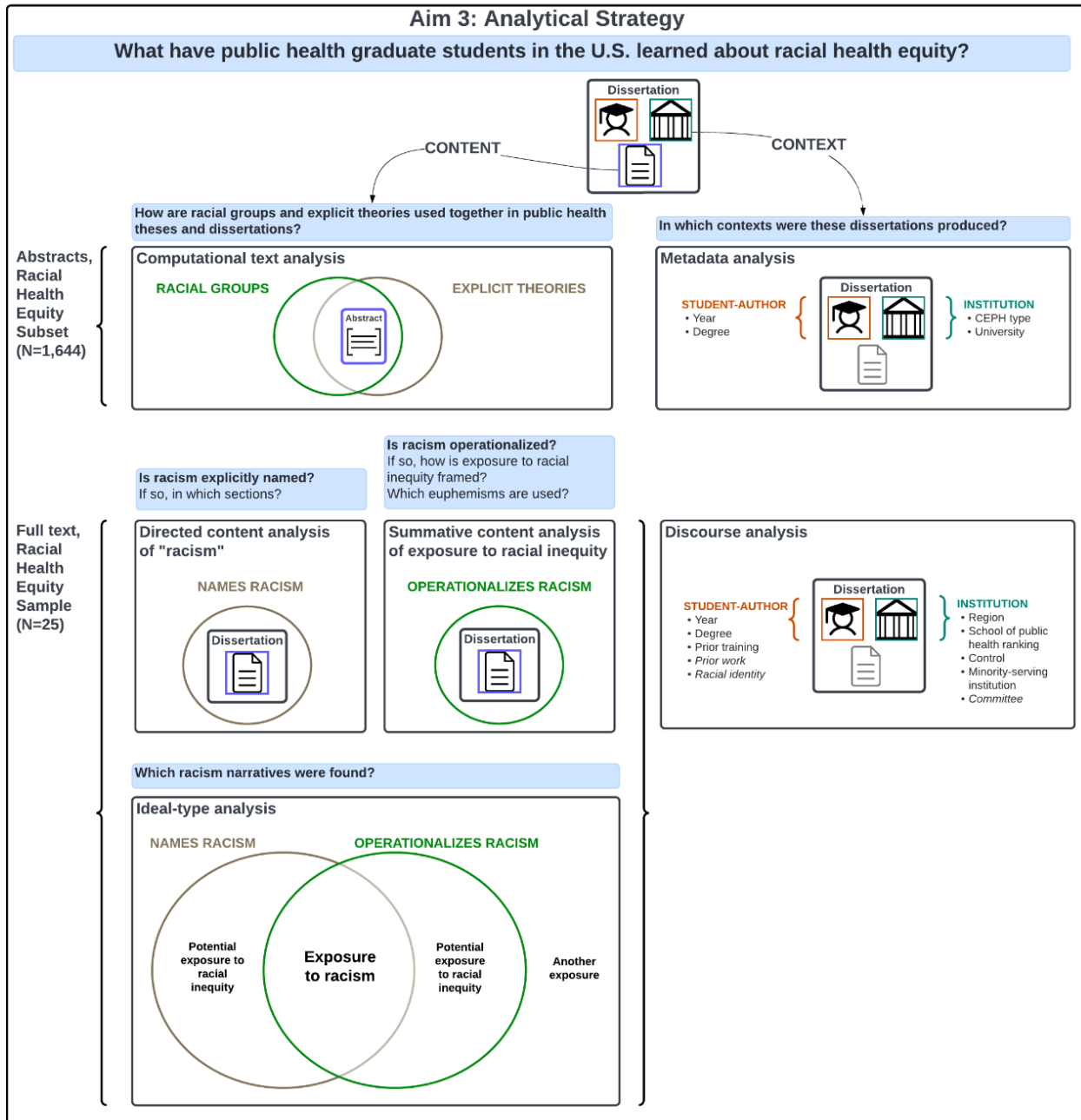


Figure 3-3 Comparison of 'Racism' Occurrences, Racial Health Equity Full-Text Sample

Documents	N	10	20	30	40	50	60	70	80	90	100
2054024738_Latinos'_Use_of_Mental_Health-	118										
2592287836_Race,_Property,_and_Population	79										
2462618072_Moving_Further_Upstream_to_Pro	38										
2623868679_Environmental_Racism_in_the_Ea	36										
2719337624_Associations_of_Structural_Rac	33										
2568280980_Adaptive_Resilience_of_Communi	22										
2650282409_Intersectional_Approach_to_Und	10										
2591344492_Barriers_to_Nutrition-Related_	3										
2647657262_Exploring_Promotoras_as_Influe	3										
2174557759_Formative_Evaluation_of_the_He	1										
2187138827_A_Taste_of_Freedom_The_Meanin	1										
Total	344	47	48	44	28	11	16	32	50	30	38

Note: the length of each document was standardized for comparison across documents.

Tables

Table 3-1 *Explicit Theory Terms Used in Abstracts Naming Black / African Americans (N=779)*

Explicit Theory Category	Abstracts with Black / African American Racial Groups		Word Counts	
	N	%	N	Top Terms
Behavior	465	60	1,684	behavior*, stress, attitude*, awareness, social_support, belief*, benefit*, intention*, lifestyle, self-efficacy
Biomedical	411	53	1,596	*disease*, diagnos*, infect*, *blood*, transmission, genetic*, inflammat*, *transmitted*, biolog*, bacteri*
Community	175	22	352	participat*, empower*, local, community_organiz*, relative_advantage, social_disadvantage, diffusion_of_innovations, diffusion, framing, social action
Social Ecology	493	63	1,832	education, community, neighborhood*, income, socioeconomic*, communities, psychosocial, ses, *poverty*, social determinants*
Social Inequality	204	26	710	stigma*, *discrimination, *inequ*, *_racism, racism, racializ*, allostatic_load, life_course, intersectionality, structural stigma
Any Theory	746			
No Theory	33			
Any Mention of Black/ African Americans	779			

Table 3-2 *Racial Groups Named in Abstracts Using Social Inequality (N=718)*

Racial Group Category	Abstracts with Social Inequality Theories		Word Counts	
	N	%	N	Top Terms
American Indian / Alaska Native	31	4	124	indigenous, ai_an/s, tribal, two-spirit, native_american*, diné, american_indian_alaska_native/s, tribe*, american_indian, ais
Asian	35	5	186	asian*, asian_american*, south_asian*, apida, cambodian, aapi, chinese, vietnamese, philippine, korean
Black / African American	204	28	867	black, african_american*, african, non-hispanic_black*, blacks, black-white, black_african_american*, nigerian, black_american*, ghanaian
Latinx	91	13	347	latin*, hispanic, mexican*, hispanic_latino, hispanics, colombian, venezuelan, spanish, peruvian, dominican
Middle Eastern / North African	3	0.4	12	arab_american*, arab, palestinian, jordanian
Native Hawaiian / Pacific Islander	11	1.5	68	apida, pacific_islander*, aapi*, micronesian, native_hawaiian, nhopi, native_hawaiians, māori, nhpi
Unspecified	255	36	828	race, racial, race_ethnicity, racial_ethnic, minority, ethnic, counterparts, ethnicity, women_of_color, racial_ethnic_group*
White	123	17	293	white, non-hispanic_w*, whites, black-white, european, white_american*, white_non-hispanic, french, danish, caucasian
Any Racial Group	403			
No Racial Groups	315			
Any Social Inequality	718			

Table 3-3 *Examples of Keywords Detected in Abstracts, Racial Health Equity Full-Text Sample*

Degree (Year)	University	Title	Keywords Detected in Abstract
DrPH (2020)	University of California, Berkeley	Moving Further Upstream to Promote Racial Equity: A Mixed Method Analysis of Private Nonprofit Hospital Community Benefit	inequities, racial, racialized
MPH (2018)	University of Texas at El Paso	Formative evaluation of the Health Belief Model as a valid theoretical framework for “The Diabetes Garage”	action, awareness, behavior, behaviors, benefits, disease, health_belief_model, hispanic_latino, participation
PhD (2019)	Walden University	The Impacts of Race, Residence, and Prenatal Care on Infant Mortality	awareness, black, blacks, hispanics, race, racial, whites
PhD (2018)	Walden University	Providers’ Treatment for Overweight Navy Members and the Effect on Motivating Lifestyle Changes	ethnicity, lifestyle, perception, social_capital, social_support

Table 3-4 *Racism Narrative Typologies by Group and Theory, Racial Health Equity Full-Text Sample (N=25)*

Type (N)	Names Racism	Operationalizes Racism	Group of Interest	Use of Theory
Exposure to racism (9)	Yes	Yes	Specific racial groups or comparison of racial groups	Exposure to harm explicitly connects to racism
Potential exposure to racial inequity (3)	Yes	No	Specific racial group or comparison of racial groups	Exposure to harm omits connection to racism
	No	Yes	Comparison of racial groups	Exposure to harm explicitly connects to race-related social inequality
Another exposure among people (13)	No	No	Specific racial group or comparison of people controlled for race	Exposure to harm omits connection to race-related social inequality

Table 3-5 *Study Characteristics of Racism Narrative Types*

Type	Justification	Study Design	Findings	Recommendations
Exposure to racism	Connects historical oppression to contemporary harm; Describes contemporary racialization and/or systems, structures, policies, laws, that shape differential access to resources	Conceptualizes focal relationship as a manifestation of unequal racial relations; Uses methods that uncover racist norms (e.g., public health critical race praxis, decolonizing methods)	Explains results as connected to racial hierarchy	Promotes race-conscious redistribution of resources; Encourages countering racialization by naming historical oppression
Potential exposure to racial inequity	Mentions poor health among racial groups; Frames the relevance of race without naming unequal power	Examines differences in health by racial group or health behaviors within racial group	Racism is mentioned in a string of determinants (e.g., culture, socioeconomic status)	Promotes individual behavior change, culturally relevant interventions
	Mentions historical roots of harm; Frames race-based inequity as the root of the exposure to harm	Examines systems, structures, policies, laws, differential access to resources;	Explains results in relation to racial hierarchy; demonstrates critique of oppression	Promotes redistribution of resources
Another exposure among people	Mentions poor health among racial groups; Frames the relevance of race without naming unequal power	Examines differences in health by racial group or health behaviors within racial group	Explains results from a strengths-based perspective; does not demonstrate critique of oppression	Promotes individual behavior change, culturally relevant interventions
	Mentions poor health among racial groups; Omits justification for including race	Examines differences in health while controlling for race; examines health of non-White people outside the U.S.	Difference in health by race not explained; demonstrates deficit-framing	Promotes individual behavior change or race-neutral policies

4 SYNTHESIS: COUNTERHEGEMONIC TRAINING FOR HEALTH EQUITY

“In the historical and ongoing role of racism to stratify peoples of disparate levels of well-being, there is little question about the existence of a color line; less clear is how to dismantle this line and its material effects, or even if dismantling the color line is part of the public imaginary when it comes to racism and racial justice. ... [T]he sources of injustice must be adequately named and theorized to then determine how to interrupt those injustices and build realities beyond.” (Patel & Price, 2016).

“If our field aspires to a future of antiracist practices and scholars/practitioners, it appears rather basic that we must appreciate what that means in regard to epistemic violence as manifest within various domains of our knowledge acquisition, production, and dissemination apparatus” (Petteway, 2023, p. 41).

The system of knowledge-making involves acquisition, production, and dissemination. While several articles in public health have noted the apartheid of knowledge dissemination (i.e., systemic literature reviews), few studies have assessed the transmission of knowledge to students (e.g., curricula) and the production of knowledge by students (e.g., dissertations). This dissertation begins to bridge these gaps by establishing baselines for what is taught and what is learned about racism through a multi-stage critical anti-racist discourse analysis of course syllabi and dissertations. I begin this final chapter by summarizing the aims, methods, and findings for each study. Next, I synthesize the overall takeaways from this dissertation. Then, I offer public health implications for assessing what is taught and what is learned. Lastly, I describe future directions for this research.

Summary of Dissertation Aims

Aim 1: Unequal Exposure to Race-Related Knowledge

To determine what has been taught about racial health equity in reaccredited schools of public health, I examined course syllabi intended to develop students' competence with discussing structural biases, social inequities, and racism as challenges to health equity. As a novel investigation into the disciplinary norms embedded in knowledge transmission, I leveraged

computational text analysis and manual content analysis to detect, quantify, and categorize keywords related to race, health equity, and racism in syllabi descriptions, objectives, and assigned content. I determined racial health equity conceptual coherence at the school and course levels by analyzing the cultural practice of assigning journal articles.

Twenty-two participating schools of public health sent 67 syllabi and/or reading lists for courses mapped to the CEPH criteria D1-10 (foundational knowledge of social, political, and economic determinants of health inequity) and/or D2-6 (foundational competency to discuss structural biases, social inequities, and racism as a challenge to health equity). How these courses addressed the intended criteria was not uniformly apparent. For example, assigned content on race was found in 55% of course syllabi, disparities content in 37%, and racism content in 37% (not mutually exclusive). While these percentages may arguably be better than nothing, they fall short of their intended purposes. Within the public health profession, it is expected that research and program objectives logically connect to their intended outcomes. As a hypothetical comparison, consider courses intended to train the public health workforce to control the spread of COVID-19; if assigned content on infectious disease transmission was found in just 55% of courses, their potential to effectively control COVID-19 would be limited. Similarly, courses mapped to developing Foundational Competency D2-6 should minimally mention the central concepts of race, health equity, and/or racism within its learning objectives and/or assigned content.

Thus, although ‘racism’ words were detected anywhere in the syllabi for 20 schools of public health, evidence of assigned content on race and racism were less frequent. Fifteen schools of public health assigned at least one journal article with title containing a racial group (across 30 core courses). Of the 124 race-related journal articles, more than half specified a racial group in the title (e.g., ‘Black lives’, ‘Arabic-named women’, ‘Diné activities’, ‘Mexican immigration’, or

‘Native Hawaiians and Pacific Islanders’). Journal articles on racism appeared in the syllabus of 14 schools of public health, covering less than a third of the courses (N=21). Overall, my attempt to trace the transmission of racial health equity concepts from learning objectives to assigned content revealed incongruent syllabi at the course level and different approaches between schools of public health.

Aim 1 revealed that institutional practices in schools of public health may stifle compliance with national policies designed to strengthen graduate students’ comprehension of racism as a determinant of health. Grounded in the notion that organizations do not need perpetrators to perpetuate racism (Bonilla-Silva, 1997; Harper, 2012; Ray, 2019), critical race approaches can elucidate routine activities in schools of public health that maintain not-knowing among students. The CRT in education concept of racial ignorance guided my investigation into noticing what is omitted. By considering racialized rules, I examined disciplinary norms, compliance, and cultural practices. My analysis of course syllabi revealed the importance of tracing competencies from CEPH to schools of public health to course syllabi to assigned readings; that is, course mapping alone may be insufficient for systematically fostering racism-related competencies. These findings warrant attention to cultural practices in public health graduate training as an area for cultural racism research. Drawing on Mills’ (1997) guidance to notice patterns of not-knowing, I assert that noticing patterns of omission in public health curricula can build critical racial health equity literacy.

Aim 2: Most Studies Avoid Naming Racial Groups

To classify what has been learned by students of public health, I examined abstracts from public health theses and dissertations published in the ProQuest Dissertations and Theses database (N=13,797). I searched for mentions of racial groups and explicit theories using computational

text analysis. I quantified keywords, documented relationships between concepts, and sought to characterize distinct text patterns through seeded topic modeling guided by word lists. The most frequent words in were ‘health’, ‘research’, and ‘data’; racial health equity terms were not among the top 100. Fewer than half of the abstracts contained both racial group and explicit theory terms (N=1,859); racial groups were omitted in nearly two-thirds of the abstracts (N=3,221). The most frequently named racial group was Black / African Americans (N=779; 15%). The least frequently mentioned racial groups were Native Hawaiians and Pacific Islanders (N=42; 0.8%) and Middle Easterners / North Africans (N=27; 0.5%). Socioecological (N=2,637; 50.9%), biomedical (N=2,625; 50.7%), and behavioral (N=2,567; 49.6%) theories were prominent; social inequality theories (N=718; 13.9%) were infrequently applied.

Abstracts naming more than one racial group category primarily focused on Black groups and race generically, followed by Black-white comparisons. Least connected to this central discussion were American Indians / Alaska Natives, Native Hawaiians / Pacific Islanders, and Middle Easterners / North Africans. Explicit theory categories were generally highly associated with words about health outcomes, public health services, or people; however, biomedical terms were not highly associated with people terms. Seeded topic models predicted higher scores for ‘true’ abstract topics approximately half of the time, suggesting that text patterns by racial group or explicit theory category were not distinctive at the abstract level. Computational text analysis methods easily automate the detection of racial groups and explicit theory terms yet struggle to classify abstracts into these categories.

Aim 2 revealed how few graduate students explicitly name racism in their abstracts. By considering racialized rules, I examined disciplinary norms and cultural practices in students’ theses and dissertations. The analysis of abstracts revealed the importance of considering students’

knowledge. The CRT of education concept of the apartheid of knowledge emphasized the importance of looking beyond silos. These results illustrate the need for racial health disparities scholarship to broaden beyond biomedical conceptualizations of disease and socio-ecological influences on individual behavior toward understanding how historical oppression structures contemporary distributions of embodied inequality (Y. A. Flores & Greenwood, 2023; Krieger, 2020; Narasimhan & Chandanabhumma, 2021). Such discussions of oppression should be framed relationally to acknowledge how racism benefits some groups at the expense of other groups and (Alang & Blackstock, 2023; Bruce G. Link & García, 2021). To be clear, however, acknowledging race relations does not necessitate comparison groups (Bediako & Griffith, 2008). Studies focused on a single racial group can still be contextualized in relation to whiteness (Michaels et al., 2023; Molina, 2011, 2018).

Aim 3: Few Students Name and Operationalize Racism

To contextualize what students of public health learn about racial health equity, I conducted manual content analysis to determine whether students named racism or operationalized racism in full-text dissertations. I used these dissertations to generate ideal-type analysis of racism narratives. Sampling the racial health equity subset for full-text dissertations provided rich examples of text for categorizing the ways that student-authors name and operationalize racism. There was clearly a spectrum of approaches: analyzing exposure to racism (N=9), potential exposure to racial inequity (N=3), and neither naming nor operationalizing racism (N=13). Ten of the studies articulated how structural biases, social inequities, or racism presented challenges to achieving health equity.

Aim 3 revealed the importance of narratives and context. Through a close reading of full-text dissertations, I found vastly different demonstrations of students' abilities to discuss racism.

Differences in health among racial groups were often presented as matter of fact. Student-authors typically cited prior indicators of poor health without deeply considering their historical antecedents. These studies often “controlled for race”, reflecting long-standing practices in epidemiological journals (C. P. Jones et al., 1991; Swilley-Martinez et al., 2023). Other ETDs left out discussions of racialization even when centering specific racial groups; this inadvertently perpetuates multicultural narratives which can reinforce deficit-framing and maintain colonial hegemony (Harper, 2012; Pelak, 2019; Tuck, 2009). Whether student-authors’ conclusions left statistically significant results by race unexplained or apolitically recommended culturally relevant interventions, the root causes of health inequity remained buried.

Encouragingly, nine ETDs aligned with recent calls to contextualize racial groups’ contemporary health inequities through transnational histories of colonialism, racial capitalism, and heterosexism (Y. A. Flores & Greenwood, 2023; Krieger, 2020; Narasimhan & Chandanabhumma, 2021). These student-authors articulated the connection between racialization and disproportionate exposure to harm (e.g., environmental pollution or forced sexual intercourse) or the lack of health-promoting resources (e.g., ancestral foodways or stable housing). In alignment with calls to measure systems of power (Braveman & Parker Dominguez, 2021; Heller, Fleming, et al., 2023), student-authors’ operationalization of structural determinants were followed by recommendations to redistribute resources more equitably through policy change and/or challenge dehumanizing, racist ideologies.

Synthesis of Dissertation Findings

Collectively, my dissertation demonstrated approaches for disrupting white supremacist hegemony in academic public health. I used computational text analysis and manual content analysis to reveal a spectrum of cultural practices regarding teaching and learning about race and

racism for public health. Critical analysis of content revealed whose health is studied and which theories are used to frame public health concerns. Further, by examining the contexts in which teaching and learning take place, this critical anti-racist discourse analysis of syllabi and theses underscored the importance of noticing institutional and student factors.

Through my dissertation research, I found evidence of various institutional approaches to fulfilling the Foundational Competency to discuss racism. In Aim 1, 55% of course syllabi assigned content on race and 37% on racism. Less than a third of course syllabi coherently connected the CEPH competency to course descriptions, learning objectives, and assigned journal articles. On the other end, my analysis of students' abstracts indicated that fewer than half (N=1,859; 35.9%) concurrently mentioned racial groups with explicit theories (Aim 2). Social inequality theories were found in 13.9% of the abstracts (Aim 2); when narrowed to abstracts with both racial groups and social inequality theories, that percentage dropped to 7.8% (Aim 3). While not every course in a school of public health is expected to facilitate discussions on racism nor is every student expected to conduct research on racial groups, schools of public health should minimally be held accountable to adhering to their avowed responsibilities. The apartheid of knowledge in public health must be disrupted to meet the profession's goals of optimal health for all.

Critical race methodologies offer tools for noticing the cultural processes which shape what is taught and learned in academic public health. Disciplinary self-critique—via transparent institutions and reflexive students—can inform pathways toward more precise public health research. Disrupting the apartheid of knowledge in public health teaching can prepare students to develop more critical and comprehensive ways of understanding racism as a determinant of health. Transforming the everyday cultural practices in schools of public health that currently maintain

white supremacist hegemony may lead to a better prepared public health workforce equipped to advance the shared goal of health equity.

Implications of the Dissertation

Overall, the knowledge produced through this three-paper dissertation can inform research, teaching, and practice approaches for racial health equity. This dissertation demonstrated the need to examine both content and context of existing documents to ascertain how racialized rules manifest through cultural processes. The contents of everyday documents offer evidence of cultural processes that affect what is perceived as normal. Syllabi and theses revealed disciplinary norms, compliance with policies, cultural practices, and racism narratives. Schools of public health as a collective entity must do more to advance students' comprehension of racial health equity.

Context shapes knowledge. All knowledge is situated (Haraway, 1988). Educators and researchers in public health should recognize the epistemic privilege that students and scholars of color possess. That said, white accomplices and others with privilege bear the responsibility to acknowledge their social advantages and apply them toward improving public health. **Student-authors** are not empty vessels. Rather, they matriculate into public health graduate programs with career goals; motivation to improve health; their own/familial/community experiences with health and harm; and worldviews shaped by the places they have lived, studied, and worked. **Schools of public health** are located within higher education institutions with various racial campus climates, local histories, and contemporary relationships with surrounding communities. Schools of public health also possess their own histories of converging and diverging interests with their universities, students, faculty, and surrounding community members. The **profession of public health** continues to evolve, particularly after the launch of the National Campaign Against Racism in 2015, the introduction of the CEPH competency in 2016, the coronavirus pandemic in 2020,

declarations of racism as a public health issue in 2021, the loss of COVID-19 safety precautions in 2022, and ongoing dissonance framing of the unprecedented, indiscriminate loss of life in Gaza that accelerated in October 2023. **These dynamic, multilevel factors should be considered when addressing what is taught and learned about racism as a determinant of health to produce knowledge for liberation.**

Assessing and Expanding What is Taught

Uncovering how racialized rules maintain structural racism through cultural racism is imperative for tackling the oppressive systems that disproportionately burden communities of color with preventable diseases and premature death. This dissertation underscores the importance of assessing and expanding what is taught in schools of public health. Several teaching implications for educators, students, and community members are listed in Table 4-3 and described in further detail below.

This dissertation revealed unequal exposure to race-related knowledge in schools of public health. All syllabi analyzed in Aim 1 were purported to address social, political, and economic determinants of health as foundational knowledge and/or develop students' competence to discuss racism. However, of the 22 schools of public health represented, only 14 schools of public health explicitly assigned at least one journal article on racism, discrimination, and/or white supremacy and 15 schools of public health assigned at least one journal article naming a racial group. Relatedly, explicit learning objectives on race or racism were rare.

In contrast with prior research on public health curricula that were limited to social and behavioral science departments (Harvey & McGladrey, 2019; Komro et al., 2018; Westbrook & Harvey, 2022), this dissertation examined syllabi across multiple departments in schools of public health. Similarly, administrators within schools of public health should comprehensively evaluate

how opportunities to be exposed to critical theories on social inequality are structured for students within each department and across the school (Garbers et al., 2023; Hagopian et al., 2018; Samarron Longorio et al., 2023; Seiler et al., 2022). Indeed, understanding the role of racism is pertinent to each public health function. Relatedly, to prepare a collaborative public health workforce, deans, department chairs, and other program leaders should consider whether their graduate programs cohesively facilitate students' ongoing comprehension of race and racism.

This dissertation implores leaders with influence at the national level of academic public health to support critical approaches to investigating the effectiveness of teaching disciplinary priorities. Beyond issuing statements as professional associations and setting foundational competencies, data science and critical theory offer tools for monitoring the adoption of anti-racist public health praxis by reviewing alignment with competencies in course syllabi or reviewing students' theses. Improving critical racial health equity literacies is integral to changing the public health outcomes central to our discipline. Continuous assessment of how these racism narratives evolve in schools of public health can offer insight into the meso-level mechanisms that yield critical consciousness. While staying cognizant of the potential misuse of surveillance, we must build tools to ascertain how courses exclude extant literature that would meet foundational competencies. Machine learning tools can expediently handle the scale of analyzing everyday documents from schools of public health more frequently than eight-year reaccreditation cycles.

As educators, course instructors should acknowledge their role in the legitimization of knowledge about health equity (Samarron Longorio et al., 2023). Regardless of whether instructors of core courses rotate between terms (and thus have less ownership on curricular decisions), they carry the responsibility for providing public health trainees with foundational knowledge for assuring the public's health (Alang et al., 2021). As such, instructors must consider whether their

syllabi provide students with exposure to current public health knowledge on the fundamental causes of health outcomes and contemporary discourse critiquing social oppression as structural determinants of health. Although students matriculate into graduate school with different backgrounds, instructors should accommodate varying degrees of race consciousness (Chávez-Moreno, 2022a; Douglass Horsford, 2014). Multiple syllabi reviewed in Aim 1 included optional readings for advanced concepts.

Realistically, many instructors feel ill-equipped to discuss racism in their classrooms (Aqil et al., 2021). Whether due to their own epistemological socialization as people racialized as white, inadequate resources during their prior graduate training, pushback from students uninterested in disparities, and/or insufficient investment for continuing education at their current institutions, acknowledging ignorance on racism as a determinant of health should not be viewed as a personal failing, but as a function of white supremacist society (Alang et al., 2021; Petteway, 2022). Numerous materials have been developed to address this knowledge gap during the recent movement in public health toward explicitly addressing structural racism. Of note, in 2019, APHA Press published *Racism: Science & Tools for the Public Health Professional*, which offers a wealth of knowledge. Public health journals, including *Health Affairs*, *Pedagogy in Health Promotion*, and *Health Education & Behavior*, have published special issues on racism and health. The comprehensive reading list produced in Aim 1 can offer additional references.

Entities such as ASPPH could coordinate stakeholders to centralize a syllabus repository to ensure transparency and uphold accountability to health justice. Although the enforcement of competencies ultimately falls on instructors, school administrators, and the accrediting body, a publicly available repository of syllabi could be instrumental for aligning the public health training and advancing health equity. At a minimum, such a tool could introduce alternative readings to

new and seasoned instructors alike. Prospective graduate students could leverage syllabi to make informed decisions about the extent to which schools enact their espoused values through curricula (Y. A. Flores & Greenwood, 2023). Additionally, as an extension of the continued fight for ethnic studies, this level of transparency could mobilize community members to advocate for the inclusion of their perspectives in what is taught to the public health trainees responsible for assuring their health (Maglalang et al., 2021; Solórzano & Delgado Bernal, 2001).

Assessing and Contextualizing What is Learned

As academic public health evolves, systematically investigating what public health students learn remains a missing component of health equity research (Chandler et al., 2022). The rapid growth of public health programs (Goodman et al., 2020), continued reluctance to name racism as a determinant of health (Zambrana & Williams, 2022), and misguided ‘health equity tourists’ (Lett, Adekunle, et al., 2022) foreshadow the increasing difficulty to assess the effectiveness of training for addressing health inequities.

Although the ability to discuss racism is arguably the bare minimum needed to advance health equity (Y. A. Flores & Greenwood, 2023), this investigation did not yield compelling evidence that the CEPH competency has been broadly acquired by students. Computational text analyses from Aims 2 and 3 revealed that 62% of students’ abstracts did not mention any racial group and just 8% of students’ abstracts addressed social inequality among racial groups. Further, manual content analysis of the full-text sample in Aim 3 demonstrated several missed opportunities for discussing racism as a barrier to health equity. Indeed, nine of the 25 ETDs reviewed named and operationalized racism. Across these studies, I found that the policy as written has yet to meaningfully shift the culture of academic public health toward standardizing anti-racist knowledge transmission nor facilitating anti-racist knowledge production. The competency has

“intentionally or not, consciously or not, worked to protect white material investment in racism by not naming that investment” (Patel & Price, 2016, pp. 68–69).

The extent to which computational text analysis can reliably return pertinent keyword search results currently depends on relevant word lists. Future work could focus on enhancing the dictionaries; because word lists are dynamic, the dictionaries guiding this study can easily be amended. However, the difficulty lies in the process for agreeing on pertinent concepts, particularly in a field that continues to wrestle with disciplinary norms (Krieger, 2014). This presents an opportunity for research to investigate the balance between foundational disciplinary knowledge, novel insights, and community priorities. Among several scientific benefits of adopting public health critical race praxis as a methodology is a shared lexicon for defining racialized groups and measuring exposures to racism more precisely (Ford & Airhihenbuwa, 2018). Recent efforts to adopt anti-racist terminology can be leveraged to counter the deficit narratives that have been normalized in public health literature (American Medical Association & Association of American Medical Colleges, 2021; National Association of County & City Health Officials, 2018; Samarron Longorio et al., 2023). As public health moves toward deliberate anti-oppressive language in academic journals (Boyd et al., 2020), so should public health graduate training.

What is learned by students has been an overlooked piece of the puzzle (Le et al., 2023; McSorley et al., 2021). In part due to the ‘banking method’ often employed in public health education and other STEM-dominant fields (Chávez et al., 2006) and pervasive negative racial campus climates (Gwayi-Chore et al., 2021), students’ voices are often devalued or silenced in the classroom (Petteway, 2023). Beyond diversifying the demographic composition of schools of public health as a matter of educational equity and social mobility, students of color must also be

recognized for their potential to uniquely advance health equity through their epistemic privilege, embodied knowledge, and cultural intuition (Bowleg, 2017; Hooks, 1990; Petteway, 2023; Sweet, 2020). Centering students' experiences may strengthen their reflexivity, shifting public health culture toward recognizing multiple knowledges (Delgado Bernal, 1998; Samarron Longorio et al., 2023; Yosso, 2005).

Student-authors' opportunities to produce knowledge on racism should also be contextualized. Opportunities for knowledge production have been stratified, historically and presently, to maintain whiteness (C. I. Harris, 1993; Jayakumar & Page, 2021; Manalo-Pedro & Allen, 2023; Posselt & Grodsky, 2017). Additionally, decision makers' biases influence who is seen as meriting opportunities and whose knowledge is deemed as legitimate (Posselt, 2018; Yosso, 2005). Elite universities typically carry weight in academia, yet students of color are less likely to attend these institutions for undergraduate and graduate training (Allen et al., 2018; Fernandez, 2020; Solórzano, 1995).

Rather, access may play a stronger role (Acevedo-Gil, 2017). In Aim 3, the full-text dissertations with the highest racism word counts were produced at top schools of public health; the fifth one, however, was produced in a program of public health from a public minority-serving institution. This underscores the need to expand access to opportunities for knowledge production for health equity beyond elite institutions (Chandanabhumma et al., 2020; Ramirez et al., 2019; Rodríguez, 2012).

Notably, in Aim 2, the public health program that produced the most dissertations and theses was the for-profit, online institution, Walden University (N=675; 13%). In Aim 3, Walden was the top producer of ETDs in the racial health equity subset (N=345; 19%), the second producer of ETDs naming social inequality and racial groups (N=42; 10%), and the top producer of ETDs

naming racism (N=30; 15%). Walden ETDs comprised 20% of the full-text sample; of these five ETDs, I classified one in the exposure-to-racism type and two in the potential-exposure-to-racial-inequity type. While Walden has a record of predatory behavior among students of color, it should be noted that these data points demonstrate that students want to produce knowledge on racial health inequity. The extent to which schools of public health are cognizant of barriers to entry is not clear (Manalo-Pedro & Allen, 2023; Ramirez-Valles et al., 2022). Notably, schools of public health have begun to offer online options for degrees, non-degree certificates, and continuing education courses.

Future Directions for Critical Racial Health Equity Literacy

The chasm between public health's espoused values for racial health equity and the reality of entrenched racial health inequities is palpable. Numerous questions about public health graduate training abound, rendering racial health equity an elusive goal. As educators for public health, what are we working toward? Do we agree on what to work toward? Is the issue a disconnect between what is taught and what is learned? Do students comprehend the barriers but lack resources for execution? Are there other barriers we are unaware of? Are we asking the right questions?

By establishing baselines for what is taught and what is learned about racism, this dissertation begins to construct one of many bridges needed to connect these unknowns through critical, transdisciplinary collaboration. Disciplinary self-critique can serve as an underlying driver for continuous improvement. Of the many places to address racism as a determinant of health, we, as public health researchers and educators, must take more frequent looks in the mirror. This dissertation advances anti-racist public health praxis by highlighting knowledge transmission and knowledge production for cultivating critical racial health equity literacy among graduate students in public health. Future directions for this research should generate new insights on

counterhegemonic teaching for social justice and improved measurement of everyday cultural practices as exposure to racism.

Toward Measuring the Normalcy of Racism as Exposure to Harm

Critical race lenses do not view racism as aberrant incidents but normalized activities of everyday life (Ford & Airhihenbuwa, 2018; Michaels et al., 2023). Building upon measures of everyday discrimination at the interpersonal level, racial health equity researchers should develop methods and instruments to measure everyday cultural racism in institutions (Adkins-Jackson et al., 2021; Ray, 2019). How do schools maintain a non-knowing about racism? Conversely, how do schools build students' critical consciousness? Fundamentally, this area of scholarship could grow by leveraging transdisciplinary theories of racism (Chávez-Moreno, 2023; Molina, 2018), analyzing a variety of data sources (Adkins-Jackson et al., 2022; Laughter et al., 2021), and applying novel methods toward imagining new strategies for meaningfully advancing racial health equity (Thomas et al., 2011).

Building this area of research requires expanding beyond disease-specific public health studies to interrogate the cultural processes in school settings. Public health interventions have been stifled for too long by the narrow focus on individual level behavioral theory (Becker, 1986; Golden & Earp, 2012; Manalo-Pedro et al., 2023). Public health researchers have spent decades researching school curricula for the effectiveness of health education on the adoption of healthy behaviors (e.g., nutrition, physical education, sexual health education). Rather than preventing obesity or promoting consensual sex, however, I propose that the health intervention for minimizing exposure to harm be reframed as critical consciousness development to eradicate the norms of racism.

To elaborate, the root of racial health inequities is white supremacy (Alang et al., 2021; Braveman & Parker Dominguez, 2021). Current distributions of power that facilitate access to health-promoting resources and protection from health-harming exposures are propped up by narratives that render groups without whiteness as inferior and undeserving (C. P. Jones, 2018; Molina, 2018). Whiteness maintains its power by asserting its normalcy (C. I. Harris, 1993; Michaels et al., 2023; Mills, 1997). Thus, the ubiquitous hegemony of white supremacist rationale may be combatted by strengthening individuals' capacity to notice and negate racialized norms (Alang & Blackstock, 2023; Chávez-Moreno, 2022b; Molina, 2018). Increasing the frequency, potency, and reach of community interventions that contest the normalcy of whiteness may develop protection against racist ideologies over time. As herd immunity accumulates, community members can organize and strategize to further destabilize whiteness by spreading critiques of oppression and motivating action toward social justice (C. P. Jones, 2018; Solórzano & Delgado Bernal, 2001). This area of research could build from extant literature on critical consciousness for positive youth development, the mental health benefits of ethnic studies, and using microaffirmations to combat microaggressions (Chapman-Hilliard & Beasley, 2018; Halagao, 2010; Maker Castro et al., 2022; Pérez Huber et al., 2021; Pérez Huber & Solórzano, 2015; Suyemoto & Liu, 2018; Utt, 2018; Valenzuela & Epstein, 2023; Wiggins & Pérez, 2017; Wilf et al., 2023).

Relatedly, I echo public health scholars' calls to notice latent and manifest expressions of power (Gee & Hicken, 2021; Heller, Little, et al., 2023; Michaels et al., 2023). As the racism typologies from Aim 3 revealed, more contextualized justifications for studying racialized groups and more precise measurements of racism are needed. Tracing contemporary health outcomes to sociohistorical structures of oppression can be met by rupturing academic barriers (Cross, 2018;

Dyer et al., 2023; García & Sharif, 2015; Hagopian et al., 2018; McSorley et al., 2021; Rosario et al., 2022; Sabado-Liwag et al., 2022; Swope et al., 2022; Walters et al., 2011). To what extent do we operationalize genocide, imperialism, or colonialism and to what extent do we teach survivance, anti-imperialism, anti-colonialism (Chandanabhumma & Narasimhan, 2020; Petteway, 2022; Sabado-Liwag et al., 2022; Tuck et al., 2014; Walters et al., 2011)?

In this dissertation, I examined mundane documents produced within schools of public health as existing evidence of institutional culture. Although document analysis has been used in public health research, such as health policy and health information, few studies have examined ordinary documents to explore the culture of academic public health (Harvey & McGladrey, 2019; Merino, 2019; Westbrook & Harvey, 2022). By minimizing reliance on respondents' recollections and interpretations of their experiences, treating existing documents as data allows for nonreactive research (Wildemuth, 2009).

This time also calls for a move toward diversifying methods in public health research beyond regression analysis. Novel data science approaches for assessing cultural racism and health are emerging (Bradford et al., 2022; Criss et al., 2023; Hswen et al., 2021; T. T. Nguyen et al., 2023). This dissertation serves as one of the first applications of NLP toward examining public health syllabi. Computational text analysis of public health curricula represents a nascent field, ripe for detecting biases in text. Given the institutional contexts in Aim 3, future assessments of public health curricula could also examine how place shapes discourse. For example, a recent study of contemporary textbooks used in California and Texas found that the narratives were largely similar, despite the historical and political differences between these states (Skinner & Bromley, 2023). Beyond integrating critical race discourse analysis and computational text analysis, public health research on cultural racism could also broaden to incorporate composite counterstorytelling

and unusual case studies (E. Chen et al., 2023; Manalo-Pedro & Allen, 2023; Manalo-Pedro et al., 2022; Solórzano & Yosso, 2001)

Toward Counterhegemonic Knowledge Sharing for Social Justice

A cultural transformation is needed in schools of public health to promote and sustain anti-racist training. A growing consciousness of inequity has yielded a research agenda for disciplinary self-critique (Alang et al., 2021; Bowleg, 2021; E. Chen et al., 2023). Evaluating public health curricula is one branch of that work (Garbers et al., 2023; Perez et al., 2021; Samarron Longorio et al., 2023; Seiler et al., 2022). This nascent area of public health scholarship could benefit from insights from critical curriculum studies (Apple, 2019; Au, 2011; Cadena, 2023; Chávez-Moreno, 2022a; Yosso, 2002).

The CRT of education concept of cultural intuition acknowledges the various ways one can know. With respect to race and racism, these results illustrate the need to contextualize extant literature. Because schools are sites for reproduction, we must learn to pay attention to genealogy of ideas and terms (Patel & Price, 2016). How do we gain a better understanding of the barriers to health equity? Rejecting the heteropatriarchal white supremacist notion of “race-neutral” objectivity (Sabzalian, 2018) may help us shift toward student reflexivity and institutional transparency.

Critically contextualizing knowledge and building collaborative networks for health equity will take reflexivity. Reflexivity requires us to acknowledge our respective roles and responsibilities, the historical conditions that structured access to our current professions, and our commitment to nourishing life (Lorde, 1984). Data does not speak for itself. Rather, we interpret data through the narratives embedded in society (National Association of County & City Health Officials, 2018).

Mindful of the racial battle fatigue among racism scholars (Bowleg, 2021; Palomar et al., 2022; Smith et al., 2011), efforts to sustain a research agenda on cultural racism will likely hinge on the development of multigenerational collaborative networks (Pasick et al., 2012; Solórzano et al., 2020). Contrary to dominant approaches in academia that promote competition, prioritize individual success, and undervalue certain knowledges, schools of public health must be transformed to humanize graduate students as possessors of and co-producers of legitimate knowledge (Chávez et al., 2006; Petteway, 2022; Samarron Longorio et al., 2023; Solorzano, 2023; Yosso, 2005). Because racism evolves over time, producing knowledge for liberation requires a systematic approach for routinely evaluating gaps between students' training and the knowledge needed as professional alumni (Perez et al., 2021; Sherrer & Prelip, 2019). Alumni offer a valuable connection for schools of public health, beyond fundraising and development efforts. Building and sustaining relationships with alumni can begin with valuing their knowledge when they are students in the classroom (Pasick et al., 2012; Petteway, 2023; Solorzano, 2023).

As has been urged for several decades, public health must shift from merely documenting differences in health toward organizing to change the inequities at the root of these differences (Thomas et al., 2011). Beyond teaching basics concepts, schools of public health should cultivate students' motivations for social justice and connect students to collaborative networks for tackling the complexities of racism (Y. A. Flores & Greenwood, 2023; Hannegan-Martinez et al., 2022; Heller, Little, et al., 2023; Manalo-Pedro et al., 2022). By finding out what brought students to the field of public health, schools of public health can harness those interests toward advancing health justice (Sherrer & Prelip, 2019; Yancey et al., 2006).

Determining the minimum foundational competencies for the vast field of public health will likely continue to be a challenging arena (Hagopian et al., 2018). The ultimate purpose of

education is to affect society. How will we know when we have sufficiently educated the rising generation of public health leaders? Reduction of disparities? Eradication of disparities? Meeting Healthy People 2030 goals? Minimizing state-sanctioned premature death? Planetary health? Competency-based public health education is a global challenge (Coombe et al., 2020; Evashwick et al., 2020; Harrison et al., 2015; Jaenecke et al., 2023). Alignment, buy-in, and clarity are all needed (Arafah, 2016; Hordern, 2015; Kulasegaram et al., 2018). The fidelity of the adoption of competencies may be monitored through improving transparency across schools of public health and appreciating the local contexts surrounding the implementation of curricula (Binder, 2000; Fox et al., 2023; Lam & Tsui, 2016).

Public health professionals must decide whether to perpetuate or disrupt mainstream narratives that perpetuate racial inequities (Shaw-Ridley & Ridley, 2010). Whether schools of public health will provide the environmental conditions and accessible resources for graduate students to make educated choices for changing cultural practices remains to be seen.

Tables

Table 4-1 *Summary of Dissertation Aims and Key Findings*

Aim	Key Findings
Aim 1: What is taught?	<p>Conceptual incoherence of racial health equity content in syllabi</p> <p>Schools of public health represented (N=22)</p> <ul style="list-style-type: none"> • Assigned 1 or more journal article(s) on a racial group: 15 • Assigned 1 or more journal article(s) on racism: 14 <p>Course syllabi mapped to CEPH FK D1-10 and/or FC D2-6 (N=67)</p> <ul style="list-style-type: none"> • Assigned content on race: 55% • Assigned content on disparities: 37% • Assigned content on racism: 37%
Aim 2: What is learned?	<p>Racial groups infrequently named in abstracts</p> <p>Abstracts for theses and dissertations by public health students (N=5180)</p> <ul style="list-style-type: none"> • 35.9% named a racial group and applied any theory • 13.9% applied social inequality theories <p>Abstracts on racial groups (N=1959)</p> <ul style="list-style-type: none"> • Generic terms most frequently used • Black / African American most frequently named • Primary focus on Black-white disparities • American Indian / Alaska Native, Native Hawaiian / Pacific Islander, Middle Easterner / North African racial groups primarily disconnected from central discussion
Aim 3: What is learned about racism?	<p>Various practices for naming and operationalizing racism in dissertations</p> <p>Racism narrative typologies (N=25)</p> <ul style="list-style-type: none"> • Exposure to racism (N=9) • Potential exposure to racial inequity (N=3) • Another exposure among people (N=13) <p>Characteristics of dissertations with highest racism word counts</p> <ul style="list-style-type: none"> • Public higher education institutions in the West/Midwest • 3 doctoral dissertations with leading racism scholars as committee members • 1 master's thesis from a dual-degree ethnic studies program at a minority-serving institution • 1 master's thesis from a school of public health that has published multiple articles about addressing racism on campus

Table 4-2 *Research Implications: Applying Critical Race Methodology for Producing Knowledge on Racial Health Equity*

Domain	Research Implications
Theoretical Framework	Conceptualizing social inequality through multidisciplinary lenses
Populations of Interest	Justifying the inclusion of racial groups
Data	Examining existing documents as data
Measurement	Operationalizing racism as an exposure
Methods	Embracing alternative methods (e.g., critical race methodologies, computational text analysis) that uncover what is less readily apparent

Table 4-3 *Teaching Implications: Transmitting Knowledge for Critical Racial Health Equity Literacy*

Audience	Teaching Implications
For instructors	Acknowledge responsibility for developing competent graduates Use aggregated journal articles from Paper 1 as resource for teaching Assess for indicators of race consciousness, structural competency View students as knowers
For school administrators	Discuss the centrality of racial health equity to the mission of public health Assess students' critical racial health equity literacy Develop school-wide strategies to strengthen anti-racist capacity for faculty and students
For public health education organizations	Develop tools to monitor critical racial health equity literacy Facilitate peer-to-peer resource sharing for anti-racist teaching Support schools with resources for organizational culture change
For students	Seek knowledge beyond the course syllabus View students' dissertations as alternatives to published articles Review students' dissertations to inform program choice
For communities	Incorporate opportunities for local accountability to community concerns

Table 4-4 *Practice Implications: Taking Action to Advance Racial Health Equity*

Level	Practice Implications
Within public health	Disciplinary self-critique
	Organizing and strategizing to dismantle racism
	Attention to racialized rules
	Disrupting the apartheid of knowledge
	Monitoring racial health equity literacy
Public health interventions	Naming racism as a public health crisis
	Organizing and strategizing to dismantle racism
	Targeting areas of cultural racism and structural racism

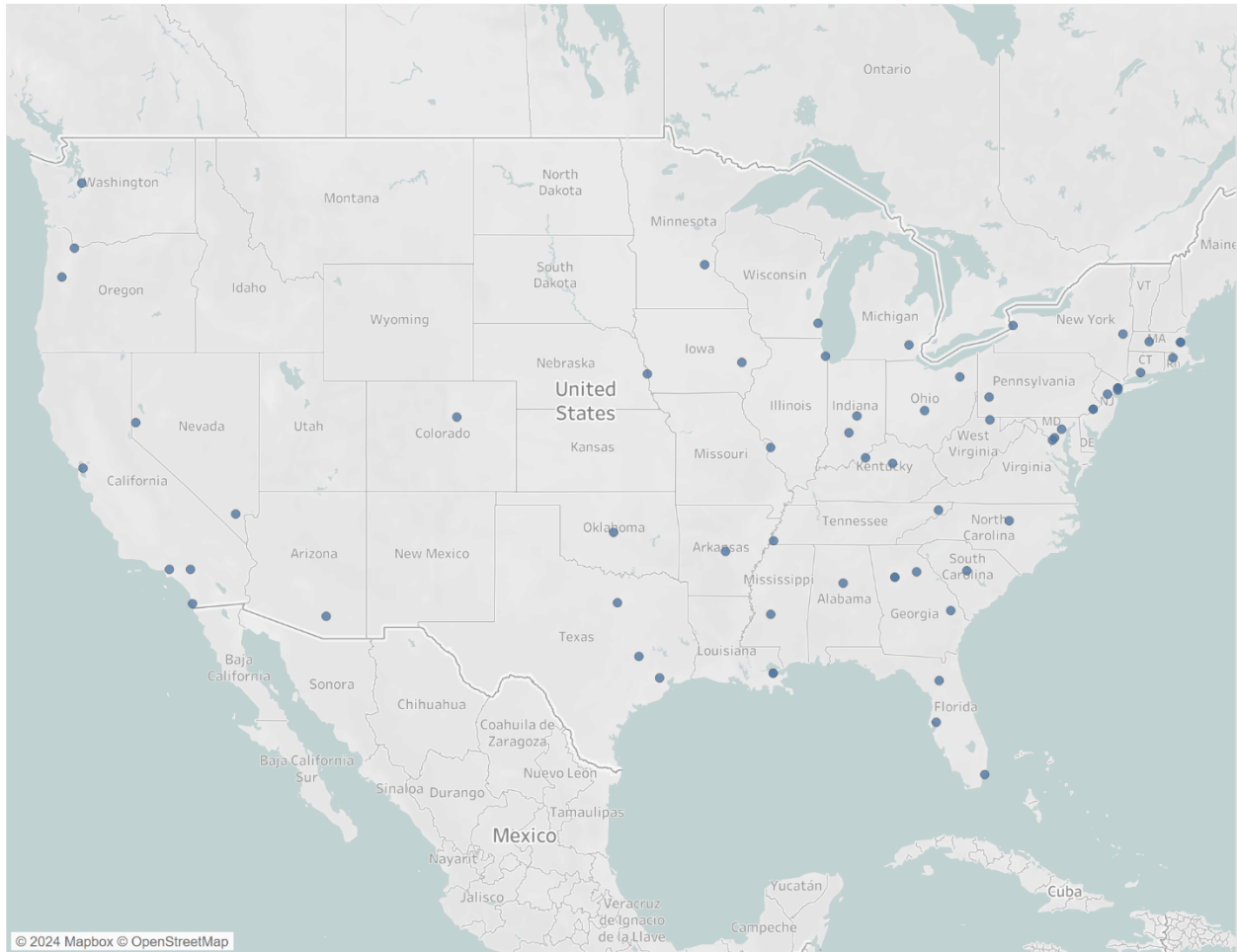
5 APPENDICES

A. Paper 1 Supplemental Tables and Figures

Maps of Schools of Public Health

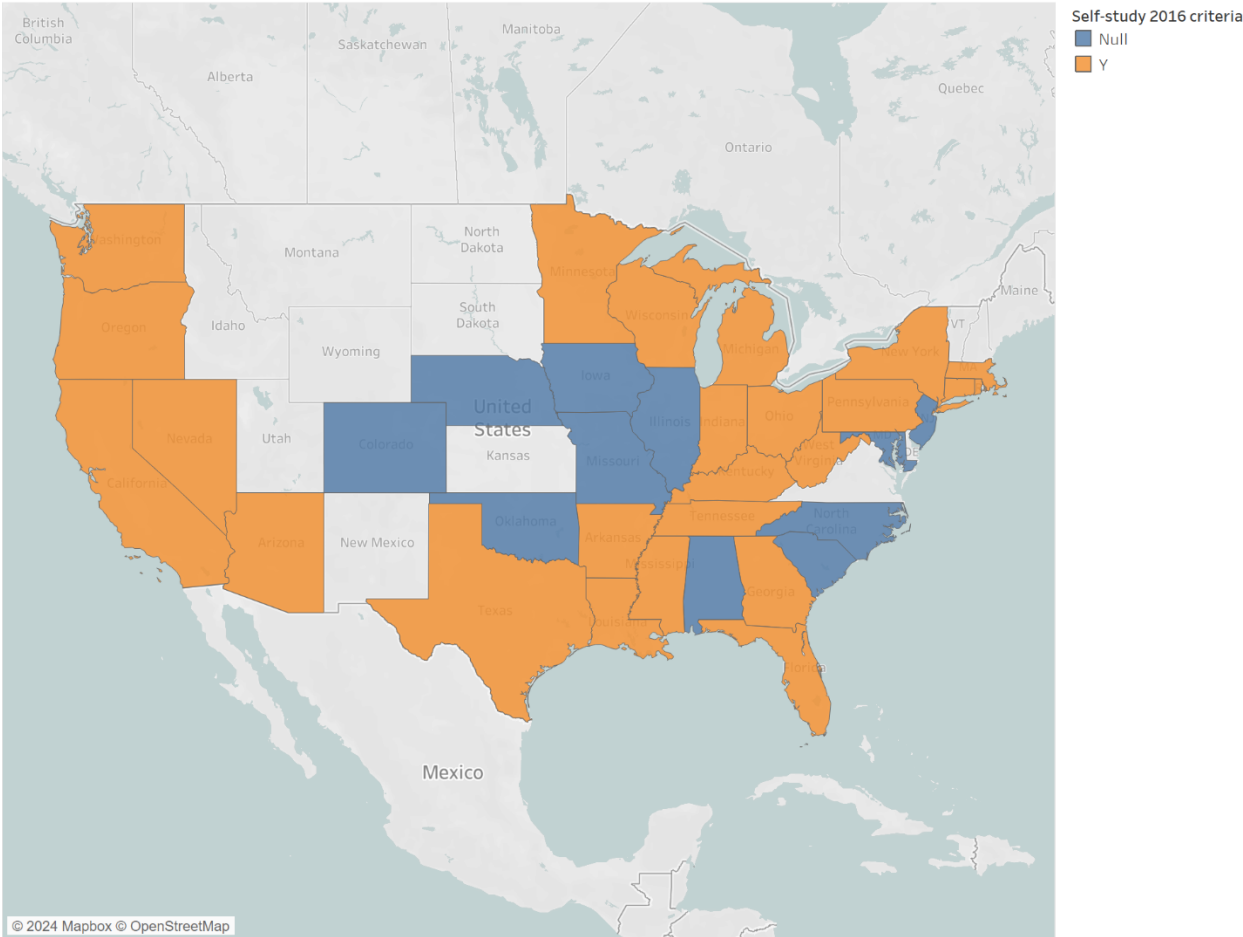
The following figures geographically represent eligible and included schools of public health.

Appendix Figure 5-1 Map of Schools of Public Health in the United States



Map based on Longitude (generated) and Latitude (generated). Details are shown for State, City and Univ Name. The data is filtered on Us-Based, which keeps Y.

Appendix Figure 5-3 *Map of States with Schools of Public Health by Eligibility*

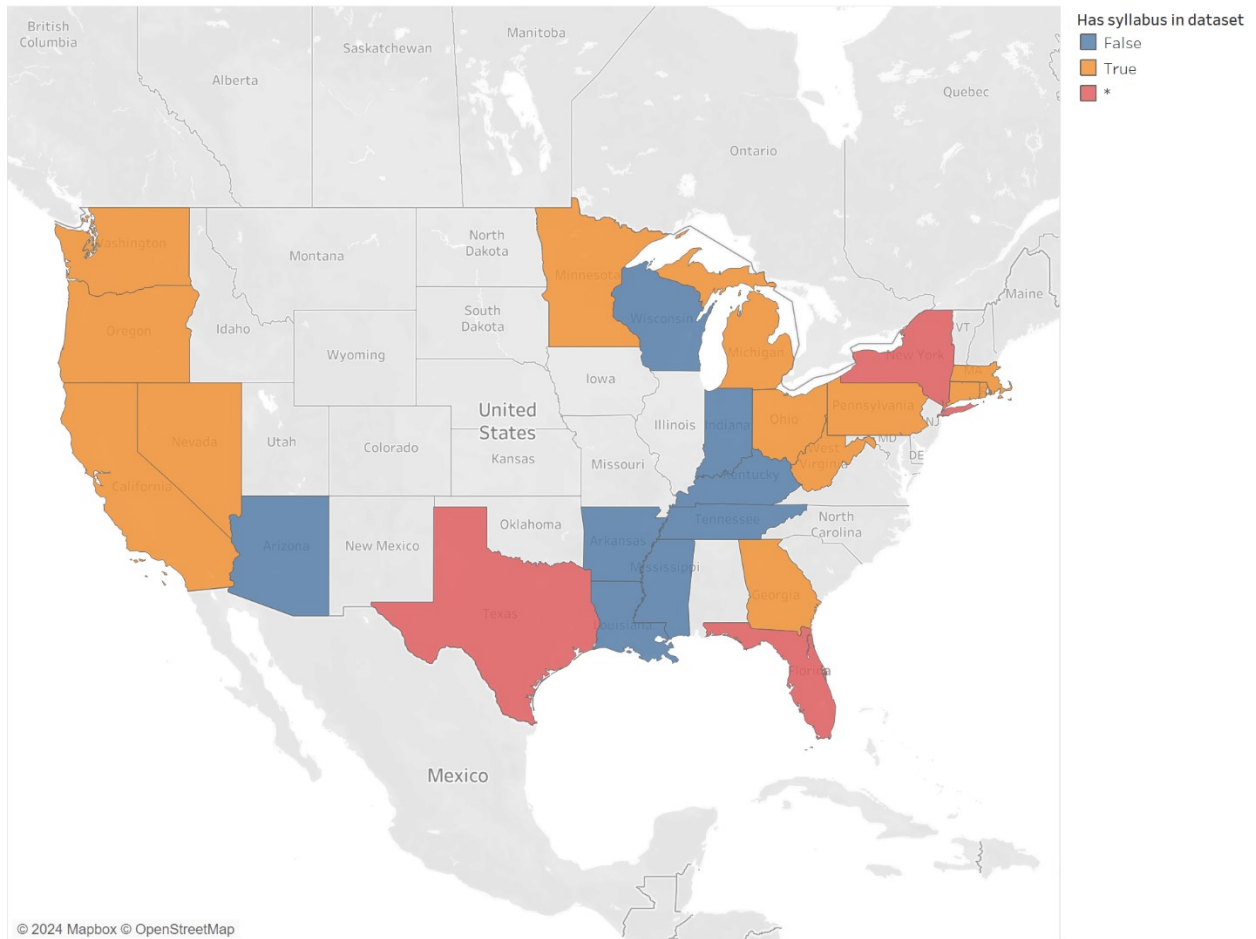


Map based on Longitude (generated) and Latitude (generated). Color shows details about 2016 Study as an attribute. Details are shown for State. The data is filtered on Us-Based, which keeps Y.

Note: Eligibility was defined as being a school of public health that submitted a self-study report based on the 2016 criteria.

Appendix Figure 5-5 Map of States with Eligible Schools of Public Health by Participation

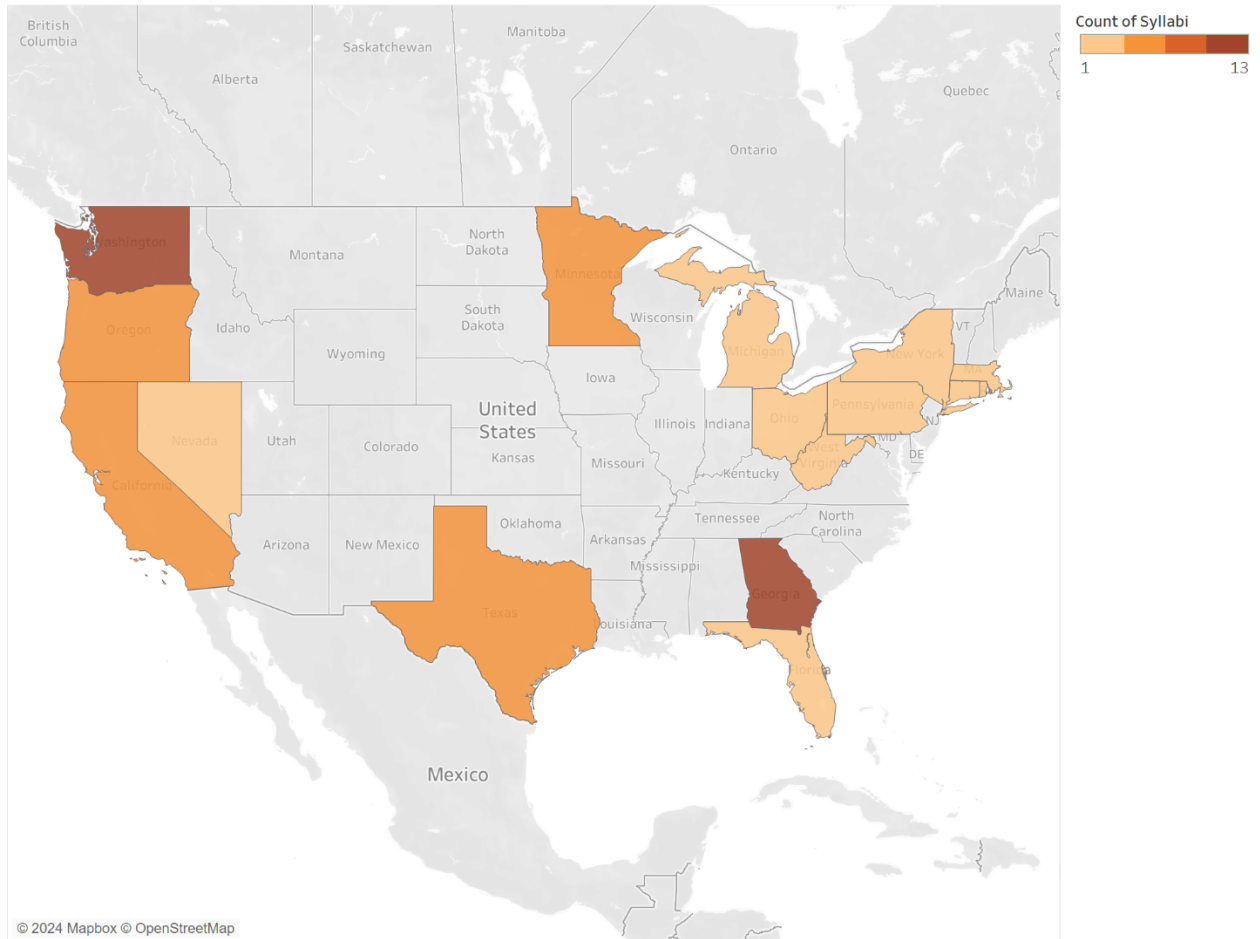
Status



Map based on Longitude (generated) and Latitude (generated). Color shows details about SPH has syllabus as an attribute. Details are shown for State. The data is filtered on 2016 Study and SPH has syllabus. The 2016 Study filter keeps Y. The SPH has syllabus filter keeps False and True.

Note: * indicates that the state included a mix of participating and non-participating schools of public health.

Appendix Figure 5-6 *Map of States with Participating Schools of Public Health by Count of Syllabi*



Map based on Longitude (generated) and Latitude (generated). Color shows count of Syllabi. Details are shown for State. The data is filtered on SPH has syllabus, which keeps True.

Top Words

Appendix Table 5-1 *Unadjusted Word Counts by Rank, CEPH Syllabus Corpus (2018-2022)*

Rank	Word	Word Count	Number of Syllabi	Number of Schools (%)
1	public_health	1702	67	22 (100%)
2	Health	1683	67	22 (100%)
3	Policy	747	64	
4	Work	531	64	
5	Social	476	61	
6	Community	475	64	
7	Research	354	59	
8	Policies	342	62	
9	Group	342	46	
10	Program	321	58	
52	Health_equity	183	47	20 (91%)
110	Health_disparities	134	43	19 (86%)
143	Race	118	42	20 (91%)
175	Racism	103	32	17 (77%)
248	Health_inequities	83	39	17 (77%)

Appendix Figure 5-8 Word Cloud of Segments with “Racism” (Course Description, Learning Objective, and Content), CEPH Syllabus Corpus (2018-2022)



Appendix Figure 5-9 Word Cloud of Journal Article Titles with Racial Groups, “Race”, or “Racism”



Note: words are lemmatized (grouped by root word); matt = matter; minimum word frequency =

3

Keywords

Appendix Table 5-2 *Unadjusted Word Counts by Concept, CEPH Syllabus Corpus (2018-2022)*

Concept	Syllabi (N)	Overall Word Count	Example Matches
Group of Interest: Race	46	346	
Generic terms			race, ethnic_minority, people_of_color
Specific racial groups			black, blacks, black-white, latino, latinx, latina, hmong, alaska_natives, diné, indigenous, tribal, asian_american
Exposure: Racism	52	320	
Explicit racism			racism, racism_undermine_health, structural_racism, levels_of_racism, systemic_racism, antiracism, anti-racism, institutional_racism, https://www.ted.com/talks/david_r_williams_how_racism_makes_us_sick , interpersonal_racism, area_racism
Related concepts			racial_discrimination, white_supremacy, unequal_treatment

Note: The unadjusted word count did not exclude terms by syllabus section; number of syllabi = document frequency; word count = term frequency

Journal Articles with Race or Racial Groups

1. Á, F.-L., M, Garteizgogeoasca, N, Basu, E, Brondizio, M, Cabeza, P, McElwee, & V, Reyes-García. (2019). A State-of-the-Art Review of Indigenous Peoples and Environmental Pollution. *Environmental Epidemiology*, 3, 330. <https://doi.org/10.1097/01.EE9.0000609632.34852.db>
2. Abel, E. K. (2004). “Only the Best Class of Immigration”: Public Health Policy Toward Mexicans and Filipinos in Los Angeles, 1910–1940. *American Journal of Public Health*, 94(6), 932–939. <https://doi.org/10.2105/ajph.94.6.932>
3. Abraído-Lanza, A. F., Echeverría, S. E., & Flórez, K. R. (2016). Latino Immigrants, Acculturation, and Health: Promising New Directions in Research. *Annual Review of Public Health*, 37(1), 219–236. <https://doi.org/10.1146/annurev-publhealth-032315-021545>
4. Abuelezam, N. N., El-Sayed, A. M., & Galea, S. (2017). Arab American Health in a Racially Charged U.S. *American Journal of Preventive Medicine*, 52(6), 810–812. <https://doi.org/10.1016/j.amepre.2017.02.021>
5. Adimora, A. A., & Schoenbach, V. J. (2005). Social Context, Sexual Networks, and Racial Disparities in Rates of Sexually Transmitted Infections. *The Journal of Infectious Diseases*, 191(s1), S115–S122. <https://doi.org/10.1086/425280>
6. Afable-Munsuz, A., Ponce, N. A., Rodriguez, M., & Perez-Stable, E. J. (2010). Immigrant generation and physical activity among Mexican, Chinese & Filipino adults in the U.S. *Social Science & Medicine*, 70(12), 1997–2005. <https://doi.org/10.1016/j.socscimed.2010.02.026>
7. Airhihenbuwa, C. O., & Liburd, L. (2006). Eliminating Health Disparities in the African American Population: The Interface of Culture, Gender, and Power. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 33(4), 488–501. <https://doi.org/10.1177/1090198106287731>
8. Aizer, A. A., Wilhite, T. J., Chen, M., Graham, P. L., Choueiri, T. K., Hoffman, K. E., Martin, N. E., Trinh, Q., Hu, J. C., & Nguyen, P. L. (2014). Lack of reduction in racial disparities in cancer-specific mortality over a 20-year period. *Cancer*, 120(10), 1532–1539. <https://doi.org/10.1002/cncr.28617>
9. Alang, S., Hardeman, R., Karbeah, J. 'mag, Akosionu, O., McGuire, C., Abdi, H., & McAlpine, D. (2021). White Supremacy and the Core Functions of Public Health. *American Journal of Public Health*, 111(5), 815–819. <https://doi.org/10.2105/ajph.2020.306137>

10. Alang, S., McAlpine, D., McCreedy, E., & Hardeman, R. (2017). Police Brutality and Black Health: Setting the Agenda for Public Health Scholars. *American Journal of Public Health*, 107(5), 662–665. <https://doi.org/10.2105/ajph.2017.303691>
11. Alegria, M., Takeuchi, D., Canino, G., Duan, N., Shrout, P., Meng, X., Vega, W., Zane, N., Vila, D., Woo, M., Vera, M., Guarnaccia, P., Aguilar-gaxiola, S., Sue, S., Escobar, J., Lin, K., & Gong, F. (2004). Considering context, place and culture: the National Latino and Asian American Study. *International Journal of Methods in Psychiatric Research*, 13(4), 208–220. <https://doi.org/10.1002/mpr.178>
12. Bailey, Z. D., Feldman, J. M., & Bassett, M. T. (2021). How Structural Racism Works — Racist Policies as a Root Cause of U.S. Racial Health Inequities. *The New England Journal of Medicine*, 384(8), 768–773. <https://doi.org/10.1056/nejmms2025396>
13. Bassett, M. T. (2015). #BlackLivesMatter — A Challenge to the Medical and Public Health Communities. *The New England Journal of Medicine*, 372(12), 1085–1087. <https://doi.org/10.1056/nejmp1500529>
14. Bennett, G. G., Wolin, K. Y., Robinson, E. L., Fowler, S., & Edwards, C. L. (2005). Perceived Racial/Ethnic Harassment and Tobacco Use Among African American Young Adults. *American Journal of Public Health*, 95(2), 238–240. <https://doi.org/10.2105/ajph.2004.037812>
15. Blankenship, K. M., del Rio Gonzalez, A. M., Keene, D. E., Groves, A. K., & Rosenberg, A. P. (2018). Mass incarceration, race inequality, and health: Expanding concepts and assessing impacts on well-being. *Social Science & Medicine*, 215, 45–52. <https://doi.org/10.1016/j.socscimed.2018.08.042>
16. Bowleg, L. (2012). The Problem With the Phrase Women and Minorities: Intersectionality—an Important Theoretical Framework for Public Health. *American Journal of Public Health*, 102(7), 1267–1273. <https://doi.org/10.2105/ajph.2012.300750>
17. Braun, L. (2002). Race, Ethnicity, and Health: Can Genetics Explain Disparities? *Perspectives in Biology and Medicine*, 45(2), 159–174. <https://doi.org/10.1353/pbm.2002.0023>
18. Braveman, P., & Parker Dominguez, T. (2021). Abandon “Race.” Focus on Racism. *Frontiers in Public Health*, 9, 689462. <https://doi.org/10.3389/fpubh.2021.689462>
19. Bylander, J. (2017). Designing A Health System That Works For The Tribe. *Health Affairs*, 36(4), 592–595. <https://doi.org/10.1377/hlthaff.2017.0259>
20. Cai, J., & Lee, R. M. (2022). Intergenerational Communication about Historical Trauma in Asian American Families. *Adversity and Resilience Science*, 3(3), 233–245. <https://doi.org/10.1007/s42844-022-00064-y>

21. Chae, D. H., Clouston, S., Martz, C. D., Hatzenbuehler, M. L., Cooper, H. L. F., Turpin, R., Stephens-Davidowitz, S., & Kramer, M. R. (2018). Area racism and birth outcomes among Blacks in the United States. *Social Science & Medicine*, 199, 49–55. <https://doi.org/10.1016/j.socscimed.2017.04.019>
22. Chae, D. H., Nuru-Jeter, A. M., Adler, N. E., Brody, G. H., Lin, J., Blackburn, E. H., & Epel, E. S. (2014). Discrimination, Racial Bias, and Telomere Length in African-American Men. *American Journal of Preventive Medicine*, 46(2), 103–111. <https://doi.org/10.1016/j.amepre.2013.10.020>
23. Coates, R. D. (2003a). Introduction: Reproducing Racialized Systems of Social Control. *The American Behavioral Scientist*, 47(3), 235–239. <https://doi.org/10.1177/0002764203256185>
24. Coates, R. D. (2003b). Law and the Cultural Production of Race and Racialized Systems of Oppression: Early American Court Cases. *The American Behavioral Scientist*, 47(3), 329–351. <https://doi.org/10.1177/0002764203256190>
25. Continuing Medical Education examination: Applying epidemiologic concepts of primary, secondary, and tertiary prevention to the elimination of racial disparities in asthma. (2006). *The Journal of Allergy and Clinical Immunology*, 117(2), 241–242. <https://doi.org/10.1016/j.jaci.2005.12.1334>
26. Cooper, H. L. F., Clark, C. D., Barham, T., Embry, V., Caruso, B., & Comfort, M. (2013). “He Was the Story of My Drug Use Life”: A Longitudinal Qualitative Study of the Impact of Partner Incarceration on Substance Misuse Patterns Among African American Women. *Substance Use & Misuse*, 49(1–2), 176–188. <https://doi.org/10.3109/10826084.2013.824474>
27. Corbie-Smith, G., Adimora, A. A., Youmans, S., Muhammad, M., Blumenthal, C., Ellison, A., Akers, A., Council, B., Thigpen, Y., Wynn, M., & Lloyd, S. W. (2010). Project GRACE: A Staged Approach to Development of a Community—Academic Partnership to Address HIV in Rural African American Communities. *Health Promotion Practice*, 12(2), 293–302. <https://doi.org/10.1177/1524839909348766>
28. Corona, R., Gonzalez, T., Cohen, R., Edwards, C., & Edmonds, T. (2009). Richmond Latino Needs Assessment: A Community-University Partnership to Identify Health Concerns and Service Needs for Latino Youth. *Journal of Community Health*, 34(3), 195–201. <https://doi.org/10.1007/s10900-008-9140-6>
29. Cross, R. I. (2018). Commentary: Can Critical Race Theory Enhance the Field of Public Health? A Student’s Perspective. *Ethnicity & Disease*, 28(Supp 1), 267. <https://doi.org/10.18865/ed.28.s1.267>
30. Cushing, L. J., Faust, J., August, L. M., Cendak, R., Wieland, W., & Alexeeff, G. (2015). Racial/Ethnic Disparities In Cumulative Environmental Health Impacts In California:

Evidence From A Statewide Environmental Justice Screening Tool (Calenviroscreen 1.1). ISEE Conference Abstracts, 2015(1). <https://doi.org/10.1289/isee.2015.2015-1790>

31. Daviglius, M. L., Talavera, G. A., Avilés-Santa, M. L., Allison, M., Cai, J., Criqui, M. H., Gellman, M., Giachello, A. L., Gouskova, N., Kaplan, R. C., LaVange, L., Penedo, F., Perreira, K., Pirzada, A., Schneiderman, N., Wassertheil-Smoller, S., Sorlie, P. D., & Stamler, J. (2012). Prevalence of Major Cardiovascular Risk Factors and Cardiovascular Diseases Among Hispanic/Latino Individuals of Diverse Backgrounds in the United States. *JAMA: The Journal of the American Medical Association*, 308(17), 1775. <https://doi.org/10.1001/jama.2012.14517>
32. Díaz, R. M., Ayala, G., Bein, E., Henne, J., & Marin, B. V. (2001). The impact of homophobia, poverty, and racism on the mental health of gay and bisexual Latino men: findings from 3 US cities. *American Journal of Public Health*, 91(6), 927–932. <https://doi.org/10.2105/ajph.91.6.927>
33. Dietz, W. H. (2019). We Need a New Approach to Prevent Obesity in Low-Income Minority Populations. *Pediatrics*, 143(6). <https://doi.org/10.1542/peds.2019-0839>
34. Dressler, W. W., Oths, K. S., & Gravlee, C. C. (2005). RACE AND ETHNICITY IN PUBLIC HEALTH RESEARCH: Models to Explain Health Disparities. *Annual Review of Anthropology*, 34(1), 231–252. <https://doi.org/10.1146/annurev.anthro.34.081804.120505>
35. Elliott-Groves, E. (2020). A culturally grounded biopsychosocial assessment utilizing Indigenous ways of knowing with the Cowichan Tribes. In *Rethinking Social Work Practice with Multicultural Communities* (pp. 115–133). Routledge. <https://doi.org/10.4324/9780429330872-6>
36. Feldman, J. M., Gruskin, S., Coull, B. A., & Krieger, N. (2019). Police-Related Deaths and Neighborhood Economic and Racial/Ethnic Polarization, United States, 2015–2016. *American Journal of Public Health*, 109(3), 458–464. <https://doi.org/10.2105/ajph.2018.304851>
37. Fiallos, K., Owczarzak, J., Bodurtha, J., Beatriz Margarit, S., & Erby, L. (2021). Where culture meets genetics: Exploring Latina immigrants' lay beliefs of disease inheritance. *Social Science & Medicine*, 271, 112179. <https://doi.org/10.1016/j.socscimed.2019.02.030>
38. Fleming, E., Burgette, J., Lee, H. H., Buscemi, J., & Smith, P. D. (2022). Oral Health Equity Cannot Be Achieved Without Racial Equity. *Health Affairs Forefront*. <https://doi.org/10.1377/forefront.20220420.398180>
39. Ford, C. L., & Airhihenbuwa, C. O. (2010a). Critical Race Theory, Race Equity, and Public Health: Toward Antiracism Praxis. *American Journal of Public Health*, 100(S1), S30–S35. <https://doi.org/10.2105/ajph.2009.171058>

40. Ford, C. L., & Airhihenbuwa, C. O. (2010b). The public health critical race methodology: Praxis for antiracism research. *Social Science & Medicine*, 71(8), 1390–1398. <https://doi.org/10.1016/j.socscimed.2010.07.030>
41. Ford, C. L., & Airhihenbuwa, C. O. (2018). Commentary: Just What is Critical Race Theory and What's it Doing in a Progressive Field like Public Health? *Ethnicity & Disease*, 28(Supp 1), 223. <https://doi.org/10.18865/ed.28.s1.223>
42. Forde, A. T., Crookes, D. M., Suglia, S. F., & Demmer, R. T. (2019). The weathering hypothesis as an explanation for racial disparities in health: a systematic review. *Annals of Epidemiology*, 33, 1–18.e3. <https://doi.org/10.1016/j.annepidem.2019.02.011>
43. Galletly, C. L., Lechuga, J., Dickson-Gomez, J. B., Glasman, L. R., McAuliffe, T. L., & Espinoza-Madrigal, I. (2021). Assessment of COVID-19–Related Immigration Concerns Among Latinx Immigrants in the US. *JAMA Network Open*, 4(7), e2117049. <https://doi.org/10.1001/jamanetworkopen.2021.17049>
44. Gee, G. C., & Ponce, N. (2010). Associations Between Racial Discrimination, Limited English Proficiency, and Health-Related Quality of Life Among 6 Asian Ethnic Groups in California. *American Journal of Public Health*, 100(5), 888–895. <https://doi.org/10.2105/ajph.2009.178012>
45. Gee, G. C., Spencer, M. S., Chen, J., & Takeuchi, D. (2007). A Nationwide Study of Discrimination and Chronic Health Conditions Among Asian Americans. *American Journal of Public Health*, 97(7), 1275–1282. <https://doi.org/10.2105/ajph.2006.091827>
46. Geronimus, A. T., Hicken, M. T., Pearson, J. A., Seashols, S. J., Brown, K. L., & Cruz, T. D. (2010). Do US Black Women Experience Stress-Related Accelerated Biological Aging?: A Novel Theory and First Population-Based Test of Black-White Differences in Telomere Length. *Human Nature*, 21(1), 19–38. <https://doi.org/10.1007/s12110-010-9078-0>
47. Geronimus, A. T., & Thompson, J. P. (2004). TO DENIGRATE, IGNORE, OR DISRUPT: Racial Inequality in Health and the Impact of a Policy-induced Breakdown of African American Communities. *Du Bois Review: Social Science Research on Race*, 1(02). <https://doi.org/10.1017/s1742058x04042031>
48. Gilbert, K. L., Ransome, Y., Dean, L. T., DeCaille, J., & Kawachi, I. (2022). Social Capital, Black Social Mobility, and Health Disparities. *Annual Review of Public Health*, 43(1), 173–191. <https://doi.org/10.1146/annurev-publhealth-052020-112623>
49. Goodkind, J. R., Hess, J. M., Gorman, B., & Parker, D. P. (2012). “We’re Still in a Struggle”: Diné Resilience, Survival, Historical Trauma, and Healing. *Qualitative Health Research*, 22(8), 1019–1036. <https://doi.org/10.1177/1049732312450324>

50. Goodman, A. H. (2000). Why genes don't count (for racial differences in health). *American Journal of Public Health*, 90(11), 1699–1702. <https://doi.org/10.2105/ajph.90.11.1699>
51. Greenough, P. (1995). Intimidation, coercion and resistance in the final stages of the South Asian Smallpox Eradication Campaign, 1973–1975. *Social Science & Medicine*, 41(5), 633–645. [https://doi.org/10.1016/0277-9536\(95\)00035-6](https://doi.org/10.1016/0277-9536(95)00035-6)
52. Hahn, R. A., Truman, B. I., & Williams, D. R. (2018). Civil rights as determinants of public health and racial and ethnic health equity: Health care, education, employment, and housing in the United States. *SSM - Population Health*, 4, 17–24. <https://doi.org/10.1016/j.ssmph.2017.10.006>
53. Hammonds, E. M., & Reverby, S. M. (2019). Toward a Historically Informed Analysis of Racial Health Disparities Since 1619. *American Journal of Public Health*, 109(10), 1348–1349. <https://doi.org/10.2105/ajph.2019.305262>
54. Hansen, H., & Netherland, J. (2019). Is the Prescription Opioid Epidemic a White Problem? In *The Social Medicine Reader, Volume II, Third Edition* (pp. 254–257). Duke University Press. <https://doi.org/10.1515/9781478004363-029>
55. Hardeman, R. R., Medina, E. M., & Kozhimannil, K. B. (2016). Structural Racism and Supporting Black Lives — The Role of Health Professionals. *The New England Journal of Medicine*, 375(22), 2113–2115. <https://doi.org/10.1056/nejmp1609535>
56. Hebert, P. L., Sisk, J. E., & Howell, E. A. (2008). When Does A Difference Become A Disparity? Conceptualizing Racial And Ethnic Disparities In Health. *Health Affairs*, 27(2), 374–382. <https://doi.org/10.1377/hlthaff.27.2.374>
57. Hing, A. K. (2019/Winter2019). The Right to Vote, The Right to Health: Voter Suppression as a Determinant of Racial Health Disparities. *Journal of Health Disparities Research and Practice*, 12(6), 48–62. <https://digitalscholarship.unlv.edu/jhdrp/vol12/iss6/5/>
58. Hoelscher, D. M., Butte, N. F., Barlow, S., Vandewater, E. A., Sharma, S. V., Huang, T., Finkelstein, E., Pont, S., Sacher, P., Byrd-Williams, C., Oluyomi, A. O., Durand, C., Li, L., & Kelder, S. H. (2015). Incorporating Primary and Secondary Prevention Approaches To Address Childhood Obesity Prevention and Treatment in a Low-Income, Ethnically Diverse Population: Study Design and Demographic Data from the Texas Childhood Obesity Research Demonstration (TX CORD) Study. *Childhood Obesity*, 11(1), 71–91. <https://doi.org/10.1089/chi.2014.0084>
59. Huynh, J. (2022). “Family Is the Beginning but Not the End”: Intergenerational LGBTQ Chosen Family, Social Support, and Health in a Vietnamese American Community Organization. *Journal of Homosexuality*, 70(7), 1240–1262. <https://doi.org/10.1080/00918369.2021.2018879>

60. Islam, N. S., Khan, S., Kwon, S., Jang, D., Ro, M., & Trinh-Shevrin, C. (2010). Methodological Issues in the Collection, Analysis, and Reporting of Granular Data in Asian American Populations: Historical Challenges and Potential Solutions. *Journal of Health Care for the Poor and Underserved*, 21(4), 1354–1381. <https://doi.org/10.1353/hpu.2010.0939>
61. Islam, N. S., Wyatt, L. C., Patel, S. D., Shapiro, E., Tandon, S. D., Mukherji, B. R., Tanner, M., Rey, M. J., & Trinh-Shevrin, C. (2013). Evaluation of a Community Health Worker Pilot Intervention to Improve Diabetes Management in Bangladeshi Immigrants With Type 2 Diabetes in New York City. *The Diabetes Educator*, 39(4), 478–493. <https://doi.org/10.1177/0145721713491438>
62. Ivanich, J. D., Mousseau, A. C., Walls, M., Whitbeck, L., & Whitesell, N. R. (2018). Pathways of Adaptation: Two Case Studies with One Evidence-Based Substance Use Prevention Program Tailored for Indigenous Youth. *Prevention Science: The Official Journal of the Society for Prevention Research*, 21(S1), 43–53. <https://doi.org/10.1007/s11121-018-0914-5>
63. Jackson, S. D., Mohr, J. J., Sarno, E. L., Kindahl, A. M., & Jones, I. L. (2020). Intersectional experiences, stigma-related stress, and psychological health among Black LGBTQ individuals. *Journal of Consulting and Clinical Psychology*, 88(5), 416–428. <https://doi.org/10.1037/ccp0000489>
64. Jernigan, V. B. B., Jacob, T., & Styne, D. (2015). The Adaptation and Implementation of a Community-Based Participatory Research Curriculum to Build Tribal Research Capacity. *American Journal of Public Health*, 105(S3), S424–S432. <https://doi.org/10.2105/ajph.2015.302674>
65. Joseph, R. P., Keller, C., Vega-López, S., Adams, M. A., English, R., Hollingshead, K., Hooker, S. P., Todd, M., Gaesser, G. A., & Ainsworth, B. E. (2020). A Culturally Relevant Smartphone-Delivered Physical Activity Intervention for African American Women: Development and Initial Usability Tests of Smart Walk. *JMIR mHealth and uHealth*, 8(3), e15346. <https://doi.org/10.2196/15346>
66. Judson, S. M. (1999). Civil Rights and Civic Health: African American Women's Public Health Work in Early Twentieth Century Atlanta. *NWSA Journal: A Publication of the National Women's Studies Association*, 11(3), 93–111. <https://doi.org/10.1353/nwsa.1999.0037>
67. Kaholokula, J. K., Look, M., Mabellos, T., Zhang, G., de Silva, M., Yoshimura, S., Solatorio, C., Wills, T., Seto, T. B., & Sinclair, K. A. (2015). Cultural Dance Program Improves Hypertension Management for Native Hawaiians and Pacific Islanders: a Pilot Randomized Trial. *Journal of Racial and Ethnic Health Disparities*, 4(1), 35–46. <https://doi.org/10.1007/s40615-015-0198-4>

68. Kaufman, J. S., Cooper, R. S., & McGee, D. L. (1997). Socioeconomic Status and Health in Blacks and Whites: The Problem of Residual Confounding and the Resiliency of Race. *Epidemiology*, 8(6), 621. <https://doi.org/10.1097/00001648-199710000-00002>
69. Kawachi, I., Daniels, N., & Robinson, D. E. (2005). Health Disparities By Race And Class: Why Both Matter. *Health Affairs*, 24(2), 343–352. <https://doi.org/10.1377/hlthaff.24.2.343>
70. Keene, D. E., Lynch, J. F., & Baker, A. C. (2014). Fragile health and fragile wealth: Mortgage strain among African American homeowners. *Social Science & Medicine*, 118, 119–126. <https://doi.org/10.1016/j.socscimed.2014.07.063>
71. King, C. J., Buckley, B. O., Maheshwari, R., & Griffith, D. M. (2022). Race, Place, And Structural Racism: A Review Of Health And History In Washington, D.C. *Health Affairs*, 41(2), 273–280. <https://doi.org/10.1377/hlthaff.2021.01805>
72. King, C. J., Chen, J., Dagher, R. K., Holt, C. L., & Thomas, S. B. (2014). Decomposing Differences in Medical Care Access Among Cancer Survivors by Race and Ethnicity. *American Journal of Medical Quality: The Official Journal of the American College of Medical Quality*, 30(5), 459–469. <https://doi.org/10.1177/1062860614537676>
73. Kwak, J. H., Jo, G., Chung, H.-K., & Shin, M.-J. (2018). Association between sugar-sweetened beverage consumption and incident hypertension in Korean adults: a prospective study. *European Journal of Nutrition*, 58(3), 1009–1017. <https://doi.org/10.1007/s00394-018-1617-1>
74. Lara, M., Gamboa, C., Kahramanian, M. I., Morales, L. S., & Bautista, D. E. H. (2005). Acculturation and Latino health in the United States: a review of the literature and its sociopolitical context. *Annual Review of Public Health*, 26(1), 367–397. <https://doi.org/10.1146/annurev.publhealth.26.021304.144615>
75. Laster Pirtle, W. N. (2020). Racial Capitalism: A Fundamental Cause of Novel Coronavirus (COVID-19) Pandemic Inequities in the United States. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 47(4), 504–508. <https://doi.org/10.1177/1090198120922942>
76. Lauderdale, D. S. (2006). Birth outcomes for Arabic-named women in California before and after September 11. *Demography*, 43(1), 185–201. <https://doi.org/10.1353/dem.2006.0008>
77. LaVeist, T., Pollack, K., Thorpe, R., Fesahazion, R., & Gaskin, D. (2011). Place, Not Race: Disparities Dissipate In Southwest Baltimore When Blacks And Whites Live Under Similar Conditions. *Health Affairs*, 30(10), 1880–1887. <https://doi.org/10.1377/hlthaff.2011.0640>

78. Li, S., Kwon, S. C., Weerasinghe, I., Rey, M. J., & Trinh-Shevrin, C. (2013). Smoking Among Asian Americans: Acculturation and Gender in the Context of Tobacco Control Policies in New York City. *Health Promotion Practice, 14*(5_suppl), 18S – 28S. <https://doi.org/10.1177/1524839913485757>
79. Marrett, C. B. (2021). Racial Disparities and COVID-19: the Social Context. *Journal of Racial and Ethnic Health Disparities, 8*(3), 794–797. <https://doi.org/10.1007/s40615-021-00988-8>
80. McClure, E. S., Vasudevan, P., Bailey, Z., Patel, S., & Robinson, W. R. (2020). Racial Capitalism Within Public Health—How Occupational Settings Drive COVID-19 Disparities. *American Journal of Epidemiology, 189*(11), 1244–1253. <https://doi.org/10.1093/aje/kwaa126>
81. Michener, J. D. (2021). Politics, Pandemic, and Racial Justice Through the Lens of Medicaid. *American Journal of Public Health, 111*(4), 643–646. <https://doi.org/10.2105/ajph.2020.306126>
82. Molina, N. (2011). Borders, Laborers, and Racialized Medicalization Mexican Immigration and US Public Health Practices in the 20th Century. *American Journal of Public Health, 101*(6), 1024–1031. <https://doi.org/10.2105/ajph.2010.300056>
83. Montes de Oca, V., García, T. R., Sáenz, R., & Guillén, J. (2011). The Linkage of Life Course, Migration, Health, and Aging: Health in Adults and Elderly Mexican Migrants. *Journal of Aging and Health, 23*(7), 1116–1140. <https://doi.org/10.1177/0898264311422099>
84. Myers, H. F. (2008). Ethnicity- and socio-economic status-related stresses in context: an integrative review and conceptual model. *Journal of Behavioral Medicine, 32*(1), 9–19. <https://doi.org/10.1007/s10865-008-9181-4>
85. Nelson, A. (2016). The Longue Durée of Black Lives Matter. *American Journal of Public Health, 106*(10), 1734–1737. <https://doi.org/10.2105/ajph.2016.303422>
86. Netherland, J., & Hansen, H. (2017). White opioids: Pharmaceutical race and the war on drugs that wasn't. *BioSocieties, 12*(2), 217–238. <https://doi.org/10.1057/biosoc.2015.46>
87. Nolen, L. T., Beckman, A. L., & Sandoe, E. (2020). How Foundational Moments In Medicaid's History Reinforced Rather Than Eliminated Racial Health Disparities. *Health Affairs Forefront*. <https://doi.org/10.1377/forefront.20200828.661111>
88. Nuru-Jeter, A. M., Michaels, E. K., Thomas, M. D., Reeves, A. N., Thorpe, R. J., & LaVeist, T. A. (2018). Relative Roles of Race Versus Socioeconomic Position in Studies of Health Inequalities: A Matter of Interpretation. *Annual Review of Public Health, 39*(1), 169–188. <https://doi.org/10.1146/annurev-publhealth-040617-014230>

89. Parker, L. J., Gaugler, J. E., & Gitlin, L. N. (2022). Use of Critical Race Theory to Inform the Recruitment of Black/African American Alzheimer's Disease Caregivers into Community-Based Research. *The Gerontologist*, 62(5), 742–750. <https://doi.org/10.1093/geront/gnac001>
90. Payne-Sturges, D. C., Gee, G. C., & Cory-Slechta, D. A. (2021). Confronting Racism in Environmental Health Sciences: Moving the Science Forward for Eliminating Racial Inequities. *Environmental Health Perspectives*, 129(5). <https://doi.org/10.1289/ehp8186>
91. Powers, B. W., Oriol, N. E., & Jain, S. H. (2015). Practice and Protest: Black Physicians and the Evolution of Race-Conscious Professionalism. *Journal of Health Care for the Poor and Underserved*, 26(1), 73–81. <https://doi.org/10.1353/hpu.2015.0002>
92. Ramos, A. K., Carvajal-Suarez, M., Trinidad, N., Quintero, S. A., Molina, D., Johnson-Beller, R., & Rowland, S. A. (2021). Health and Well-Being of Hispanic/Latino Meatpacking Workers in Nebraska: An Application of the Health Belief Model. *Workplace Health & Safety*, 69(12), 564–572. <https://doi.org/10.1177/21650799211016907>
93. Reagan, L. J. (2000). Crossing the Border for Abortions: California Activists, Mexican Clinics, and the Creation of a Feminist Health Agency in the 1960s. *Feminist Studies: FS*, 26(2), 323. <https://doi.org/10.2307/3178537>
94. Riley, A. R. (2022). Contesting Narratives of Inevitability: Heterogeneity in Latino–White Inequities in COVID-19. *American Journal of Public Health*, 112(7), 956–958. <https://doi.org/10.2105/ajph.2022.306909>
95. Romer, D., Sznitman, S., DiClemente, R., Salazar, L. F., Vanable, P. A., Carey, M. P., Hennessy, M., Brown, L. K., Valois, R. F., Stanton, B. F., Fortune, T., & Juzang, I. (2009). Mass Media as an HIV-Prevention Strategy: Using Culturally Sensitive Messages to Reduce HIV-Associated Sexual Behavior of At-Risk African American Youth. *American Journal of Public Health*, 99(12), 2150–2159. <https://doi.org/10.2105/ajph.2008.155036>
96. Salsberg, E., Richwine, C., Westergaard, S., Portela Martinez, M., Oyeyemi, T., Vichare, A., & Chen, C. P. (2021). Estimation and Comparison of Current and Future Racial/Ethnic Representation in the US Health Care Workforce. *JAMA Network Open*, 4(3), e213789. <https://doi.org/10.1001/jamanetworkopen.2021.3789>
97. Sequist, T. D. (2017). Urgent action needed on health inequities among American Indians and Alaska Natives. *The Lancet*, 389(10077), 1378–1379. [https://doi.org/10.1016/s0140-6736\(17\)30883-8](https://doi.org/10.1016/s0140-6736(17)30883-8)
98. Solomon, T. G. A., Starks, R. R. B., Attakai, A., Molina, F., Cordova-Marks, F., Kahn-John, M., Antone, C. L., Flores, M., & Garcia, F. (2022). The Generational Impact Of Racism On Health: Voices From American Indian Communities: Study examines the

generational impact of racism on the health of American Indian communities and people. *Health Affairs*, 41(2), 281–288. <https://doi.org/10.1377/hlthaff.2021.01419>

99. Stern, A. M. (2005). *STERILIZED in the Name of Public Health: Race, Immigration, and Reproductive Control in Modern California*. *American Journal of Public Health*, 95(7), 1128–1138. <https://doi.org/10.2105/ajph.2004.041608>
100. Sudhinaraset, M., To, T. M., Ling, I., Melo, J., & Chavarin, J. (2017). The Influence of Deferred Action for Childhood Arrivals on Undocumented Asian and Pacific Islander Young Adults: Through a Social Determinants of Health Lens. *Journal of Adolescent Health Care: Official Publication of the Society for Adolescent Medicine*, 60(6), 741–746. <https://doi.org/10.1016/j.jadohealth.2017.01.008>
101. Sun, M., Oliwa, T., Peek, M. E., & Tung, E. L. (2022). Negative Patient Descriptors: Documenting Racial Bias In The Electronic Health Record: Study examines racial bias in the patient descriptors used in the electronic health record. *Health Affairs*, 41(2), 203–211. <https://doi.org/10.1377/hlthaff.2021.01423>
102. Tuthill, Z., Denney, J. T., & Gorman, B. (2017). Racial disparities in health and health behaviors among gay, lesbian, bisexual and heterosexual men and women in the BRFSS-SOP. *Ethnicity & Health*, 25(2), 177–188. <https://doi.org/10.1080/13557858.2017.1414157>
103. Van Horne, Y. O., Chief, K., Charley, P. H., Begay, M.-G., Lothrop, N., Bell, M. L., Canales, R. A., Teufel-Shone, N. I., & Beamer, P. I. (2021). Impacts to Diné activities with the San Juan River after the Gold King Mine Spill. *Journal of Exposure Science & Environmental Epidemiology*, 31(5), 852–866. <https://doi.org/10.1038/s41370-021-00290-z>
104. Wailoo, K. (2021). Spectacles of Difference: The Racial Scripting of Epidemic Disparities. *Bulletin of the History of Medicine*. <https://doi.org/10.1353/bhm.0.0109>
105. Wakeel, F., & Njoku, A. (2021). Application of the Weathering Framework: Intersection of Racism, Stigma, and COVID-19 as a Stressful Life Event among African Americans. *HealthcarePapers*, 9(2), 145. <https://doi.org/10.3390/healthcare9020145>
106. Walters, K. L., Johnson-Jennings, M., Stroud, S., Rasmus, S., Charles, B., John, S., Allen, J., Kaholokula, J. K., Look, M. A., de Silva, M., Lowe, J., Baldwin, J. A., Lawrence, G., Brooks, J., Noonan, C. W., Belcourt, A., Quintana, E., Semmens, E. O., & Boulafentis, J. (2018). Growing from Our Roots: Strategies for Developing Culturally Grounded Health Promotion Interventions in American Indian, Alaska Native, and Native Hawaiian Communities. *Prevention Science: The Official Journal of the Society for Prevention Research*, 21(S1), 54–64. <https://doi.org/10.1007/s11121-018-0952-z>
107. Walters, K. L., Mohammed, S. A., Evans-Campbell, T., Beltrán, R. E., Chae, D. H., & Duran, B. (2011). *BODIES DON'T JUST TELL STORIES, THEY TELL*

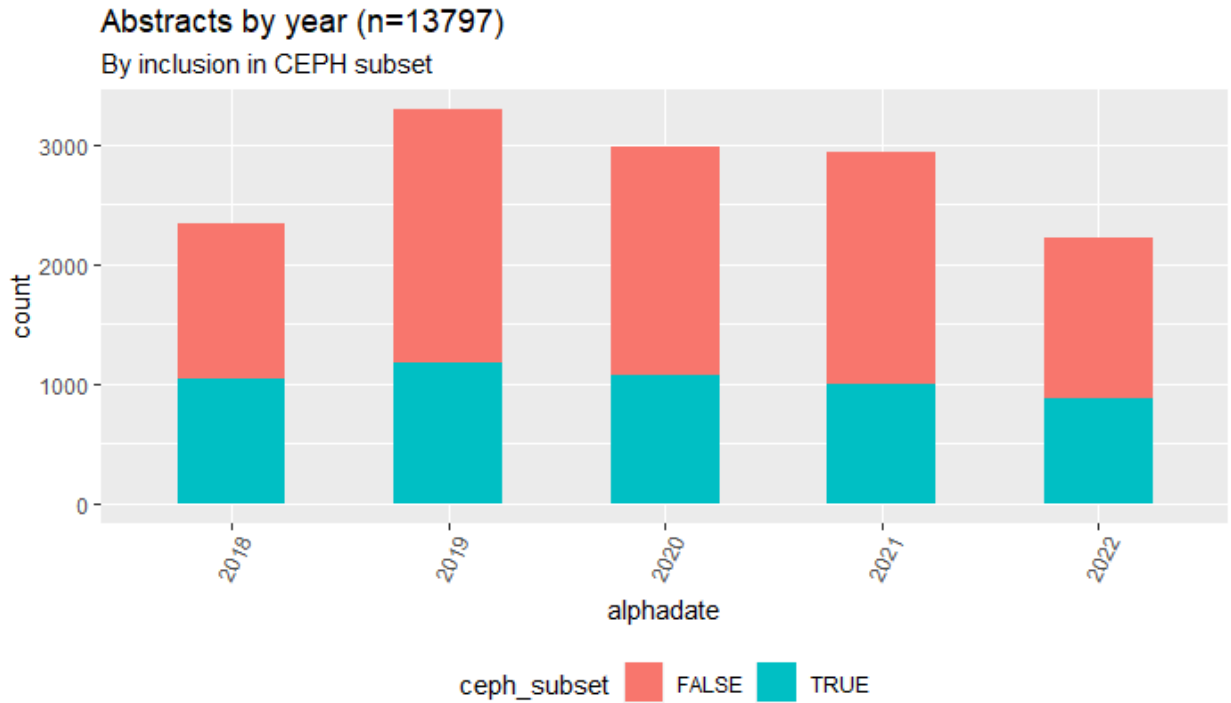
HISTORIES: Embodiment of Historical Trauma among American Indians and Alaska Natives. *Du Bois Review: Social Science Research on Race*, 8(1), 179–189. <https://doi.org/10.1017/S1742058X1100018X>

108. Williams, D. R. (2012). Miles to Go before We Sleep: Racial Inequities in Health. *Journal of Health and Social Behavior*, 53(3), 279–295. <https://doi.org/10.1177/0022146512455804>
109. Williams, D. R. (2018). Stress and the Mental Health of Populations of Color: Advancing Our Understanding of Race-related Stressors. *Journal of Health and Social Behavior*, 59(4), 466–485. <https://doi.org/10.1177/0022146518814251>
110. Williams, D. R., & Collins, C. (2001). Racial residential segregation: A fundamental cause of racial disparities in health. *Public Health Reports*, 116(5), 404–416. [https://doi.org/10.1016/s0033-3549\(04\)50068-7](https://doi.org/10.1016/s0033-3549(04)50068-7)
111. Williams, D. R., & Jackson, P. B. (2005). Social Sources Of Racial Disparities In Health. *Health Affairs*, 24(2), 325–334. <https://doi.org/10.1377/hlthaff.24.2.325>
112. Wrigley-Field, E. (2020). US racial inequality may be as deadly as COVID-19. *Proceedings of the National Academy of Sciences*, 117(36), 21854–21856. <https://doi.org/10.1073/pnas.2014750117>
113. Yi, S. S., Kwon, S. C., Suss, R., Doàn, L. N., John, I., Islam, N. S., & Trinh-Shevrin, C. (2022). The Mutually Reinforcing Cycle Of Poor Data Quality And Racialized Stereotypes That Shapes Asian American Health: Study examines poor data quality and racialized stereotypes that shape Asian American health. *Health Affairs*, 41(2), 296–303. <https://doi.org/10.1377/hlthaff.2021.01417>
114. Young, M.-E. D. T., Chen, L., Sudhinaraset, M., Saadi, A., Kietzman, K. G., & Wallace, S. P. (2022). Cumulative Experiences of Immigration Enforcement Policy and the Physical and Mental Health Outcomes of Asian and Latinx Immigrants in the United States. *The International Migration Review*, 57(4), 1537–1568. <https://doi.org/10.1177/01979183221126726>
115. Yue, Z., Li, C., Weilin, Q., & Bin, W. (2015). Application of the health belief model to improve the understanding of antihypertensive medication adherence among Chinese patients. *Patient Education and Counseling*, 98(5), 669–673. <https://doi.org/10.1016/j.pec.2015.02.007>
116. Zewde, N. (2019). Universal Baby Bonds Reduce Black-White Wealth Inequality, Progressively Raise Net Worth of All Young Adults. *The Review of Black Political Economy*, 47(1), 3–19. <https://doi.org/10.1177/0034644619885321>

B. Paper 2 Supplemental Tables and Figures

Dataset

Appendix Figure 5-10 *Public Health Abstracts by Year and Inclusion in the CEPH Dataset*



Source: ProQuest Dissertations & Theses, 2018-2022

Appendix Table 5-3 *Universities in Corpus by CEPH Status, ProQuest ETD Abstracts (2018-2022)*

Universities	Total
With CEPH School or Program	
With School of Public Health	60
With Public Health Program	107
Without CEPH	360
Universities Total	527

Notes: CEPH status was determined as of December 31, 2022. Programs seeking accreditation for the first time were classified as ‘without CEPH.’ The top universities without a CEPH School or Program were Duke University (n=184 abstracts) and Capella University (n=157 abstracts). Additionally, 150 abstracts were missing university detail.

Appendix Table 5-4 *Count of Abstracts by University Name, Descending, ProQuest ETD*

Abstracts CEPH Dataset (2018-2022) (N=5,180)

University Name	Abstracts
UNIVERSITY OF WASHINGTON	684
WALDEN UNIVERSITY	675
YALE UNIVERSITY	439
HARVARD UNIVERSITY	249
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	245
UNIVERSITY OF CALIFORNIA LOS ANGELES	116
UNIVERSITY OF SOUTH CAROLINA	106
BOSTON UNIVERSITY	90
SAN DIEGO STATE UNIVERSITY	90
UNIVERSITY OF MARYLAND COLLEGE PARK	86
UNIVERSITY OF ILLINOIS AT CHICAGO	84
EMORY UNIVERSITY	82
UNIVERSITY OF SOUTH FLORIDA	75
THE JOHNS HOPKINS UNIVERSITY	74
THE UNIVERSITY OF ARIZONA	70
THE UNIVERSITY OF ALABAMA AT BIRMINGHAM	67
UNIVERSITY OF PITTSBURGH	67
CALIFORNIA BAPTIST UNIVERSITY	66
COLUMBIA UNIVERSITY	64
THE UNIVERSITY OF IOWA	64
UNIVERSITY OF MINNESOTA	62
UNIVERSITY OF CALIFORNIA SAN DIEGO	59
THE UNIVERSITY OF TEXAS SCHOOL OF PUBLIC HEALTH	56
UNIVERSITY OF MICHIGAN	55
INDIANA UNIVERSITY	54
THE GEORGE WASHINGTON UNIVERSITY	51
UNIVERSITY OF GEORGIA	50
TULANE UNIVERSITY SCHOOL OF PUBLIC HEALTH AND TROPICAL MEDICINE	46
UNIVERSITY OF NEVADA LAS VEGAS	45
TEACHERS COLLEGE COLUMBIA UNIVERSITY	41
STATE UNIVERSITY OF NEW YORK AT ALBANY	40
UNIVERSITY OF CALIFORNIA BERKELEY	39
MORGAN STATE UNIVERSITY	38
RUTGERS THE STATE UNIVERSITY OF NEW JERSEY SCHOOL OF GRADUATE STUDIES	38
TEXAS A M UNIVERSITY	37
THE UNIVERSITY OF TEXAS AT EL PASO	36
DREXEL UNIVERSITY	33
THE UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER	29

University Name	Abstracts
THE CLAREMONT GRADUATE UNIVERSITY	28
KENT STATE UNIVERSITY	27
UNIVERSITY OF CALIFORNIA IRVINE	27
INDIANA UNIVERSITY PURDUE UNIVERSITY INDIANAPOLIS	26
SOUTHERN CONNECTICUT STATE UNIVERSITY	26
CALIFORNIA STATE UNIVERSITY FRESNO	25
SAINT LOUIS UNIVERSITY	25
THE OHIO STATE UNIVERSITY	25
UNIVERSITY OF KANSAS	25
STATE UNIVERSITY OF NEW YORK AT BUFFALO	24
ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	23
UNIVERSITY OF COLORADO AT DENVER	23
UNIVERSITY OF COLORADO DENVER ANSCHUTZ MEDICAL CAMPUS	23
THE UNIVERSITY OF MEMPHIS	22
THE UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE	19
UNIVERSITY OF CALIFORNIA DAVIS	19
UNIVERSITY OF HAWAI I AT MANOA	19
A T STILL UNIVERSITY OF HEALTH SCIENCES	16
NEW YORK UNIVERSITY COLLEGE OF GLOBAL PUBLIC HEALTH	16
CENTRAL MICHIGAN UNIVERSITY	15
EAST TENNESSEE STATE UNIVERSITY	15
FLORIDA INTERNATIONAL UNIVERSITY	15
SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE	15
THE UNIVERSITY OF NORTH CAROLINA AT GREENSBORO	15
THE UNIVERSITY OF WISCONSIN MADISON	15
CALIFORNIA STATE UNIVERSITY LONG BEACH	14
UNIVERSITY OF MARYLAND BALTIMORE	14
UNIVERSITY OF CINCINNATI	13
FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY	12
LOUISIANA STATE UNIVERSITY HEALTH SCIENCES CENTER	12
MICHIGAN STATE UNIVERSITY	11
SOUTH DAKOTA STATE UNIVERSITY	11
TEMPLE UNIVERSITY	11
THE UNIVERSITY OF WISCONSIN MILWAUKEE	11
COLORADO STATE UNIVERSITY	10
NOVA SOUTHEASTERN UNIVERSITY	10
UNIVERSITY OF MICHIGAN FLINT	9
WAYNE STATE UNIVERSITY	9
CORNELL UNIVERSITY	8
PORTLAND STATE UNIVERSITY	8
UNIVERSITY OF MIAMI	8
UNIVERSITY OF NEVADA RENO	8
WEST VIRGINIA UNIVERSITY	8

University Name	Abstracts
NORTHWESTERN UNIVERSITY	7
OLD DOMINION UNIVERSITY	7
THE MEDICAL COLLEGE OF WISCONSIN	7
THE UNIVERSITY OF UTAH	7
THOMAS JEFFERSON UNIVERSITY	7
UNIVERSITY OF ILLINOIS AT URBANA CHAMPAIGN	7
UNIVERSITY OF SOUTHERN CALIFORNIA	7
NEW MEXICO STATE UNIVERSITY	6
NEW YORK UNIVERSITY	6
UNIVERSITY OF PENNSYLVANIA	6
WASHINGTON UNIVERSITY IN ST LOUIS	6
CASE WESTERN RESERVE UNIVERSITY	5
IDAHO STATE UNIVERSITY	5
NORTH DAKOTA STATE UNIVERSITY	5
SYRACUSE UNIVERSITY	5
THE UNIVERSITY OF TOLEDO	5
TUFTS UNIVERSITY SCHOOL OF MEDICINE	5
UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES	5
UNIVERSITY OF FLORIDA	5
GEORGE MASON UNIVERSITY	4
LOUISIANA STATE UNIVERSITY IN SHREVEPORT	4
THE FLORIDA STATE UNIVERSITY	4
UNIVERSITY OF NORTH TEXAS	4
DARTMOUTH COLLEGE	3
MEHARRY MEDICAL COLLEGE	3
UNIVERSITY OF ROCHESTER	3
UNIVERSITY OF SOUTH DAKOTA	3
EAST CAROLINA UNIVERSITY	2
KANSAS STATE UNIVERSITY	2
LOMA LINDA UNIVERSITY	2
STATE UNIVERSITY OF NEW YORK AT STONY BROOK	2
THE PENNSYLVANIA STATE UNIVERSITY	2
AUGUSTA UNIVERSITY	1
EASTERN VIRGINIA MEDICAL SCHOOL	1
HOFSTRA UNIVERSITY	1
NORTHEAST OHIO MEDICAL UNIVERSITY	1
PURDUE UNIVERSITY	1
THE UNIVERSITY OF NEW MEXICO	1
THE UNIVERSITY OF NORTH DAKOTA	1
THE UNIVERSITY OF TENNESSEE HEALTH SCIENCE CENTER	1
UNIVERSITY OF ALASKA ANCHORAGE	1
UNIVERSITY OF MISSOURI COLUMBIA	1
UTAH STATE UNIVERSITY	1
YOUNGSTOWN STATE UNIVERSITY	1

Features

Appendix Table 5-5 *Multiword Expression Detection, by Length and Z-Score, ProQuest ETD*

Abstracts CEPH Dataset (2018-2022)

Number	Length	Collocation	Count	Lambda	Z
1	2	Public health	2723	6.0	167.1
2	2	Physical activity	1264	8.0	159.5
3	2	Mental health	2211	6.2	145.1
4	2	Risk factors	1089	5.0	137.4
5	2	Health care	1793	3.8	136.9
6	2	African american	833	8.9	133.1
7	3	Positive social change	466	4.4	9.5
8	3	Health care system	99	3.8	8.6
9	3	Perceived behavioral control	57	7.1	7.4
10	3	Chronic care model	14	5.6	7.4
11	3	Youth risk behavior	34	4.8	6.8
12	3	Health belief model	198	5.5	6.4
13	4	Using multiple linear regression	10	2.4	2.263
14	4	Multiple linear regression models	11	2.3	2.031
15	4	Multivariable logistic regression models	13	2.9	1.684
16	4	African American college students	13	5.1	1.675
17	4	Supplemental nutrition assistance program	22	4.6	1.280
18	4	Analyzed using logistic regression	13	2.5	1.067

Note: Threshold for significant Z-score is 1.96.

Top Words

Appendix Table 5-6 *Top 10 Features, ProQuest ETD Abstracts CEPH Dataset (2018-2022)*

	Top Features		Top Stemmed Features		Top Features with Low Entropy	
	Feature	Count	Feature	Count	Feature	Count
1	health	6,484	health	6,514	women	4,202
2	data	5,223	data	5,223	disease	2,519
3	women	4,202	research	4,264	child	1,196
4	care	3,814	women	4,248	behaviors	1,170
5	research	3,813	care	3,924	men	1,082
6	hiv	2,556	model	3,800	adults	1,047
7	disease	2,519	intervent	3,725	maternal	1,003
8	exposure	2,306	program	3,330	black	989
9	model	2,149	diseas	3,225	sex	981
10	community	1,980	differ	3,162	gender	922

Keyword-in-Context Results

Appendix Table 5-7 *Top 10 Terms per Racial Group Category*

American Indian / Alaska Native		Asian / Asian American		Black / African American		Latinx	
Term	N	Term	N	Term	N	Term	N
ai_an/s	99	asian_american	128	black	989	hispanic	426
indigenous	89	asian	108	african_american	603	latino	190
american_indian_alaska_native/s	49	chinese	63	african_americans	211	hispanics	143
native_american	38	asian_americans	48	african	161	latinos	131
american_indian	31	filipino	28	blacks	101	hispanic_latino	114
tribal	28	south_asian	25	non-hispanic_black	87	latinx	114
diné	20	korean	20	kenyan	51	mexican	79
navajo	20	vietnamese	18	nigerian	49	latina	68
ais	15	cambodian	18	black_african_american	45	spanish	60
mohawk	14	apida	17	black-white	28	latin	47

Middle Easterner / North African		Native Hawai'ian / Pacific Islander		Unspecified		White	
Term	N	Term	N	Term	N	Term	N
saudi	15	samoan	28	race	639	white	429
arab	14	pacific_islander	25	race_ethnicity	424	non-hispanic_white	108
syrian	10	pacific_islanders	21	racial	308	whites	101
arab_americans	9	native_hawaiian	19	minority	215	non-hispanic_whites	55
arab_american	8	apida	17	ethnicity	173	european	31
arabic	6	native_hawaiians	9	ethnic	128	black-white	28
lebanese	4	micronesian	9	counterparts	120	canadian	23
palestinian	4	nhpi	8	racial_ethnic_disparities	110	white_non-hispanic	23
iraqi	2	aapi	8	racial_ethnic	110	caucasian	22
israeli	2	aanhpi	6	racial_ethnic_groups	75	white_americans	11

Appendix Table 5-8 *Top 10 Terms per Explicit Theory Category*

Behavioral		Biomedical		Community		Social Ecology		Social Inequality	
Term	N	Term	N	Term	N	Term	N	Term	N
behaviors	1,167	disease	1,375	local	620	community	1,948	stigma	574
stress	821	infection	777	participation	465	education	1,494	discrimination	366
behavior	793	diagnosis	716	participated	203	communities	765	inequities	190
behavioral	629	transmission	612	participating	170	income	597	racism	101
attitudes	610	diagnosed	423	participate	163	neighborhood	429	life_course	88
benefits	587	infections	412	empowerment	141	psychosocial	384	structural_racism	75
social_support	489	genetic	409	participatory	57	housing	374	social_capital	74
awareness	486	diseases	329	empower	34	socioeconomic	290	minority_stress	56
beliefs	472	blood	313	framing	30	socioeconomic_status	281	inequalities	48
benefit	347	cardiovascular disease	222	empowering	25	social_determinants of health	267	inequality	44

Appendix Table 5-9 *Count of Social Inequality Terms by Concept, Descending*

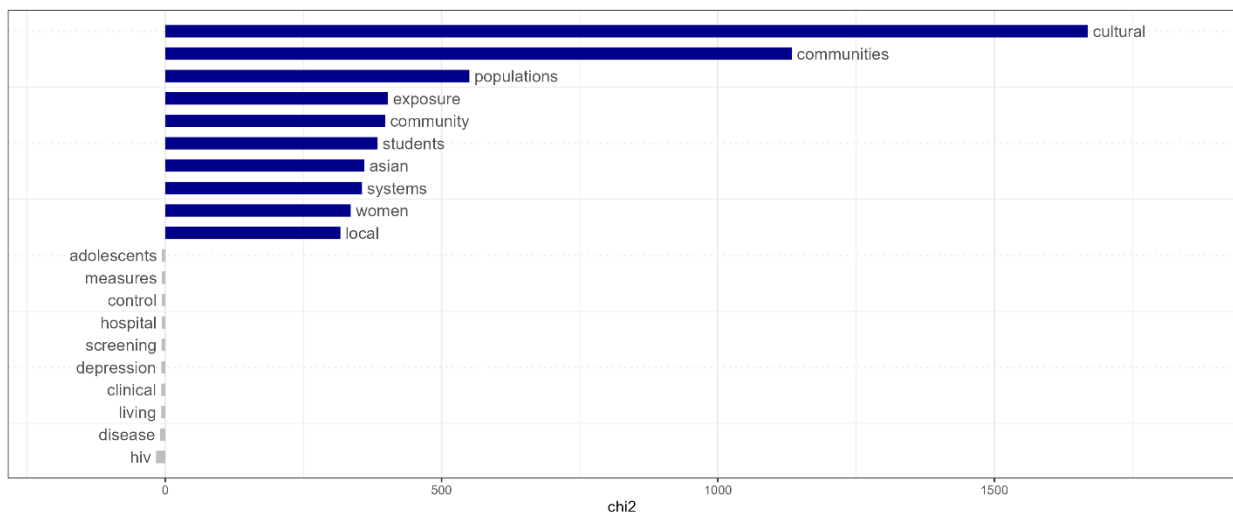
Concept	Examples of Detected Terms	N
Stigma	stigma, stigma_theory, stigma-reduction, stigma-related, stigmatization, stigmatize, stigmatized, stigmatizing, structural_stigma	700
Social inequity	inequities, inequity, environmental_justice, unequal, unequally, inequitably	412
Discrimination	discrimination, nondiscrimination, anti-discrimination	374
Racism	racism, structural_racism, racialized, intersectionality, racialization, critical_race_theory, public_health_critical_race_praxis, systemic_racism, weathering, colorblind_racism, gendered_racism, institutional_racism, internalized_racism, levels_of_racism	328
Life course	life-course, life_course_theory	122
Heterosexism	gender_inequality, minority_stress, minority_stress_theory	85
Embodied inequality	allostatic_load, ecosocial, ecosocial_theory, embodied	75
Social capital	social_capital	74
Income inequality	income_inequality, wealth_inequity	25
Power	political_economy, structural_violence, hegemony, ideology	20
Fundamental cause	fundamental_cause, fundamental_cause_theory	11
Other	critical_epidemiology, health_and_human_rights, medicalization, syndemic_theory, systems_science, victim_blaming	20
Total		2,246

Word Relationships

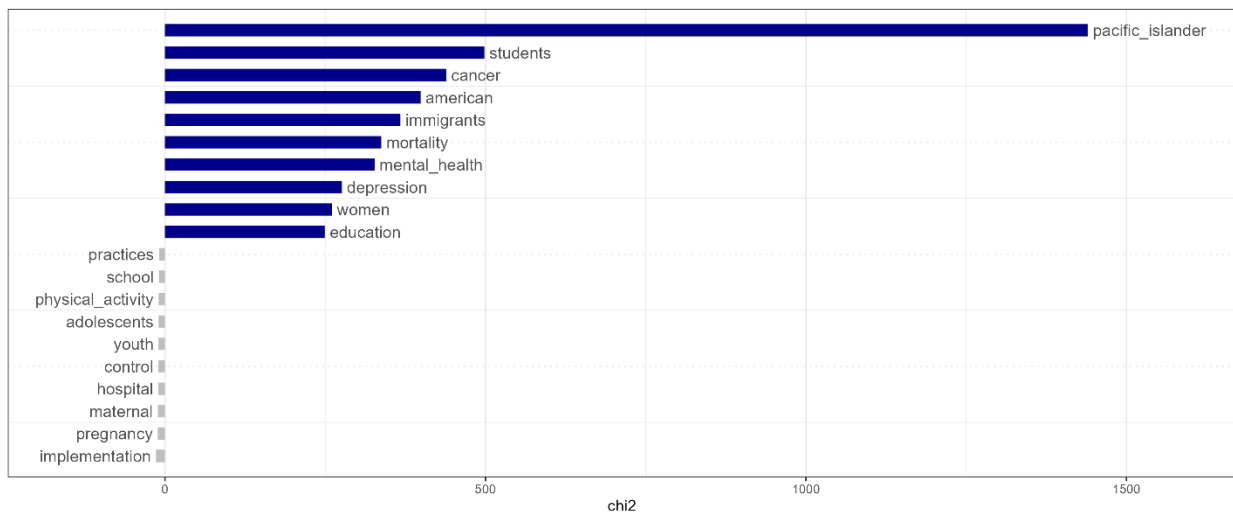
Keyness of Words Associated with Racial Groups

The graph shows which words were the most statistically significantly associated with terms in each racial group category word list. Based on chi-squared tests of independence, word counts were either higher than expected in the target window (blue) or higher than expected outside of the target window (grey). The target window was set to 86 words before and 86 words after each dictionary term (equivalent to the mean length of abstracts = 172 tokens). Associated words are shown by descending chi-squared value.

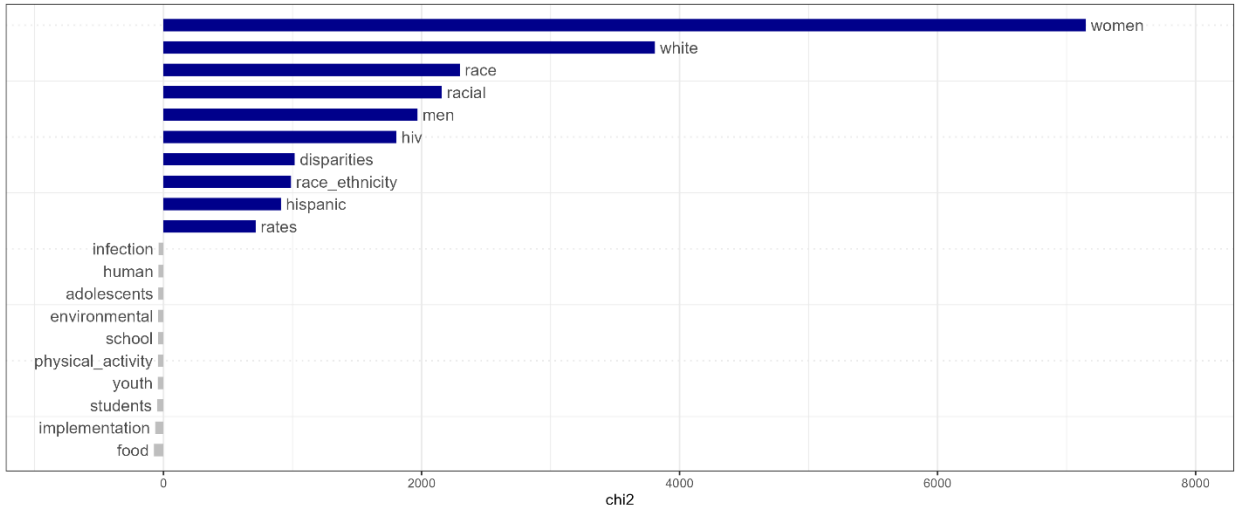
Appendix Figure 5-11 *Words Highly Associated with Terms in Racial Group Word Lists*



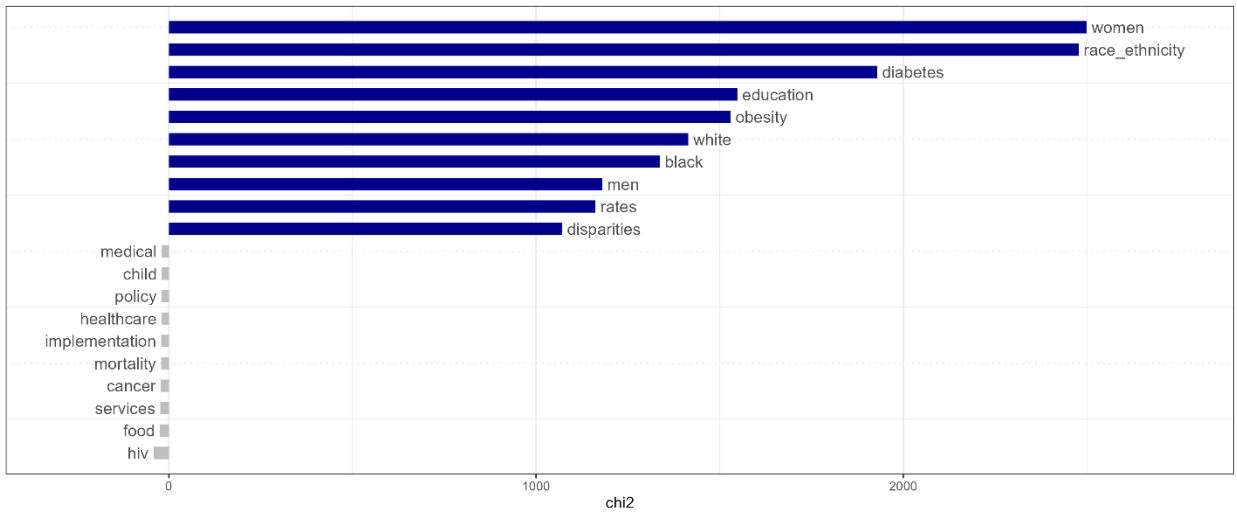
A. American Indian /Alaska Native



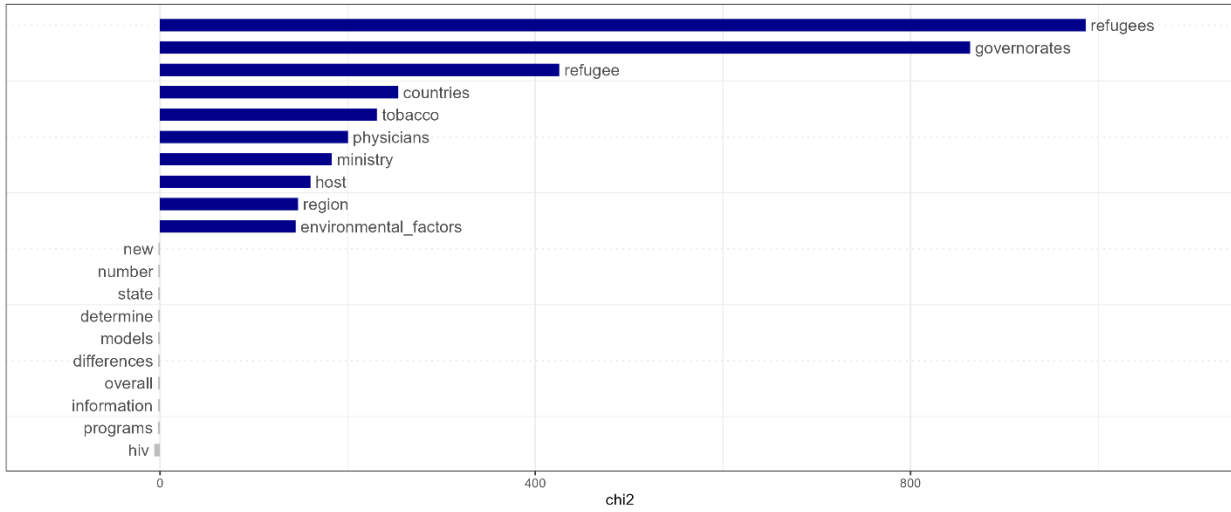
B. Asian / Asian American



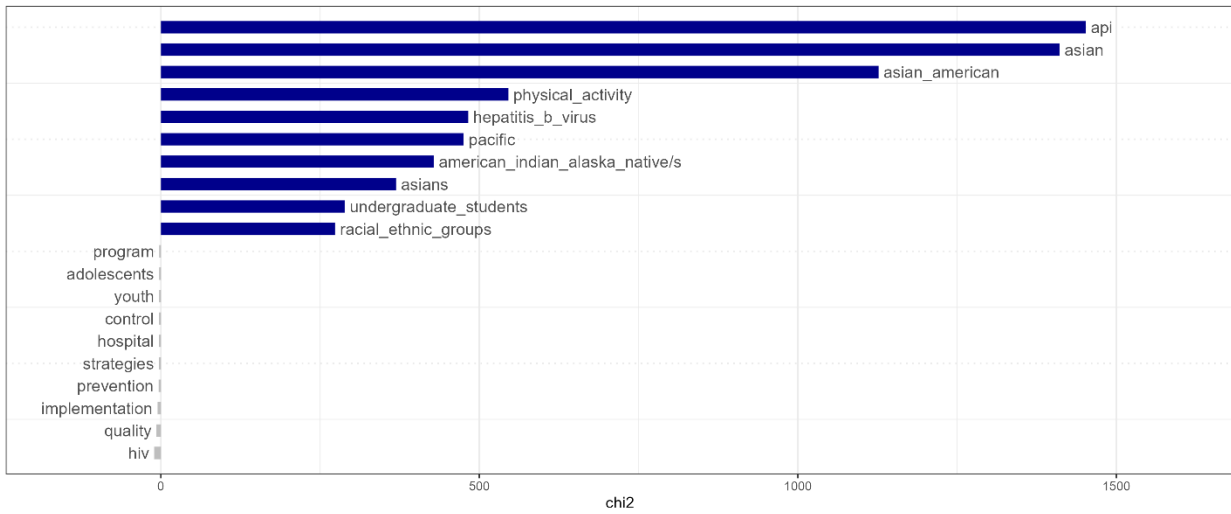
C. Black / African American



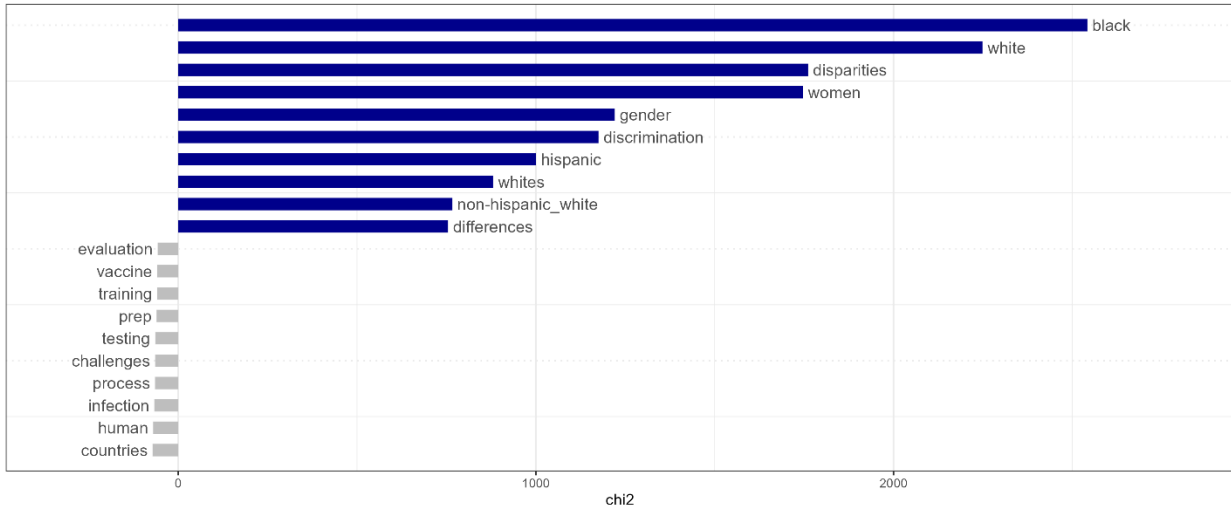
D. Latinx



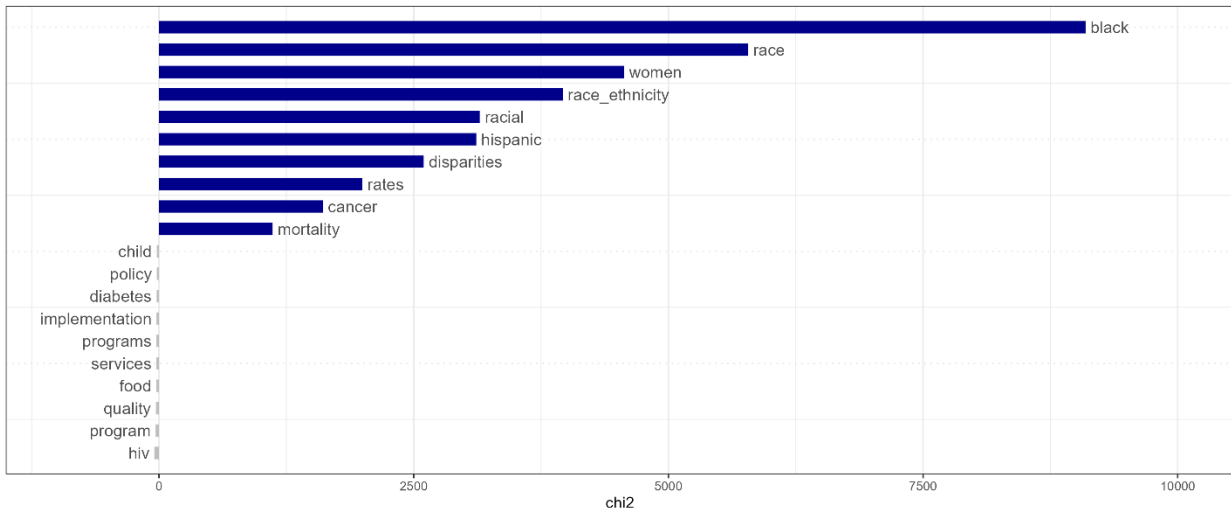
E. Middle Eastern / North African



F. Native Hawaiian / Pacific Islander



G. Unspecified

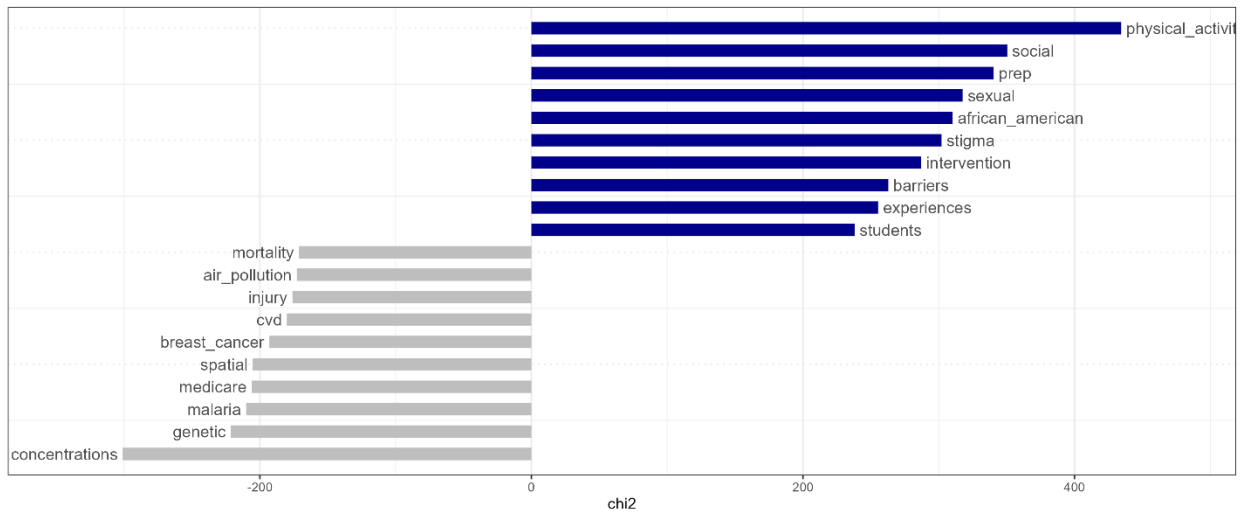


H. White

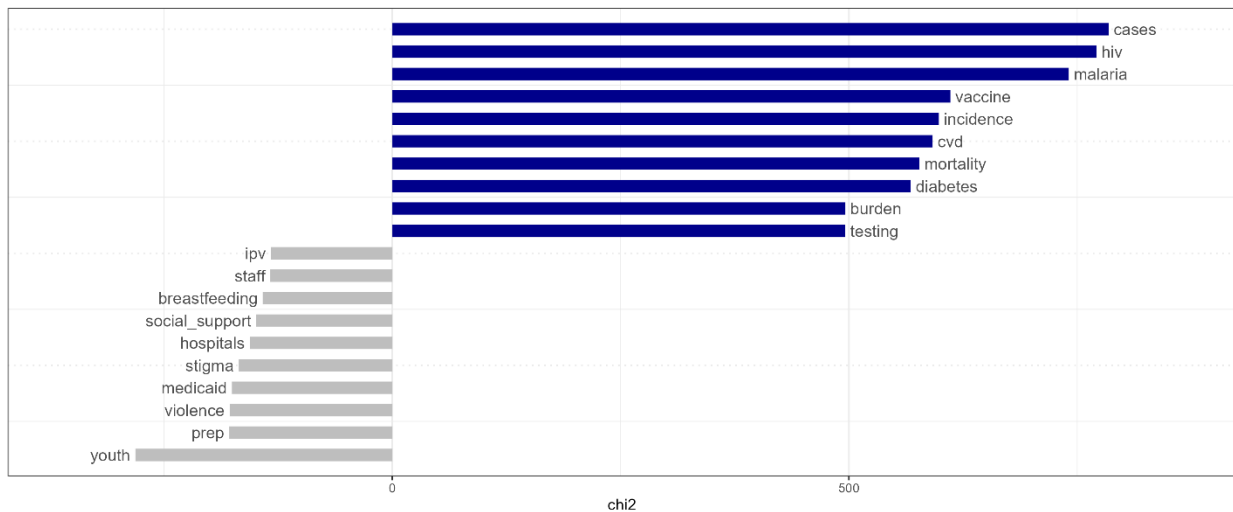
Keyness of Words Associated with Explicit Theories

The graph shows which words were the most statistically significantly associated with terms in each explicit theory category word list. Based on chi-squared tests of independence, word counts were either higher than expected in the target window (blue) or higher than expected outside of the target window (grey). The target window was set to 86 words before and 86 words after each dictionary term (equivalent to the mean length of abstracts = 172 tokens). Associated words are shown by descending chi-squared value.

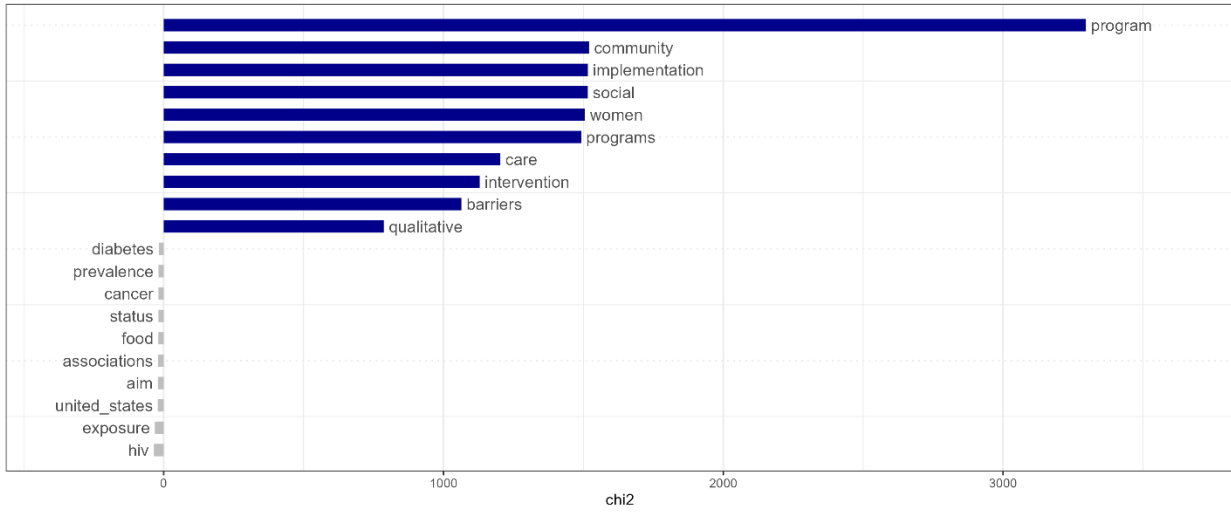
Appendix Figure 5-12 Words Highly Associated with Terms in Explicit Theory Word Lists



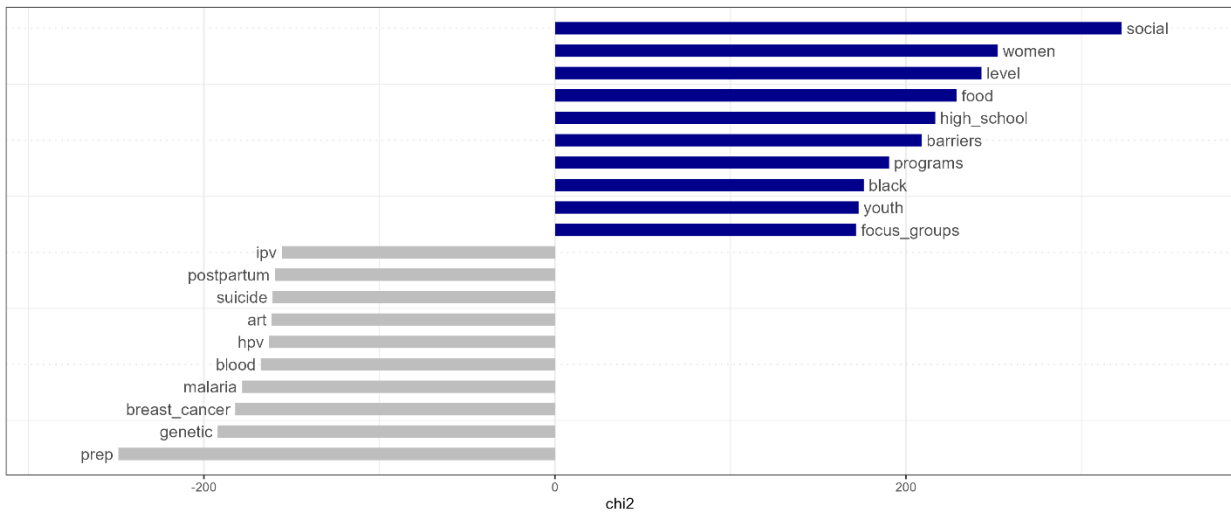
A. Behavior



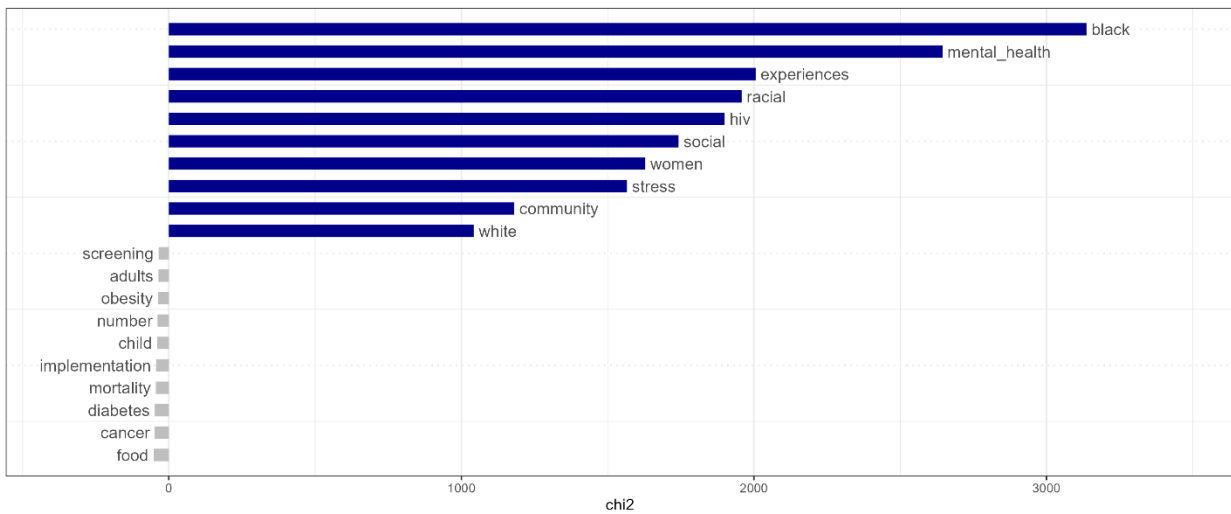
B. Biomedical



C. Community



D. Social ecology



E. Social inequality

Topic Model Validation (Validation Set, Truth = Human-Coded Label)

As detailed in the methods section, the predicted topics for abstracts in the validation set were assessed on two different criteria for accuracy (i.e., how many predictions were right): matching the human-coded label (e.g., true_topic == ‘social_inequality’) and exceeding the domain-specific threshold under the assumption of equal proportions (1/k).

Racial Groups

Validation results for the racial group validation set is shown in the following tables. When I assessed how accurately the predicted topic exactly matched the human-coded label, the racial group topic model yielded very low macro-precision and macro-recall (Table 5-10). When compared against the threshold of equal proportion threshold ($> 1/k = 1/8 = .125$), the mean accuracy was .64, indicating that theta scores were generally better than randomly selecting from the list of 8 racial group categories (Table 5-11).

Appendix Table 5-10 Accuracy (Exact Match) of Racial Group Topic Model, Racial Group Validation Set

Topic	TP	FP	TN	FN	Precision	Recall	F1
American Indian / Alaska Native	0	1	124	20	0.00	0.00	N/A
Asian / Asian American	0	1	124	20	0.00	0.00	N/A
Black / African American	0	1	119	25	0.00	0.00	N/A
Latinx	0	0	120	25	N/A	0.00	N/A
Middle Eastern / North African	0	0	135	10	N/A	0.00	N/A
Native Hawaiian / Pacific Islander	0	1	124	20	0.00	0.00	N/A
Unspecified	24	116	4	1	0.17	0.96	0.29
Micro-precision	Micro-recall		Macro-precision		Macro-recall		
0.167	0.166		0.024		0.137		

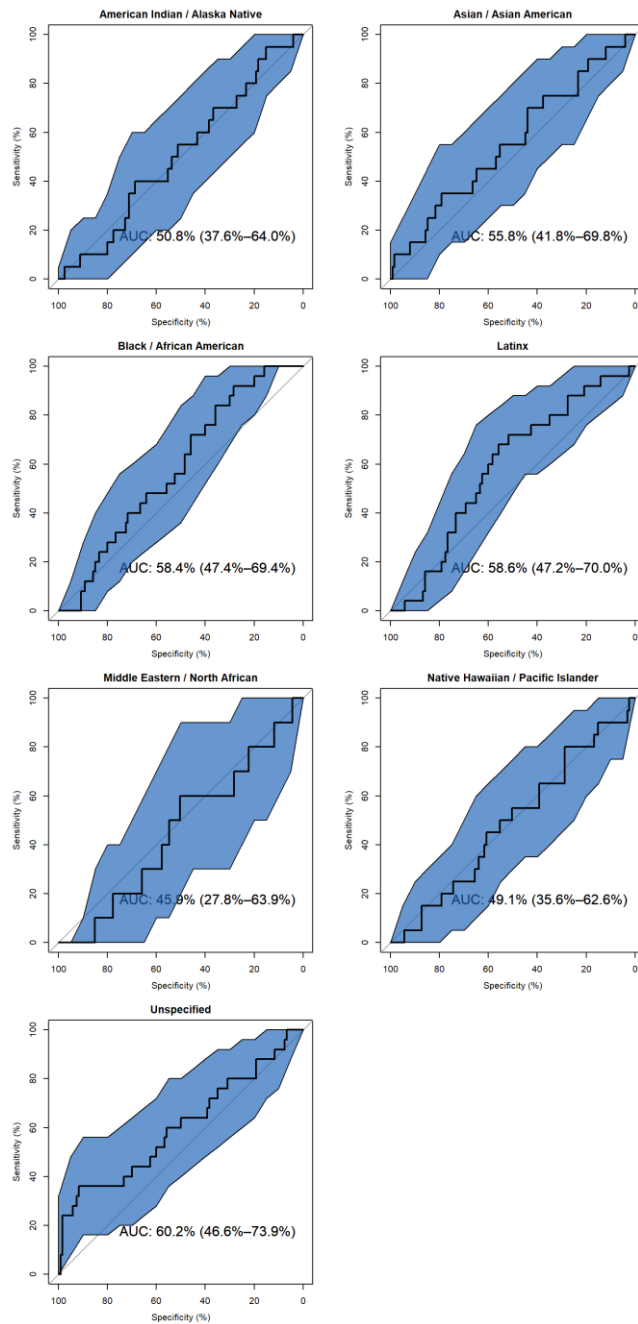
Note: Micro-precision and micro-recall scores reflect the aggregated score for all categories whereas macro-precision and macro-recall scores are based on the average of each category’s precision and recall scores. The validation set did not include abstracts listed as ‘white’ because abstracts primarily named ‘white’ as a comparison to another racial group. Feature set parameters: low entropy, counts log-transformed, does not exclude based on feature keyness. Model parameters: alpha = 50/k, beta = .1, dictionary weight = .5, residual topics = 0, seed = 6819.

Appendix Table 5-11 *Accuracy (Exceeds Equal Proportions Threshold) of Racial Group Topic Model, Racial Group Validation Set*

Topic	Accuracy (95% CI)	Sensitivity	Specificity
American Indian / Alaska Native	.70 (.61, .77)	.20	.78
Asian / Asian American	.71 (.63, .78)	.10	.80
Black / African American	.68 (.59, .75)	.32	.75
Latinx	.68 (.60, .76)	.16	.79
Middle Eastern / North African	.79 (.72, .86)	.20	.84
Native Hawaiian / Pacific Islander	.73 (.65, .80)	.20	.82
Unspecified	.17 (.11, .24)	1.00	.00
Mean	.64		

Note: Racial group threshold = $1/k = .125$; last updated 3/19/2024

Appendix Figure 5-13 *AUC for Racial Group Classification Discrimination, Validation Set*



Note: This figure shows the AUC curves for the racial group topic model predictions on the racial group validation set. Each subplot demonstrates the racial group topic model’s discriminative ability for each category (i.e., ability to distinguish which abstracts mentioned a racial group category). The AUC estimates show that racial group categories were detected between 46-60% of the time.

Explicit Theory

The explicit theory topic model validation on the explicit theory validation set is summarized in Tables 5-12 and 5-13.

When I validated the explicit theory topic model against the validation set (N=100) to assess how accurately the predicted topic exactly matched the human-coded label, the results yielded a macro-precision score of .112 and a macro-recall score of .216. When compared against the equal proportion threshold ($> 1/k = .20$), the mean accuracy was .58. The most accurate explicit theory model was social ecology while the least accurate model was behavioral.

In the comparison of predicted topics to exact matches with the human-coded labels, the explicit theory topic model yielded poor predictions with only 27 true positives predicted (Table 5-12). The behavioral theory category had the most ‘true positives’ (N=24 out of 25) the most ‘false positives’ (N=78); the overall F1 score for behavioral theory was low at .38.

Appendix Table 5-12 Accuracy (Exact Match) of Explicit Theory Topic Model, Explicit Theory

Validation Set

Topic	TP	FP	TN	FN	Precision	Recall	F1
Behavioral	24	78	22	1	0.24	0.96	0.38
Biomedical	2	9	91	23	0.18	0.08	0.11
Social Ecology	0	3	97	25	0.00	0.00	N/A
Community	1	6	94	24	0.14	0.04	0.06
Social Inequality	0	2	98	25	0.00	0.00	N/A
Micro-average				Macro-average			
precision (p)		recall (r)		Precision (P)		Recall (R)	
0.216		0.216		0.112		0.216	

Note: Micro-precision and micro-recall scores reflect the aggregated score for all categories whereas macro-precision and macro-recall scores are based on the average of each category’s precision and recall scores. Feature set parameters: low entropy, counts log-transformed, does not exclude based on feature keyness. Model parameters: alpha = 50/k, beta = .1, dictionary weight = .5, residual topics = 0, seed = 6819.

Further investigation revealed that among the false predictions, the predicted theta scores were on average 0.13 higher than ‘true’ topic scores. The following example of PQDOCID 2169991336 shows the predicted theta scores for the human-coded label and the predicted topic label.

	Topic model prediction	Human coded
Explicit theory category	social ecology	behavior
Predicted theta score	0.252	0.218
Rank of category prediction	1	2

Supplemental validation tests with different DFM transformations and parameter settings produced similar scores.

The threshold-based accuracy estimates are shown in Table 5-13. Under this less stringent threshold (i.e., predicted theta > 0.2), the explicit theory topic model accuracy was higher.

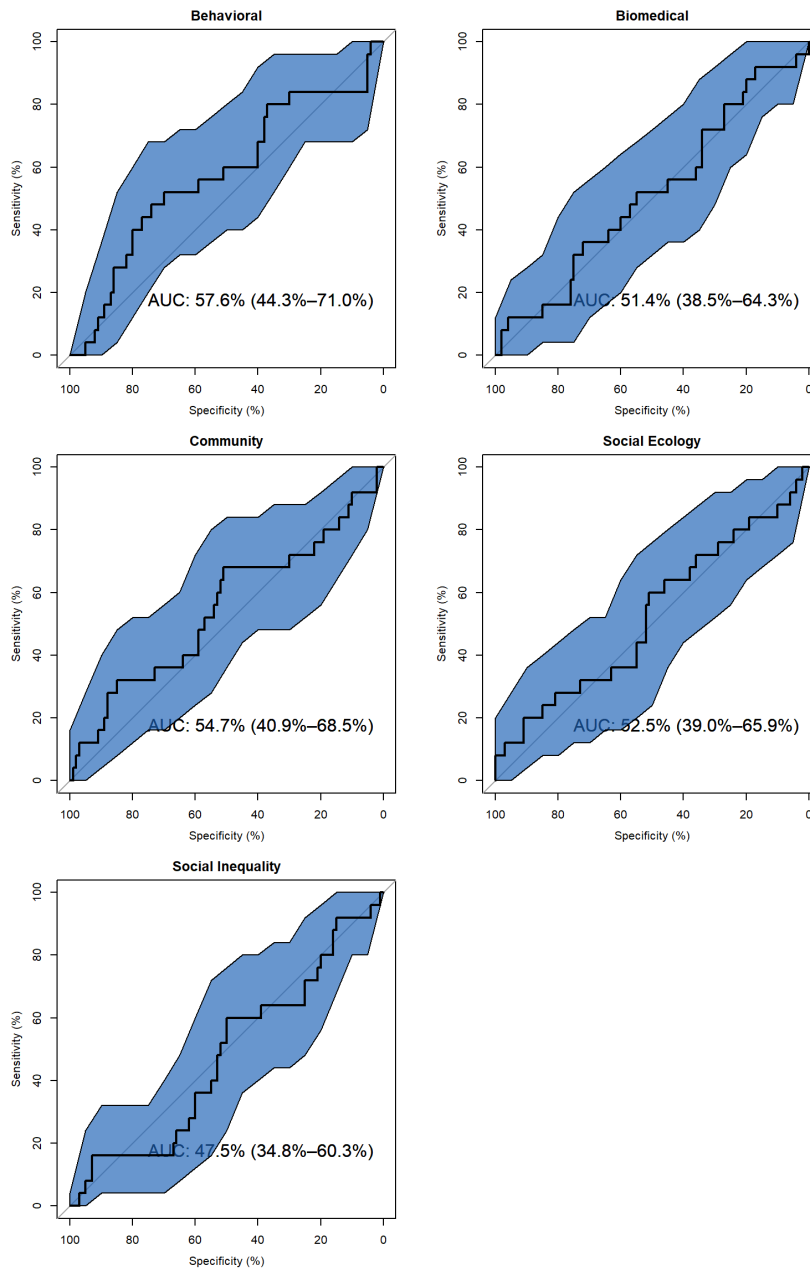
Appendix Table 5-13 *Accuracy (Exceeds Equal Proportions Threshold) of Explicit Theory Topic*

Model, Explicit Theory Validation Set

Topic	Accuracy (95% CI)	Sensitivity	Specificity
Behavioral	.24 (.17, .32)	1.00	.05
Biomedical	.66 (.57, .74)	.16	.78
Social Ecology	.76 (.68, .83)	.24	.89
Community	.62 (.53, .71)	.20	.73
Social Inequality	.66 (.57, .75)	.16	.79
Mean	.58		

Note: Explicit theory threshold = $1/k = .20$

Appendix Figure 5-14 *AUC for Explicit Theory Classification Discrimination, Validation Set*



Note: this figure shows the AUC curves for the explicit theory topic model predictions on the explicit theory validation set. The AUC estimates indicate that the explicit theory model detected categories roughly half of the time. The confidence intervals for every theory category spanned across 50%. The category with the highest point estimate was behavioral (AUC=57.6%; 95% CI=44.3-71.0%).

C. Paper 3 Supplemental Tables and Figures

Abstracts with Both Racial Group and Explicit Theory Terms

Appendix Table 5-14 *Explicit Theory Terms Used in Abstracts Naming Racial Groups (N=1,959)*

Explicit Theory Category	Abstracts with Racial Group Terms		Word Counts	
	N	%	N	Top Terms
Behavior	1,075	55	3,832	behavior*, stress, attitude*, benefit*, belief*, social_support, awareness, intention*, self-efficacy, lifestyle
Biomedical	999	51	4,113	*disease*, diagnos*, infect*, *blood*, genetic*, transmission, inflammat*, biolog*, *transmitted*, biomarker*
Community	424	22	831	participat*, local, empower*, community_organiz*, framing, social_disadvantage, diffusion_of_innovations, diffusion, relative_advantage, social_action
Social ecology	1,246	64	4,827	community, education, neighborhood*, communities, income, socioeconomic*, psychosocial, *poverty*, ses, social_determinants*
Social inequality	403	21	1,415	stigma*, *discrimination, *inequ*, racism, *_racism, racializ*, life_course, allostatic_load, minority_stress, intersectionality
Any Theory	1,859	95		
No Theory	100	5		

Appendix Table 5-15 *Racial Group Terms Used in Abstracts Using Any Explicit Theory*

(N=3,840)

Racial Group Category	Abstracts with Explicit Theory Terms		Word Counts	
	N	%	N	Top Terms
American Indian / Alaska Native	125	3	522	ai_an/s, indigenous, native_american*, american_indian_alaska_native/s, american_indian, tribal, tribe*, navajo, diné, ais
Asian / Asian American	170	4	628	asian*, asian_american*, chinese, filipin*, south_asian*, korean, cambodian, vietnamese, apida, bangladeshi
Black / African American	746	16	2,568	black, african_american*, african, blacks, non-hispanic_black*, kenyan, nigerian, black_african_american*, black- white, somali
Latinx	446	9	1,552	latin*, hispanic, hispanics, mexican*, hispanic_latino, spanish, latin_american, dominican, puerto_rican, peruvian
Middle Eastern / North African	26	0.5	75	arab_american*, arab, saudi, syrian, arabic, lebanese, palestinian, iraqi, israeli, jordanian
Native Hawaiian / Pacific Islander	40	0.8	153	pacific_islander*, samoan, native_hawaiian, apida, aapi*, native_hawaiians, micronesian, nhpi, aanhpi, nhopi
Unspecified	1,005	21	2,451	race, race_ethnicity, racial, minority, ethnicity, ethnic, counterparts, racial_ethnic, racial_ethnic_dispar*, racial_ethnic_group*
White	479	10	878	white, non-hispanic_w*, whites, european, black-white, canadian, caucasian, white_non-hispanic, white_american*, russian
Any racial group	1,859	39		
No racial groups	2,883	61		
Any explicit theory	3,840			

Racial Health Equity Full-Text Sample

Appendix Table 5-16 *Institutional Characteristics, ProQuest ETD Abstracts Racial Health Equity*

Full-Text Sample (2018-2022) (N=25)

Characteristics	N
Funded minority-serving institution	
Yes	5
No	20
Region	
Midwest	6
Northeast	2
South	5
West	12
Institution control	
Private	3
Private for-profit	5
Public	17

Note: Funded minority-serving institutions status based on Nguyen, M.H., Laderman, S., Heckert, K., Ramirez, J.J. (2023). The MSI Data Project full data set (06142023; Version 2) [Data set]. The Minority Serving Institutions Data Project. <https://www.msidata.org/publications>. California State University-Fresno: Currently funded HSI, Formerly funded HSI-PPOHA; San Diego State University: Currently funded HSI; Morgan State University: Currently funded HBCU, Currently funded HBGI; The University of Texas at El Paso: Formerly funded HSI, Currently funded HSI-STEM; University of Nevada-Las Vegas: Currently funded AANAPISI, Currently funded AANAPISI F

Appendix Table 5-17 *Dissertation Details, ProQuest ETD Abstracts Racial Health Equity Full-Text Sample (2018-2022) (N=25)*

#	PQDOCID	Year	Title	Degree	Department	University
1	2026817188	2018	Providers' Treatment for Overweight Navy Members and the Effect on Motivating Lifestyle Changes	DPH	PUBLIC HEALTH	WALDEN UNIVERSITY
2	2054024738	2018	Latinos' Use of Mental Health-Related Services: Using a HealthCrit and LatCrit Lens to Examine the Role of Perceived Ethnic Discrimination as an Indicator of the Socio-Environmental Consequences of Living in a Racialized Society	PHD	COMMUNITY HEALTH SCIENCES	UNIVERSITY OF CALIFORNIA LOS ANGELES
3	2101486073	2018	Parental Feeding Practices and Children's Weight Status in Mexican American Families	DRPH	PUBLIC HEALTH	UNIVERSITY OF CALIFORNIA BERKELEY
4	2174557759	2018	Formative Evaluation of the Health Belief Model as a Valid Theoretical Framework for "The Diabetes Garage"	MPH	PUBLIC HEALTH	THE UNIVERSITY OF TEXAS AT EL PASO
5	2187138827	2018	A Taste of Freedom: The Meaning & Experience of Work for Formerly Incarcerated Asian Pacific Islander individuals	MASTERS	ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES	UNIVERSITY OF WASHINGTON
6	2239995398	2018	Examining Socioeconomic Disparities in the Diet Quality and the Association with Cardiometabolic Measures among Mexican Adults	PHD	NUTRITION	THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
7	2273314212	2019	Does Empowerment Predict Vaccine Uptake? Identifying Early Adopters of Recently-Introduced Childhood Vaccines in Malawi	MS	COMMUNITY HEALTH SCIENCES	UNIVERSITY OF CALIFORNIA LOS ANGELES
8	2325355392	2019	The Impacts of Race, Residence, and Prenatal Care on Infant Mortality	PHD	PUBLIC HEALTH	WALDEN UNIVERSITY
9	2355986704	2019	The Impact of Health Literacy, Culture and Psychosocial Factors on the Pap Testing Behaviors of African Immigrant Women in the United States	PHD	COMMUNITY PUBLIC HEALTH	THE JOHNS HOPKINS UNIVERSITY
10	2432899909	2020	The Feasibility of a Peer-Based Intervention to Increase Physical Activity and Healthy Eating in African American College Students at Morgan State University	DRPH	PUBLIC HEALTH AND POLICY	MORGAN STATE UNIVERSITY
11	2441533355	2020	The Relationship Between Methamphetamine Use and Criminality	MPH	PUBLIC HEALTH	CALIFORNIA STATE UNIVERSITY FRESNO
12	2454443562	2020	Does Marriage, Employment and Having Children Matter? A Secondary Analysis on Physical Activity Levels, Leisure Time	PHD	HEALTH PROM EDU AND BHV	UNIVERSITY OF SOUTH CAROLINA

#	PQDOCID	Year	Title	Degree	Department	University
			Physical Activity, and Social Roles Among Women in the United States			
13	2454638064	2020	Factors Associated with Hepatitis B Vaccination Among Asian Adults (≥ 18 Years) in the United States	DPH	PUBLIC HEALTH	WALDEN UNIVERSITY
14	2459373432	2018	Towards a Long-term Care System in Chile	DRPH	PUBLIC HEALTH	HARVARD UNIVERSITY
15	2462618072	2020	Moving Further Upstream to Promote Racial Equity: A Mixed Method Analysis of Private Nonprofit Hospital Community Benefit	DRPH	PUBLIC HEALTH	UNIVERSITY OF CALIFORNIA BERKELEY
16	2539862625	2020	Gardasil Vaccine Trends within Nevada, California, and the U.S.: A Comparative Study	MPH	ENVIRONMENTAL AND OCCUPATIONAL HEALTH	UNIVERSITY OF NEVADA LAS VEGAS
17	2558101018	2021	The Impact of Medicaid Expansion on Breast and Cervical Cancer Screening Rates	MPH	EPIDEMIOLOGY	UNIVERSITY OF WASHINGTON
18	2568280980	2021	Adaptive Resilience of Community Organizations Serving Older Asian American Adults during the COVID-19 Pandemic	MASTERS	HEALTH SERVICES	UNIVERSITY OF WASHINGTON
19	2591344492	2021	Barriers to Nutrition-Related Chronic Disease Management in Kaqchikel-Speaking Communities in Guatemala: An Exploratory Analysis of Cultural and Linguistic Factors	MASTERS	GLOBAL HEALTH	UNIVERSITY OF WASHINGTON
20	2592287836	2021	Race, Property, and Population Health: Examining Policy-Driven Patterns of Whiteness, Anti-Blackness and Health Inequity in Metropolitan Detroit	PHD	HEALTH BEHAVIOR AND HEALTH EDUCATION	UNIVERSITY OF MICHIGAN
21	2623868679	2021	Environmental Racism in the Eastern Coachella Valley: P'urhépecha Parents' Testimonios on Childhood Asthma-Related Symptoms and Its Relationship to the Salton Sea	MPH	LATIN AMERICAN STUDIES	SAN DIEGO STATE UNIVERSITY
22	2631863652	2021	Improving Surveillance of Emerging RNA Viruses	PHD	EPIDEMIOLOGY AND PUBLIC HEALTH	YALE UNIVERSITY
23	2647657262	2022	Exploring Promotoras as Influencers of Physical Activity and Diet Acceptability among Latinas	PHD	PUBLIC HEALTH	WALDEN UNIVERSITY
24	2650282409	2022	Intersectional Approach to Understand Condom Use Behavior between Black and Latinos MSM and Transgender Women	PHD	HEALTH EDUCATION AND PROMOTION	WALDEN UNIVERSITY
25	2719337624	2022	Associations of Structural Racism and Forced Sexual Intercourse Among High School Students in the United States	MASTERS	EPIDEMIOLOGY	UNIVERSITY OF WASHINGTON

Appendix Table 5-18 *Detected Racial Group and Explicit Theory Terms, Racial Health Equity*

Full-Text Dissertation Sample (N=25)

PQDOCID	Title	Matching Keywords from Abstract
2026817188	Providers' Treatment for Overweight Navy Members and the Effect on Motivating Lifestyle Changes	ethnicity, lifestyle, perception, social capital, social support
2054024738	Latinos' Use of Mental Health-Related Services: Using a HealthCrit and LatCrit Lens to Examine the Role of Perceived Ethnic Discrimination as an Indicator of the Socio-Environmental Consequences of Living in a Racialized Society	discrimination, latino, latinos, neighborhood, perceived, perceived_ethnic_discrimination, public_health_critical_race_praxis, racialization, racialized
2101486073	Parental Feeding Practices and Children's Weight Status in Mexican American Families	behavior, behaviors, ethnicity, latino, mexican, mexican_american, participation, social support, white
2174557759	Formative Evaluation of the Health Belief Model as a Valid Theoretical Framework for "The Diabetes Garage"	action, awareness, behavior, behaviors, benefits, disease, health_belief_model, hispanic latino, participation
2187138827	A Taste of Freedom: The Meaning & Experience of Work for Formerly Incarcerated Asian Pacific Islander individuals	asian_american, asian_pacific_islander, black, pacific_islander, racialized, southeast asian
2239995398	Examining Socioeconomic Disparities in the Diet Quality and the Association with Cardiometabolic Measures among Mexican Adults	disease, diseases, inflammatory, mexican
2273314212	Does Empowerment Predict Vaccine Uptake? Identifying Early Adopters of Recently-Introduced Childhood Vaccines in Malawi	attitudes, participation, empowerment, infection, malawian
2325355392	The Impacts of Race, Residence, and Prenatal Care on Infant Mortality	awareness, black, blacks, hispanics, race, racial, whites
2355986704	The Impact of Health Literacy, Culture and Psychosocial Factors on the Pap Testing Behaviors of African Immigrant Women in the United States	african, ais, behaviors, beliefs, racial_ethnic_minority, self-efficacy, social determinants of health
2432899909	The Feasibility of a Peer-Based Intervention to Increase Physical Activity and Healthy Eating in African American College Students at Morgan State University	african_american, behaviors, historically_black_college/university, observational_learning, social_support
2441533355	The Relationship Between Methamphetamine Use and Criminality	behavior, race_ethnicity
2454443562	Does Marriage, Employment and Having Children Matter? A Secondary Analysis on Physical Activity Levels, Leisure Time Physical Activity, and Social Roles Among Women in the United States	disease, race
2454638064	Factors Associated with Hepatitis B Vaccination Among Asian Adults (≥ 18 Years) in the United States	aapis, asian, asian_americans, awareness, behavioral, disease, pacific islanders
2459373432	Towards a Long-term Care System in Chile	awareness, chilean, public_policy
2462618072	Moving Further Upstream to Promote Racial Equity: A Mixed Method Analysis of Private Nonprofit Hospital Community Benefit	inequities, racial, racialized
2539862625	Gardasil Vaccine Trends within Nevada, California, and the U.S.: A Comparative Study	behavioral, race
2558101018	The Impact of Medicaid Expansion on Breast and Cervical Cancer Screening Rates	behavioral, black_non-hispanic, race ethnicity, white non-hispanic

PQDOCID	Title	Matching Keywords from Abstract
2568280980	Adaptive Resilience of Community Organizations Serving Older Asian American Adults during the COVID-19 Pandemic	asian_american, discrimination, racial, systemic_racism
2591344492	Barriers to Nutrition-Related Chronic Disease Management in Kaqchikel-Speaking Communities in Guatemala: An Exploratory Analysis of Cultural and Linguistic Factors	disease, diseases, indigenous, indigenous_maya, racism
2592287836	Race, Property, and Population Health: Examining Policy-Driven Patterns of Whiteness, Anti-Blackness and Health Inequity in Metropolitan Detroit	benefits, black, inequities, race, racial, racialization, racialized, white, minority
2623868679	Environmental Racism in the Eastern Coachella Valley: P'urhépecha Parents' Testimonios on Childhood Asthma-Related Symptoms and Its Relationship to the Salton Sea	hispanic, indigenous, latine, mexicans, racism, spanish, structural_violence
2631863652	Improving Surveillance of Emerging RNA Viruses	diagnostic, disease, dominican, genomic
2647657262	Exploring Promotoras as Influencers of Physical Activity and Diet Acceptability among Latinas	attitudes, behaviors, beliefs, latinas, latino, participation, perceptions, social_networks, social_support
2650282409	Intersectional Approach to Understand Condom Use Behavior between Black and Latinos MSM and Transgender Women	behavioral, black, health_belief_model, intersectionality, latino, latinos
2719337624	Associations of Structural Racism and Forced Sexual Intercourse Among High School Students in the United States	ai_an/s, american_indian_alaska_native/s, behavior, behaviors, black, counterparts, race, structural_racism, white

Racial Health Equity Typologies

Appendix Table 5-19 *Exposure to Racism Type (Names and Operationalizes Racism) (N=9)*

Title (PQDOCID)	Group(s) of Interest	Measured Exposure(s)	Measured Outcome(s)	Implication(s)
Latinos' Use of Mental Health-Related Services: Using a HealthCrit and LatCrit Lens to Examine the Role of Perceived Ethnic Discrimination as an Indicator of the Socio-Environmental Consequences of Living in a Racialized Society (2054024738)	Latino adults	Perceived ethnic discrimination; perceived neighborhood crime; citizenship; nativity	Mental health service use	Challenge racialization (nativism)
A Taste of Freedom: The Meaning & Experience of Work for Formerly Incarcerated Asian Pacific Islander individuals (2187138827)	Asian American and Pacific Islander formerly incarcerated men	Incarceration; citizenship status; school-to-prison-to-deportation pipeline	Survival work; meaningful work; successful transition	Challenge racialization (model minority); redistribute resources equitably (opportunities for meaningful work)
Moving Further Upstream to Promote Racial Equity: A Mixed Method Analysis of Private Nonprofit Hospital Community Benefit (2462618072)	Various racial groups (Paper 1, 2); African Americans, Latinos, Caucasian, Asian/Pacific Islander (Paper 3)	Variation in community benefit spending; hospital religious mission; race-neutral justification for community benefit spending	Private non-profit hospital community benefit spending	Redistribute resources equitably (prioritize community benefit spending on racial equity)
Adaptive Resilience of Community Organizations Serving Older Asian American Adults during the COVID-19 Pandemic (2568280980)	Community-based organizations serving Asian American elders in Washington	COVID-19; interpersonal racism (verbal harassment); systemic racism (economic deprivation); routine hardship	Community-based organizations' resources; personal, community, and organizational resilience	Redistribute resources equitably (digital literacy, safe access to linguistically appropriate social services)
Barriers to Nutrition-Related Chronic Disease Management in Kaqchikel-Speaking Communities in Guatemala: An Exploratory Analysis of Cultural and Linguistic Factors (2591344492)	Indigenous Maya Kaqchikel health experts and patients	Colonization; loss of language and way of life; limited access to relevant health care	Not measured, but intended to prevent nutrition-related chronic disease	Challenge racialization (inferiority); redistribute resources equitably (incorporate Kaqchikel language into health care)
Race, Property, and Population Health: Examining Policy-Driven Patterns of Whiteness, Anti-Blackness and Health	Black and white neighborhoods	Structural racialization; geographical whiteness; fiscal advantage;	Excess death; life expectancy; disability	Challenge racialization (make whiteness visible); redistribute resources equitably (regional fiscal and political influences on housing)

Title (PQDOCID)	Group(s) of Interest	Measured Exposure(s)	Measured Outcome(s)	Implication(s)
Inequity in Metropolitan Detroit (2592287836)		property tax foreclosures		
Environmental Racism in the Eastern Coachella Valley: P'urhépecha Parents' Testimonios on Childhood Asthma-Related Symptoms and Its Relationship to the Salton Sea (2623868679)	Indigenous P'urhépecha families	Environmental pollutants; structural vulnerability; access to health care; government inaction	Children's asthma and allergies; symptom treatment; healthcare decision making	Challenge racialization (invisibility); Redistribute resources equitably (use government resources to reduce pollutants)
Intersectional Approach to Understand Condom Use Behavior between Black and Latinos MSM and Transgender Women (2650282409)	Black and Latino men who have sex with men and transgender women	Housing status; LGBT People of Color Microaggression Scale; Daily Heterosexist Experiences Questionnaire; perceived susceptibility	Condom use and other risky sexual behaviors	Redistribute resources equitably (housing)
Associations of Structural Racism and Forced Sexual Intercourse Among High School Students in the United States (2719337624)	American Indian, Alaska Natives, Black, and White teens	Hyper-sexualized racist stereotypes (race as proxy); grade level; sex; binge drinking; frequency of cannabis use; frequency of hard drug use	Forced sexual intercourse	Challenge racialization (hyper-sexuality); Provide culturally relevant interventions

Appendix Table 5-20 *Potential Exposure to Racial Inequity Type (Names or Operationalizes Racism) (N=3)*

Partial Use of Racism	Title (PQDOCID)	Group of Interest	Measured Exposure(s)	Measured Outcome(s)	Implication(s)
Names but does not operationalize	Formative Evaluation of the Health Belief Model as a Valid Theoretical Framework for "The Diabetes Garage" (2174557759)	Hispanic/Latino men	Participation in intervention	Diabetes knowledge, perceived risk, perceived benefits/barriers, nutrition and physical activity behaviors, anthropometrics	Provide culturally relevant resources for improving nutrition and physical activity
Names but does not operationalize	Exploring Promotoras as Influencers of Physical Activity and Diet Acceptability among Latinas (2647657262)	Latina Promotoras	Promotoras' knowledge; attitudes/ beliefs/ and customs; social support; cultural values; neighborhood presence; government accountability	Retention in health promotion programs	Provide culturally relevant resources for improving nutrition and physical activity
Operationalizes but does not name	The Impacts of Race, Residence, and Prenatal Care on Infant Mortality (2325355392)	Black, Hispanic, White births in Tennessee	Place of residence (rurality and racial concentration), prenatal care, race, age, socioeconomic status, marital status, tobacco use, (infant) low birth weight	Infant mortality	Redistribute resources equitably

Appendix Table 5-21 *Other Exposure among People Type (Neither Names nor Operationalizes Racism) (N=13)*

Title (PQDOCID)	Group of Interest	Measured Exposure(s)	Measured Outcome(s)	Implication(s)
Providers' Treatment for Overweight Navy Members and the Effect on Motivating Lifestyle Changes (2026817188)	Active duty navy members (African American, Hispanic, Asian, Caucasian, Other)	Clinical practice guidelines about obesity	Motivation for weight management	Improve access to health care for obesity prevention
Parental Feeding Practices and Children's Weight Status in Mexican American Families (2101486073)	Mexican American families	Parental feeding practices; neighborhood, economic, and cultural barriers	BMI, waist circumference, parental feeding practices	Provide culturally relevant resources for improving nutrition
Examining Socioeconomic Disparities in the Diet Quality and the Association with Cardiometabolic Measures among Mexican Adults (2239995398)	Mexican adults	Diet, education, sex	BMI, waist circumference, cardiometabolic risk	Provide culturally relevant resources for improving nutrition
Does Empowerment Predict Vaccine Uptake? Identifying Early Adopters of Recently-Introduced Childhood Vaccines in Malawi (2273314212)	Malawian women with children	Women's health service utilization, empowerment, socio-demographic	Rotavirus and pneumococcal vaccination among children	Provide culturally relevant resources for improving HPV vaccination
The Impact of Health Literacy, Culture and Psychosocial Factors on the Pap Testing Behaviors of African Immigrant Women in the United States (2355986704)	African immigrant women in the United States	Health literacy, information sources, cultural beliefs, self-efficacy	Pap testing	Provide culturally relevant resources for improving Pap testing
The Feasibility of a Peer-Based Intervention to Increase Physical Activity and Healthy Eating in African American College Students at Morgan State University (2432899909)	African American college students	Social support, observational learning	Healthy eating, physical activity	Provide culturally relevant resources for improving nutrition and physical activity
The Relationship Between Methamphetamine Use and Criminality (2441533355)	People in the United States (ages 12+); Non-Hispanic White, Non-Hispanic Black/African American, Non-Hispanic Native American/Alaskan Native, Non-Hispanic	Methamphetamine use; use of other drugs; mental health concerns; violent behavior; age; gender; race/ethnicity	Ever been arrested	Provide culturally sensitive drug abuse treatment

Title (PQDOCID)	Group of Interest	Measured Exposure(s)	Measured Outcome(s)	Implication(s)
	Hawaiian/Other Pacific Islander, Non-Hispanic Asian, Non-Hispanic more than one race, and Hispanic			
Does Marriage, Employment and Having Children Matter? A Secondary Analysis on Physical Activity Levels, Leisure Time Physical Activity, and Social Roles Among Women in the United States (2454443562)	Adult Women in the United States (Non-Hispanic White, Non-Hispanic Black, Hispanic, Other)	Social roles (marital status, employment status, phase of motherhood)	Physical activity	Provide relevant resources for improving physical activity (policies for financial support for childcare and gym memberships for homemakers; flexible work policies; on-site exercise facilities for working women)
Factors Associated with Hepatitis B Vaccination Among Asian Adults (≥ 18 Years) in the United States (2454638064)	Asian Adults in the United States	Sociodemographics, health status, risky health behaviors (smoking, alcohol intake, tobacco use, physical activity)	Hepatitis B vaccination	Provide culturally relevant health education
Towards a Long-term Care System in Chile (2459373432)	Chileans	Limited knowledge, lack of consensus	Not measured but intended to inform plans to develop a long-term care system	Introduce nation-wide long-term care system
Gardasil Vaccine Trends within Nevada, California, and the U.S.: A Comparative Study (2539862625)	Teens in California and Nevada	State, poverty, urbanicity, race	HPV vaccine uptake, cervical cancer screening, adverse events	Introduce state-wide vaccination policy
The Impact of Medicaid Expansion on Breast and Cervical Cancer Screening Rates (2558101018)	Adult women (White non-Hispanic, Black non-Hispanic, other race non-Hispanic, Hispanic)	State-level Medicaid expansion	Breast and cervical cancer screening	Introduce nation-wide Medicaid expansion to increase access to health care

Title (PQDOCID)			Group of Interest	Measured Exposure(s)	Measured Outcome(s)	Implication(s)
Improving Emerging (2631863652)	Surveillance RNA	of Viruses	Dominican Republic (Paper 1); adults in the United States (Black/African American, Hispanic/Latino, Asian/South Asian, White, Native American) (Paper 2)	Usability of saliva self- collection kits (Paper 2)	Not measured, but intended to control the spread of RNA viruses	Introduce transnational surveillance

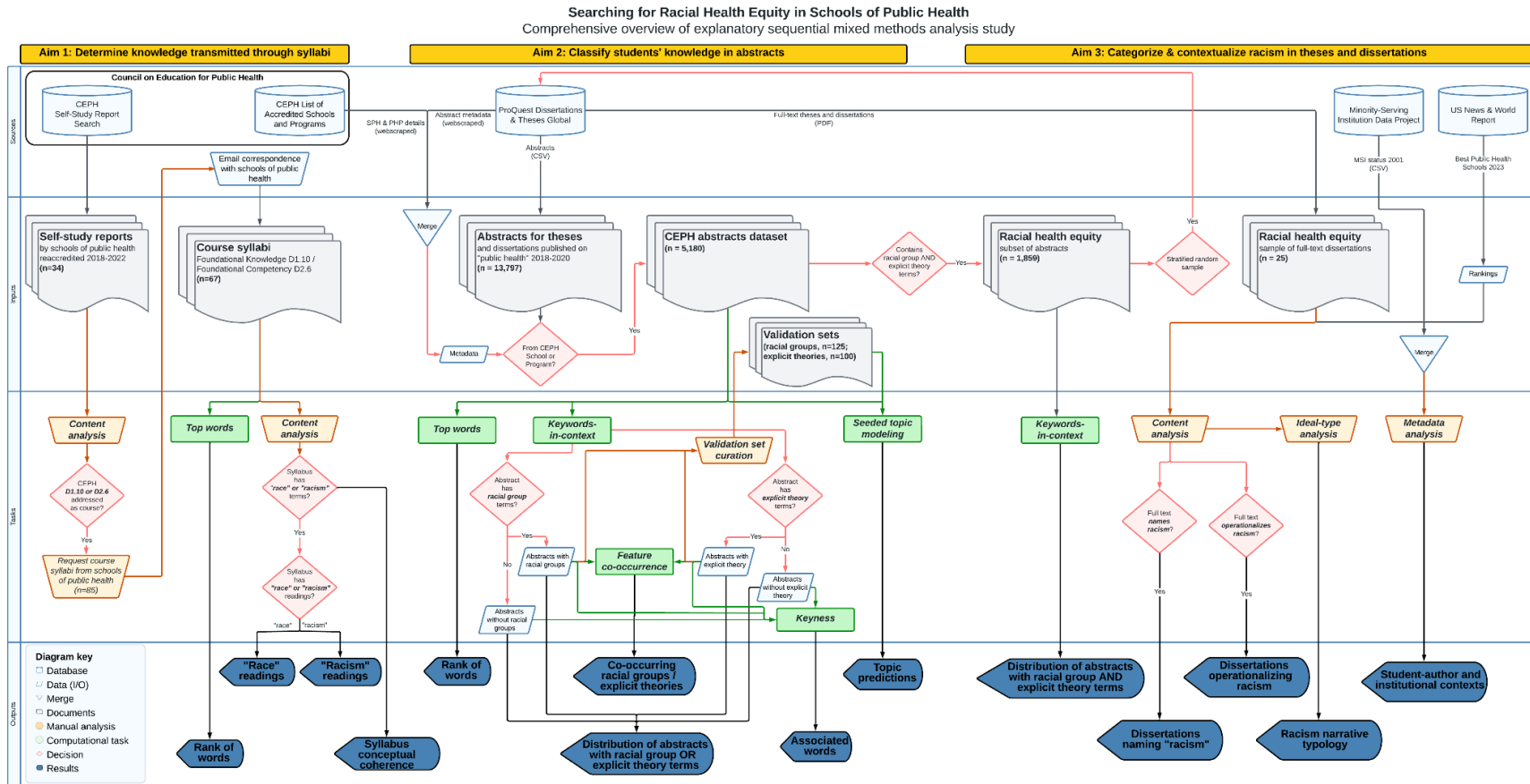
Appendix Table 5-22 *Accredited Public Health Programs and Certificates Focused on Racial Groups*

Racial Group	Available Programs
Asian American (N=1)	Dual-degree MPH with MA in Asian American Studies UCLA
Black / African American (N=10)	MPH at Historically Black Colleges and Universities Bethune-Cookman University Health Equity Charles Drew University of Medicine and Science Urban Health Disparities Florida A&M University (Online) Jackson State University Meharry Medical College Morehouse School of Medicine (part-time and online available) Morgan State University Tennessee State University Cultural Competency Tuskegee University Xavier University of Louisiana Public Health Equity
Latinx (N=6)	Dual-degree MPH with MA in Latin American Studies SDSU (“a Latin American historical, cultural, and linguistic milieu... in Latin America itself, the U.S./Mexico border, or in the interior of the U.S.”) UCLA (offered with the International Institute, not the César E. Chávez Department of Chicana/o and Central American Studies) University of Miami (“Latin America and the Caribbean, as well as expatriate communities in the United States”) University of New Mexico (“New Mexico, the Southwest, the United States/Mexico border region, and regions south of the border”) MPH with concentrations on Hispanic/Latino health University of Texas El Paso (Hispanic / Border health) California State University Long Beach (Latino health)
Indigenous (N=4)	MPH with specialization in Indigenous health UH Manoa (Native Hawaiian and Indigenous health) University North Dakota (“Indigenous populations include American Indian/Alaska Native, Canadian First Nations, Inuit, Sami, Aboriginal Australian, Maori, Ainu, and Pacific Islanders, among others.”) Certificate programs on American Indian health Colorado School of Public Health (Certificate in American Indian & Alaska Native Health) Johns Hopkins University (Public Health Training Certificate for American Indian Health Professionals)

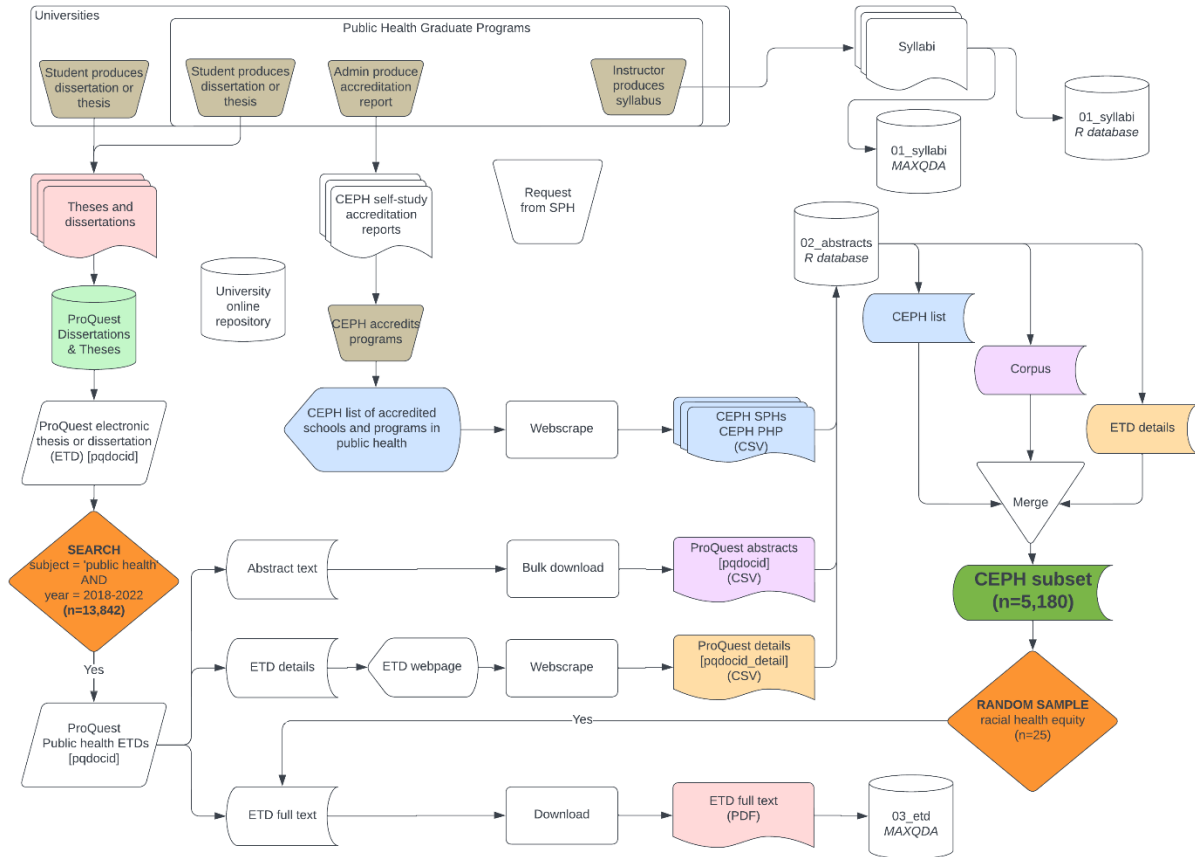
Note: General global/international health programs were excluded from this list. The MPH dual degree with MA in African Studies ([UCLA](#)) was also excluded because it does not focus on health in the Americas.

D. Dissertation Detailed Methodology

Appendix Figure 5-15 Comprehensive Overview of Dissertation Methodology



Appendix Figure 5-16 *Flow Diagram of Extraction, Transformation, and Loading Processes for Dissertation Data*



E. Paper 1 Detailed Methodology

Self-Study Re-Accreditation Reports

Data Acquisition

Of the sixty schools of public health in the U.S., 34 were reaccredited using the 2016 CEPH criteria between 2018-2022 based on the CEPH website. I generated an account through CEPH which granted access to the CEPH report online database (link). I downloaded the reaccreditation self-study reports for the in-scope schools.

Review of Re-Accreditation Self-Study Reports.

I imported the reaccreditation self-study reports into MAXQDA to identify relevant courses based on CEPH Template Tables D1 and D2. Within each report, I searched for text pertaining to D1-10 (e.g., ‘economic determinants’) and D2-6 (e.g., ‘racism’). I manually read pages with search results to locate and code the corresponding course numbers (e.g., PH200A) and assessment methods (e.g., discussion posts, exams). Because some reports included multiple degree-granting programs, I further distinguished codes by degree program (e.g., MPH, DrPH, MS) to exclude out-of-scope programs (e.g., MSPH).

In the self-study reports, how schools described their assessments indicated different interpretations of the foundational competency. Several schools avoided mentioning “racism” (e.g., “apply multiple behavior theories learned to case studies on high-risk populations in Week 14”) or kept assessments vague (e.g., “Lectures 1-13”). Others explicitly described opportunities for practicing discussions about racism (e.g., “Week 2 Forum is an ecological overview of a specific health issue with emphasis on racism, colonialism, and other structural forms of discrimination and exclusion”).

Syllabi

Data Acquisition

Through my review of the self-study reports, I identified 86 credit and non-credit courses that addressed Foundational Knowledge D1-10 and Foundational Competency D2-6 criteria. I developed a general study information sheet which was customized with each school's list of relevant courses.

Template: Email customized for school

Subject: Requesting Public Health Syllabi for a Data Science Content Analysis

Dear Dean {{Recipient}},

I hope this email finds you well. I am a PhD candidate at the UCLA Fielding School of Public Health. For my dissertation, I am examining what public health graduate students learn about health disparities by reviewing syllabi from schools of public health.

I am requesting copies of course syllabi intended to address the Council on Education for Public Health criteria for Foundational Knowledge D1-10 and Foundational Competency D2-6. Based on the reaccreditation self-study report for the {{SPH}} at {{University}}, {{text}}.

Could you please send me a copy of the most recent syllabus on file for these courses?

I have attached additional details about the study for your reference. Please let me know if you have any questions or concerns.

Thank you!

Template: Study information sheet

**Detecting determinants of health:
A data science approach to describing keyword trends in public health curricula**
Study Information Sheet

What is the purpose of this research?

The goal of our study is to examine what students learn about health disparities. We do this by examining which readings are assigned in syllabi from schools of public health in the U.S.

Why are you contacting me?

The Council on Education for Public Health (CEPH) listed you as the Dean or a similar point of contact for a school of public health that was reaccredited by CEPH between 2018-2022.

What are you asking for?

We would like to obtain copies of course syllabi that address the following CEPH criteria:

Foundational knowledge D1-10	Foundational competency D2-6
Explain the social, political and economic determinants of health and how they contribute to population health and health inequities.	Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels.

Based on the reaccreditation self-study report for the **School of Public Health at Boston University**, these courses are as follows:

1. [LIST OF COURSES].

What will you do with these syllabi?

We will analyze syllabi text to identify common topics and readings on determinants of health.

Why should we participate?

The empirical findings of this study will inform ongoing dialogue in academic public health about how to prepare the public health workforce to advance health equity.

How will you protect my intellectual property?

The syllabi will not be shared, and any findings will be provided in the aggregate. We will not analyze course assignments or pedagogical techniques.

Has this been approved by IRB?

Because we are reviewing existing records rather than conducting human subjects research, this study has been exempted from IRB review (IRB#23-000441).

Who is conducting this study?

Erin Manalo-Pedro, MPH is a PhD candidate in the Department of Community Health Sciences at the Fielding School of Public Health at UCLA with a minor in education. Her dissertation committee is chaired by Dr. Gilbert C. Gee and includes Drs. Courtney S. Thomas-Tobin, Alina Dorian, and Daniel G. Solórzano.

If you are interested in participating, please contact Erin Manalo-Pedro at emanalo@g.ucla.edu.

Computational Text Analysis of Syllabi Corpus.

Pre-Processing

I standardized filenames with the Advanced Renamer tool (Jensen, 2021). I used the *quanteda* package to generate the corpus in RStudio (Benoit et al., 2018). The corpus was tokenized at the word level. Separators, symbols, punctuation, numbers, and URLs were removed to reduce noise. Multiword expressions (e.g., ‘public health’) containing relevant keywords (e.g., ‘health,’ ‘equity’) were compounded (i.e., concatenated with an underscore) to distinguish between relevant concepts (e.g., ‘health equity’). I also compounded phrases to minimize false positives referring to university or classroom policies (e.g., ‘title ix prohibits gender discrimination’, ‘diversity equity inclusion statement’) or methods (e.g., “structural equation modeling”). Governmental and departmental entities were also compounded to distinguish entities (e.g., “white house”, “health policy management”) from atomic keywords (e.g., “white”, “health,” “policy”). To further reduce superfluous noise, pre-defined common English stopwords, a user-generated list of syllabus words (e.g., “assignment,” “lectures,” “tuesday”), and other single-word false positives (e.g., ‘blackwell’, ‘fairchild’) were removed.

Top Words

First, to provide a high-level overview of terms, I assessed the frequency of terms (i.e., features) in the dataset (i.e., corpus). The top features were selected from the pre-processed document-feature-matrix (dfm), which excluded noise via stopword removal (e.g., removing ‘monday’). Compounded multiword expressions count as different features from features occurring alone (e.g., ‘social_determinants_of_health’ is distinct from ‘social’).

Leveraging the *quanteda* package, I determined the distribution of features per syllabus (i.e., document), which is known as a document-feature-matrix (DFM). To group similar terms, I

also generated a DFM with stemmed words (e.g., ‘intervention’, ‘interventions’). Each feature was ranked to indicate its relative frequency. To reduce the full DFM of nearly 15,000 features for analysis, I trimmed the DFM to features that occurred at least 20 times across the entire corpus. I based the threshold cutoff on the assumption that these words appear relatively frequently, or roughly at least once in 75% of the syllabi. Sensitivity analysis indicated that a threshold of 100 occurrences excluded several keywords (e.g., ‘disparities’, ‘health_inequities’), whereas a lower threshold of 10 occurrences would yield more than 2,000 features.

Keyword Searches

To categorize words found in the syllabus, I developed word lists (i.e., dictionaries). I created a data integrity word list to confirm that syllabus terminology could be detected within the document (e.g., ‘*course*’, ‘*objective*’). Next, I generated a word list of general public health terminology as a reference (e.g., ‘public_health’, ‘health’). Three racial health equity word lists were developed based on the following concepts: racialized people as key groups of interest, health equity as an outcome, and racism as an exposure to harm. Then, I used the keyword-in-context function to identify how frequently the terms in each word list occurred overall and within each document.

Word List	Purpose	Examples
Data integrity	Confirm syllabus terminology exists	‘*course*’, ‘*objective*’
Public health	Establish counts for general public health terminology	‘public_health’, ‘health’
Outcomes	Count how outcomes are framed	‘health_equity’, ‘health_disparities’
Exposure	Count racism words in support of D2-6	‘racism’, ‘white_supremacy’, ‘discrimination’, ‘unequal_treatment’
Population	Count references to racialized people, generally and specifically	‘race’, ‘black’, ‘filipino’, ‘racial’, ‘ethnic_minority’

Note: Agreed upon during meeting with committee chair, Gilbert C. Gee, on February, 14, 2024.

Content Analysis of Syllabi

Syllabus Coding.

I reviewed syllabi using MAXQDA, a tool for qualitative data analysis which allows for the comparison of qualitative codes across documents (VERBI Software, 2021). I applied four rounds of codes. First, I applied organizational codes to identify sections of the syllabus (e.g., course title, content, CEPH competencies). Second, I searched for keywords anywhere in the syllabi using the same word list from R analysis. Segments were coded as ‘race-related’ if there was any mention of race or ethnicity generally (e.g., ‘race’, ‘ethnic minority’) or specifically (e.g., ‘Filipino’, ‘Mexican’). Segments were coded as ‘health equity’ to indicate unequal health outcomes. Segments were coded as ‘racism’ to indicate exposure to racism as a determinant of health, including ‘discrimination’, ‘unequal’ and ‘white supremacy’. Third, I limited the search results for valid segments. Matching words that were author last names (e.g., ‘Black’, ‘Thai’), did not pertain to racial groups (e.g., discrimination against older adults), or otherwise irrelevant were excluded. Lastly, matching coded segments were adjusted to capture the overlap between the keywords and the following in-scope syllabus sections: course titles, course descriptions, learning objectives, content, and journal article titles. Assessments, course and university policies, student resources, and instructor commentary were excluded from analysis. To minimize potentially incorrect inferences, I took a conservative approach by restricting the search to explicit, verbatim terms. Thus, the results potentially are an underestimation.

Syllabi Coherence.

To get a sense of how connected each syllabus was within itself and across all syllabi to note potential departures or dissonance. I used the code relations feature in MAXQDA to create syllabus-level binary indicators to indicate co-occurring codes in the same syllabus. Learning

objectives, course descriptions, and content for race, health equity, and racism. All syllabi, FK D1-10, FC D2-6.

Reading List Compilation

Among the segments noted as content, I distinguished whether materials were journal articles or another format (e.g., book, podcast, non-academic article, or other resource). Because citation styles varied, I identified unique journal articles by coding the title of the journal article. I exported the list of article titles with their corresponding syllabus ID to Excel. I cleaned the text by removing extra spaces, correcting typos, and standardizing punctuation marks (e.g., en dash, em dash, colon). Then I determined how many times articles were assigned by school and syllabus. I imported these titles into R to look up full citations with the rcrossref package to generate APA citations.

F. Paper 2 Detailed Methodology

Data Acquisition

Abstract Search

Abstract texts were downloaded in bulk directly from the PQDT database using the following search criteria: su("public health") AND schloc("United States") AND yr(2018-2022). Due to limits on the number of records per download, queries were split into 1- or 2-year batches.

ETD Metadata

Octoparse generates and runs code to copy text from user-defined segments of a webpage via HTML elements, such as xpath “/descendant-or-self::DIV[contains(@class,"display_record_indexing_fieldname")]”. Based on the URL from the bulk download (e.g., <https://www.proquest.com/docview/2322824781?accountid=14512>), I generated a new URL to direct to the page with details (e.g., <https://www.proquest.com/docview/2322824781/abstract/?accountid=14512>). I fed these revised URLs into Octoparse to automatically extract the details and corresponding values for each document. To link each detail back to its original document, each extracted record included metadata for the original document (e.g., detail, value) and the extract request (e.g., originalurl, pagetitle, currenttime). The number of details per document ranged from 19 to 25. The most common details were degree, school code, university/institution, and department. Altogether, 315,999 details were extracted.

CEPH Metadata

Institution details of CEPH accredited schools and programs (<https://ceph.org/about/org-info/who-we-accredit/accredited/>) were also webscraped from the CEPH website using Octoparse. CEPH details included accreditation type (school vs. program), university name, entity website,

entity name (e.g., UCLA Jonathan and Karin Fielding School of Public Health), accreditation expiration date, city, and state. The universities on the CEPH list were matched by name to the ProQuest document metadata, initially via exact match, then manually. Some school names were slightly different between the CEPH and ProQuest lists (e.g., “Claremont Graduate University” for CEPH was “The Claremont Graduate University” for ProQuest). Additionally, I included each ProQuest school code when accredited entities represented multiple schools. CEPH accredited the Consortium of Eastern Ohio, which includes four unique school codes for the University of Akron, Cleveland State University, Northeast Ohio Medical University, and Youngstown State University.

CEPH Dataset

The ProQuest document metadata and the CEPH institutional data were then used to identify a subset of abstracts from accredited CEPH schools and programs (Figure 2-1). First, the abstract had to come from a university with a CEPH accredited school or program as determined by their existence on the CEPH list. MPH programs without accreditation were excluded. California State University, Sacramento published 26 MPH theses in 2022 but did not receive CEPH accreditation until January 2023. Some CEPH schools and programs could not be found in the ProQuest extract (e.g., San Francisco State University, Morehouse School of Medicine). Targeted searches unconstrained by subject or year criteria confirmed that PQDT did not record ETDs from these institutions.

Because of the broad types of degrees and departments in schools and programs of public health, the dataset was further filtered to include degree types in combination with department names. Beyond the standard MPH, DrPH, PhD, and MS degrees, additional degree types were determined through an iterative process of concurrently reviewing degree types, department names, and the number of degrees issued by examining exported data in Excel pivot tables and

refining inclusion criteria within R code. For example, the abstract metadata indicated that 62 “SCD” degrees were issued in common public health departments: Environmental Health, Epidemiology, Global Health and Population, Global Health Systems and Development GHSD, and Social and Behavioral Sciences. The following degree types were considered public health degrees: DBA, DHA, DHED, DPH, DPROF, DRPH, DSC, EDD, PHD, SCD, and SD at the doctoral level; MA, MASTERS, MPH, MS, MSC, MSEH, MSMPH, MSPH, MSW, and MUP at the master’s level. Excluded degree types were generally in related health professions (e.g., DNP, MD). Additionally, variations in the spelling of department names were addressed by using regular expressions to find keywords (e.g., “Health Education”, “Health Srv”). Seven abstracts from San Diego State University were included as part of dual degree programs (e.g., “MPH” in a “Latin American Studies” department or “MSW” in a “Public Health” department).

Manual review. 481 dissertations came from University of Pittsburgh's database; benefit: know for sure which theses and dissertations are from the school of public health <https://pitt.libguides.com/c.php?g=12238&p=65147>. <http://d-scholarship.pitt.edu/36322/>; this thesis was included in the ProQuest search, but is not in the database. Fewer than 50 https://etda.libraries.psu.edu/?f%5Bprogram_name_ssi%5D%5B%5D=Public+Health+Sciences&f%5Byear_isi%5D%5B%5D=2018. CSU catalog: CSULB, SFSU (nothing), CSU San Marcos, Fresno: https://scholarworks.calstate.edu/catalog?f%5Bdepartment_sim%5D%5B%5D=Public+Health&range%5Bdate_issued_year_sim%5D%5Bbegin%5D=2018&range%5Bdate_issued_year_sim%5D%5Bend%5D=2022&search_field=dummy_range.

Multiword Expression Detection

Sequential tokens that convey a distinct meaning were detected by using the `quanteda.textstats` package. Multiword expressions are identified by generating a collocation score, *lambda*, based on the association of adjacent words. According to the `quanteda` developers, “the lambda computed for a size = K-word target multi-word expression the coefficient for the K-way interaction parameter in the saturated log-linear model fitted to the counts of the terms forming the set of eligible multi-word expressions” (Identify and score multi-word expressions, n.d.). For a 2-word expression (e.g., “public health”), the lambda coefficient represents the two-way interaction for predicting the goodness-of-fit of “public” and “health” occurring among all possible 2-word expressions in the corpus. The z represents lambda weighted by its Wald statistic, with larger values indicating a better fit.

Validation Set Curation

To assess the performance of the seeded topic models, I curated a validation set of abstracts that exemplify each topic in each dictionary. The racial group validation set was selected by filtering document-level data that indicated which racial group was identified through the KWIC search. Based on the assumption that titles reflect true topics, this subset was further narrowed down based on the explicit mention of a racial group or explicit theory in the title. Documents were assigned only one “true topic” even if their KWIC results indicated that the abstract mentioned multiple groups. Documents were excluded from the validation set if the abstract title mentioned more than one group to highlight clear examples or the group mentioned was studied beyond the United States. The NHPI and MENA validation sets were not subject to these exclusion criteria due to the small n of NHPI and MENA documents overall. White groups were primarily named in comparison to other racial groups or not specified in the title.

Similarly, the explicit theory validation set was selected by filtering document-level data that indicated which explicit theory was identified through the KWIC search. For example, a lexical search of the phrase “belief model” within the corpus included a 2022 dissertation titled, “Exposure to Malaria Awareness Messages and Preventive Health Behaviors among Informal Workers in Ghana.” Because the author explicitly referenced the “health belief model” in their abstract I set its “true topic” to ‘behavior’. Because thesis titles tend to emphasize the subject rather than the theory, titles were not a key source for the theory validation set curation process.

Classification Accuracy

Classification accuracy indicated how well the topic model correctly predicted topics for each abstract within the validation set. As a first indicator, I tested whether the highest topic theta aligned with the human-labeled topic. I used the `newsmap` package to generate an F1 score for each topic model class (Watanabe, 2018). The F1 score combines precision (i.e., identifying ONLY true positives) and recall (i.e., identifying ALL relevant true positives). An F1 score of 1 indicates perfect precision and recall whereas a score of 0 indicates poor performance. Additionally, the micro-average precision (p) and recall (r) report the pooled classification results for all classes in the topic model and the macro-average precision (P) and recall (R) report the average of each class’s separate precision and recall.

The second indicator assessed classification performance by determining whether predicted probabilities for ‘true’ topics met a minimum threshold. I applied multiple thresholds as a sensitivity test. For both models, I applied a threshold of 50%, the standard for classification performance assessment. Then I applied a threshold based on the assumption of equal proportion of topics per model. That is, the explicit theory dictionary contained 5 topics, so I set the classification threshold for the theory model at 0.20. Similarly, the racial group dictionary

contained 8 topics, so I set the classification threshold for the racial group model to 0.125. I generated confusion matrices to summarize the true positive prediction and other indicators of accuracy.

Topic Model Optimization

For one approach to internal validity, I sought to improve the meaningfulness between words through a two-step feature selection process. To generate a sparse DFM with fewer features to analyze, I first excluded features that were less useful for topic prediction (i.e., high entropy) then I retained features that were statistically significantly associated with the seeded dictionary terms. High entropy values indicate frequent cooccurrence with words across multiple topics, whereas low entropy values indicate frequent cooccurrence with words across fewer topics (Watanabe, 2021). Because high entropy words confuse topic models, features with entropy values in the 97.5th percentile or greater were removed from analysis (e.g., ‘sites’, ‘data’, ‘influence’). However, features with high entropy values were retained if they were key terms from the racial group or explicit theory dictionaries. See the appendix for the list of words excluded due to entropy (n=887).

For the second step in feature selection, I kept terms based on keyness. Sparse DFMs are commonly generated based on feature frequency (Manning et al., 2008), but because I was also interested in infrequent words, I leveraged quanteda’s keyness text statistic. The keyness function runs a chi-square test of independence to determine which features are statistically significantly located within a set window of words around each dictionary term (Benoit, n.d.). This brought the feature set from 39,129 features (99.72% sparse) down to 8,742 features (99.48% sparse). (Note: feature selection based on keyness was only used for the CEPH Dataset not the validation sets, due to a much smaller feature set.) Additionally, I applied various transformations to the feature counts

in the sparse DFM to reduced skewness while maintaining relative frequencies (see appendix). The results presented here reflect frequencies weighted by the ‘logcount’ scheme: (1 + the log of each count).

As another approach for internal validity, I configured topic model parameters. The value for the topic-document distribution prior, *alpha*, is used to maximize common features across documents whereas the word-topic distribution prior, *beta*, is used to minimize conflicts between topics (Griffiths & Steyvers, 2004; Page et al., 2023; Wallach et al., 2009). Configuring *alpha* and *beta* affects the distributions of *theta* and *phi*, respectively; experts recommend asymmetric/symmetric priors (Wallach et al., 2009). Larger values of *alpha* increase the number of possible topics in each document. Based on the KWIC results, I assumed that abstracts would focus on fewer racial group categories (e.g., only mention ‘race’ or compare two specific racial groups), so I set *alpha* to $1/k$ for the racial group topic model. In contrast, the KWIC results showed that abstracts frequently contained multiple theory categories (i.e., behavior theory terms often co-occurred with biomedical theory terms); thus, I set *alpha* to $50/k$ for the theory topic model. Because smaller values of *beta* limit the number of topics that a word can belong to, *beta* was set to the default value of 0.1 for both models (Griffiths & Steyvers, 2004).

Further, I added weight (0.5) to the seed words to increase their influence on topic model prediction. I also configured the maximum number of iterations for Gibbs sampling to 2000 to allow plenty of opportunities for the models to converge. I applied the same seed number for each run to improve the reliability of predictions across topic model executions. The topic predictions presented in the results were based on the predictive *theta* scores averaged from ten topic model iterations on the full dataset.

As the last approach for internal validity, I leveraged my cultural intuition to iteratively evaluate model output. I inspected each topic's top features for face validity. By manually reviewing the topic's top features, I determined which features should have been pre-processed differently based on my familiarity with the words. For example, 'henryism' appeared as a top word for the Black racial group topic. Because this word referred to John Henryism, I modified the compound word dictionary to combine instances of "john" followed by "henryism" and added 'john_henryism' to the Black word list for the racial group seeded dictionary. I also reviewed phi scores for the top terms for each topic to note the magnitude of each term's influence on the category.

Sensitivity Tests: Transformations of Counts for Document-Feature Matrices

Precision-Recall and AUC curves for topic models tested on validation sets with different transformations applied to the DFM frequencies.

- Log average: $(1 + \text{the log of the counts}) / (1 + \text{log of the average count within the document})$
- Boolean: recode all non-zero counts as 1 (i.e., detect whether or not, not how many times)
- Propmax: document-level relative frequency (i.e., compared feature count to other feature counts in the same document)
- Log count: $1 + \text{the log of each count}$

G. Paper 3 Detailed Methodology

Cultural Intuition

The following experiences have shaped my familiarity with anti-racist public health training:

- a founding board member of two Filipino American community non-profits during the COVID-19 pandemic (Orange County and Inland Empire Chapter of the Filipino American National Historical Society, Filipinx/a/o Community Health Association) (Manalo-Pedro et al., 2022);
- a doctoral student in public health amidst increased attention to structural racism in America after the murder of George Floyd (Manalo-Pedro et al., 2023; McSorley et al., 2021);
- a director of a health careers workforce development grant at a Hispanic-Serving Institution during the anti-immigrant Trump presidency;
- a participant in the Minority Training Program in Cancer Control Research (Manalo-Pedro & Allen, 2023);
- a non-Black Master of Public Health student of color during the increased visibility to the Movement for Black Lives after the unarmed police killing of Michael Brown; and
- a public health novice who transitioned from a career in IT corporate consulting.

Metadata

The author's racial identity is pertinent to understanding their relationship with racial health equity. This information was disclosed in the Acknowledgements section or as part of the researcher positionality in the Methods section. If it was not explicitly mentioned, this was considered 'not disclosed.' Rather than categorize the omission of the author's racial identity as missing data, a critical race approach interprets the withholding of the author's racial identity as a form of denying racism (C. P. Jones, 2018).

Eleven of the documents contained the student-author's curricula vita. If their curricula vita was not included I searched Google and LinkedIn for each author's name to obtain their prior educational details. I assumed that the authors would have a professional online presence, whether it be their individual website, LinkedIn profile, departmental listing of current/former students, faculty profile page for authors who entered academia, researcher profile, or other online content.

Public health attributes. I included the U.S. News Ranking as a proxy for prestige. This was based on the 2023 rankings (<https://www.usnews.com/best-graduate-schools/top-health-schools/public-health-rankings>). Location was determined based on CDC geographic regions (i.e., West, Midwest, Northeast, South) (CDC 2023). The remaining institutional attributes were extracted from the Minority-Serving Institution (MSI) project dataset (M. H. Nguyen & Ramirez, 2023): funding (private, private for-profit or public) and status as a funded MSI.

Appendix References

- CDC. 2023. "Geographic Division or Region." Centers for Disease Control and Prevention. June 26, 2023. <https://www.cdc.gov/nchs/hus/sources-definitions/geographic-region.htm>.
- Manalo-Pedro, Erin, and Walter R. Allen. 2023. "8. Doctoral Pathways via Racial Health Equity: Bridging the Apartheid of Knowledge with California State University Alumni." *Philosophy and Theory in Higher Education* 5 (1): 157–86.
- Manalo-Pedro, Erin, Andrea Mackey, Rachel A. Banawa, Neille John L. Apostol, Warren Aguilin, Arleah Aguilar, Carlos Irwin A. Oronce, et al. 2022. "Learning to Love Ourselves Again: Organizing Filipinx/a/o Scholar-Activists as Antiracist Public Health Praxis." *Frontiers in Public Health* 10 (958654). <https://doi.org/10.3389/fpubh.2022.958654>.
- Manalo-Pedro, Erin, Katrina M. Walsemann, and Gilbert C. Gee. 2023. "Whose Knowledge Heals? Transforming Teaching in the Struggle for Health Equity." *Health Education & Behavior: The Official Publication of the Society for Public Health Education* 50 (4): 482–92.
- McSorley, Anna-Michelle Marie, Erin Manalo-Pedro, and Adrian Matias Bacong. 2021. "Doctoral Students as Agents for Change: Shaping Our Public Health Training Environment." *Pedagogy in Health Promotion* 7 (4): 299–303.
- Nguyen, M. H., and J. J. Ramirez. 2023. "What Counts as a Minority-Serving Institution? Toward the Utilization of a Standardized and Uniform Definition and Typology." *Educational*. <https://journals.sagepub.com/doi/abs/10.3102/0013189X221105861>.

H. Paper 2 Word Lists

Dictionary of Public Health Stop Words

Common words to exclude from pre-processing tokenization

[statistics]:

- 0	- estimate	- p	- se
- 1	- five	- percentage	- six
- 2	- four	- proportion	- size
- 3	- n	- rate	- three
- ci	- one	- sample	- two

[common]:

- across	- examine	- negative
- advance	- examines	- outcomes
- advances	- examining	- participant
- advancing	- factors	- participants
- adverse	- findings	- patient
- age	- first	- patients
- also	- found	- people
- among	- future	- population
- analyses	- high	- positive
- analysis	- higher	- potential
- analyze	- however	- provide
- approach	- identified	- purpose
- assess	- identifies	- related
- assessed	- identify	- relationship
- assesses	- identifying	- reported
- assessing	- impact	- results
- associated	- impact	- risk
- associated	- important	- second
- association	- improve	- show
- better	- improves	- showed
- c	- improving	- showing
- can	- include	- shows
- cause	- included	- significant
- chapter	- includes	- significantly
- children	- including	- studies
- compared	- increase	- study
- conduct	- increased	- suggest
- conducted	- increasing	- survey
- conducting	- individual	- thesis
- conducts	- individuals	- time
- current	- knowledge	- treatment
- decrease	- leading	- understand
- decreased	- less	- understanding
- decreasing	- levels	- use
- dissertation	- likely	- used
- effect	- low	- uses
- effects	- lower	- using
- eg	- many	- whether
- et al	- may	- within
- evidence	- methods	- worse
- ex	- need	- years

Dictionary of Racial Groups

Primarily based on U.S. Census categories <https://www.census.gov/programs-surveys/acs/technical-documentation/code-lists/2020.html>

Additional terms were identified through reviewing results for keywords-in-context and keyness text statistics.

[american_indian]:

- abenaki_canadian
- abenaki_nation_of_missisquoi
- absentee_shawnee_tribe_of_indians_of_oklahoma
- acadia_band
- ache_dene_koe
- ache_indian
- acjachemem
- afognak
- agdaagux_tribe_of_king_cove
- agua_caliente
- agua_caliente_band_of_cahuilla_indians
- ahousaht
- ahtna
- ai_an/s
- ais
- ak-chin_indian_community
- akhiok
- akiachak_native_community
- akiak_native_community
- akutan
- alabama_creek
- alabama_quassarte_tribal_town
- alabama-coushatta_tribe_of_texas
- alakanuk
- alanvik
- alaska_indian
- alaska_native*
- alaskan_athabaskan
- alaskan_native*
- alatna
- alatna_village
- alderville_first_nation
- aleknagik
- aleut
- aleut_corporation
- alexandria_band
- algaaciq
- algaaciq_native_village
- algonquian
- algonquins_of_barriere_lake
- allakaket
- allakaket_village
- allegheny_lenape
- alsea
- alturas_indian_rancheria
- alutiiq
- alutiiq_tribe_of_old_harbor
- amazon_indian
- ambler
- american_eskimo
- american_indian
- american_indian_alaska_native/s
- american_indian_tribe
- american_indians
- amuzgo
- anaktuvuk_pass
- andean_indian
- anderson_lake
- angoon_community
- _association
- aniak
- ani-stohini/unami
- ans
- anvik
- anvik_village
- apache
- apache_tribe_of_oklahoma
- aquinnah
- arapaho
- arapaho_tribe_of_the_wind_river_reservation
- arapaho_tribe_of_the_wind_river_reservation,_wyomin
- g
- araucanian
- arawak
- arctic
- arctic_slope_corporation
- arctic_village
- argentinean_indian
- arikara
- aroostook_band_of_micmacs
- asa'carsarmut_tribe
- assiniboine
- assiniboine_and_sioux_tribes_of_the_fort_peck_indian_reservation
- assiniboine_and_sioux_tribes_of_the_fort_peck_indian_reservation,_montana
- assonet_band_of_the_wampanoag_nation
- atakapa
- athabaskan
- atka
- atkasook
- atmautluak
- atqasuk
- atqasuk_village
- atsina
- attikamek
- augustine_band_of_cahuilla_indians
- augustine_band_of_cahuilla_indians,_california
- aymara
- aztec
- bad_river_band_of_the_lake_superior_tribe
- bannock
- baron_long
- barona_group_of_capitan_grande_band
- barrow_inupiat_traditional_government
- barter_island
- batchewana_first_nation
- bay_mills_indian_community

- bear_river_band_of_ rohnerville_rancheria
- beardys_and_okemasis_band
- beausoleil
- beaver_creek_indians
- beaver_village
- beecher_bay
- belizean_indian
- belkofski
- bella_coola
- beothuk
- bering_straits_inupiat
- berry_creek_rancheria_of_maidu_indians
- bettles_field
- big_cove
- big_grassy
- big_lagoon_rancheria
- big_pine_paiute_tribe_of_the_owens_valley
- big_sandy_rancheria_of_western_mono_indians_of_california
- big_valley_band_of_pomo_indians_of_the_big_valley_rancheria
- bigstone_cree_nation
- bill_moore's_slough
- biloxi
- biloxi-chitimacha_confederation
- birch_creek_tribe
- bishop_paiute_tribe
- blackfeet_tribe_of_the_blackfeet_indian_reservation_of_montana
- blue_lake_rancheria
- bois_forte_band
- bolivian_indian
- bonaparte_band
- boston_bar_first_nation
- brazilian_indian
- brevig_mission
- bridge_river
- bridgeport_paiute_indian_colony
- bristol_bay
- bristol_bay_aleut
- brokenhead_ojibway_nation
- brotherton
- brule_sioux
- buckland
- buena_vista_rancheria_of_me-wuk_indians_of_california
- buffalo_point_band
- burns_paiute_tribe
- burt_lake_band_of_ottawa_and_chippewa_indians
- cabazon_band_of_mission_indians
- cachil_dehe_band_of_wintun_indians_of_the_colusa_rancheria
- caddo
- caddo_adais_indians
- caddo_nation_of_oklahoma
- cahto_indian_tribe_of_the_laytonville_rancheria
- cahuilla
- cahuilla_band_of_indians
- cakchiquel
- california_valley_miwok_tribe
- calista
- campbell_river_band
- campo_band_of_diegueno_mission_indians
- canadian_indian
- canela
- cantwell
- cape_mudge_band
- capitán_grande_band_of_diegueno_mission_indians
- carcass/tagish_first_nation
- carib
- caribbean_indian
- caribou
- carrier_nation
- carry_the_kettle_band
- catawba_indian_nation
- cayuga_nation
- cayuse
- cedarville_rancheria
- celilo
- central_american_indian
- central_council_of_the_tlingit_and_haida_indian_tribes
- central_pomo
- chalkyitsik
- chalkyitsik_village
- chaloklowa_chickasaw
- chanega
- chappaquiddick_tribe_of_the_wampanoag_indian_nation
- chatino
- chaubunagungamaug_nipmuck
- chawathil_nation
- cheam_band
- cheesh-na_tribe
- chefornak
- chemainus_first_nation
- chemakuan
- chemehuevi_indian_tribe
- chenega
- cher-ae_heights_indian_community_of_the_trinidad_rancheria
- cher-o-creek_intratribal_indians
- cheroenhaka
- cherokee
- cherokee_alabama
- cherokee_bear_clan_of_south_carolina
- cherokee_nation
- cherokee_of_georgia
- cherokee_tribe_of_northeast_alabama
- chevak
- chevak_native_village
- cheyenne
- cheyenne_and_arapaho_tribes
- cheyenne_and_arapaho_tribes,_oklahoma
- cheyenne_river_sioux_tribe_of_the_cheyenne_river_reservation
- cheyenne_river_sioux_tribe_of_the_cheyenne_river_reservation,_south_dakota
- chichimeca
- chickahominy_indian_tribe
- chickahominy_indian_tribe_-_eastern_division
- chickaloon
- chickaloon_native_village
- chicken_ranch_rancheria_of_me-wuk_indians
- chignik_bay_tribal_council
- chignik_lagoon
- chignik_lake
- chignik_lake_village
- chilcotin_nation
- chilean_indian
- chilkat_indian
- chilkat_indian_village

- chilkoot_indian_association
- chimariko
- chinantec
- chinik_eskimo_community
- chinook
- chippewa
- chippewa/ojibwe_canadian
- chippewa_cree_indians_of_the_rocky_boy's_reservation
- chippewa_cree_indians_of_the_rocky_boy's_reservation_montana
- chippewa_of_sarnia
- chippewa_of_the_thames
- chistochina
- chitimacha_tribe_of_louisiana
- chitina
- chocho
- choco
- choctaw
- choctaw-apache_community_of_ebarb
- chuathbaluk
- chugach_aleut
- chugach_corporation
- chuloonawick
- chuloonawick_native_village
- chumash
- circle_native_community
- citizen_potawatomi_nation
- citizen_potawatomi_nation_oklahoma
- clark's_point
- clatsop
- clayoquot
- clear_lake
- clifton_choctaw_tribe_of_louisiana
- cloverdale_rancheria_of_pomo_indians_of_california
- cochimi
- cocopah_tribe_of_arizona
- coeur_d'alene_tribe
- coharie_indian_tribe
- cold_lake_first_nations
- cold_springs_rancheria_of_mono_indians
- coldwater_band
- colombian_indian
- colorado_river_indian_tribes
- columbia_river_chinook
- comanche_nation
- comanche_nation_oklahoma
- comox_band
- concho
- confederated_salish_and_kootenai_tribes_of_the_flathead_nation
- confederated_tribes_and_bands_of_the_yakama_nation
- confederated_tribes_of_siletz_indians_of_oregon
- confederated_tribes_of_the_chehalis_reservation
- confederated_tribes_of_the_colville_reservation
- confederated_tribes_of_the_coos
- confederated_tribes_of_the_coos_lower_umpqua_and_siuslaw_indians
- confederated_tribes_of_the_goshute_reservation
- confederated_tribes_of_the_grand_ronde_community_of_oregon
- confederated_tribes_of_the_umatilla_indian_reservation
- confederated_tribes_of_warms_springs
- cook_inlet
- coos
- copper_center
- copper_river
- coquille_indian_tribe
- coquiltam_band
- cora
- cordova
- costa_rican_indian
- costanoan
- cote_first_nation
- couchiching_first_nation
- couchatta
- couchatta_tribe_of_louisiana
- cow_creek_band_of_umpqua_tribe_of_indians
- cowasuck
- cowessess_band
- cowichan
- cowlitz_indian_tribe
- coyote_valley_band_of_pomo_indians_of_california
- craig_tribal_association
- cree
- cree_canadian
- croatan
- crooked_creek
- cross_lake_first_nation
- crow_creek_sioux_tribe_of_the_crow_creek_reservation
- crow_creek_sioux_tribe_of_the_crow_creek_reservation_south_dakota
- crow_tribe_of_montana
- cuban_indian
- cuicatec
- cumberland_county_association_for_indian_people
- cupeno
- curve_lake_band
- curyung_tribal_council
- curyung_tribal_council
- curyung_tribal_council
- deering
- delaware_nation
- delaware_tribe_of_indians
- delaware_tribe_of_indians_oklahoma
- dene_band_nwt
- dene_canadian
- diegueno
- diné
- diomedea
- ditidaht_band
- dogrib
- dominican_indian
- dot_lake
- douglas_indian_association
- doyon
- dry_creek_rancheria_band_of_pomo_indians

- dry_creek_rancheria_band_of_pomo_indians,california
- duckwater_shoshone_tribe
- duwamish
- eagle_lake_band
- east_of_the_river_shawnee
- eastern_band_of_cherokee_indians
- eastern_cree
- eastern_creek
- eastern_muscogee
- eastern_pequot
- eastern_pomo
- eastern_shawnee_tribe_of_oklahoma
- eastern_shoshone_tribe_of_the_wind_river_reservation
- eastern_shoshone_tribe_of_the_wind_river_reservation,wyoming
- ebb_and_flow_band
- echota_cherokee_tribe_of_alabama
- ecuadorian_indian
- edisto_natchez-kusso_tribe_of_south_carolina
- edisto_natchez-kusso_tribe_of_south_carolina
- eek
- egegik
- egegik_village
- eklutna
- eklutna_native_village
- ekuk
- ekwok
- elem_indian_colony_of_the_sulphur_bank_rancheria
- elim
- elk_valley_rancheria
- elnu_abenaki_tribe
- ely_shoshone_tribe
- emmonak
- emmonak_village
- english_bay
- english_river_first_nation
- enterprise_rancheria_of_maidu_indians
- eskasoni
- eskimo
- esquimalt
- esselen
- evansville
- evansville_village
- ewiiaapaayp_band_of_kumeyaay_indians
- eyak
- false_pass
- federated_indians_of_graton_rancheria
- fernandeno_tataviam_band_of_mission_indians
- first_nation
- fisher_river
- five_nations
- flandreau_santee_sioux_tribe_of_south_dakota
- fond_du_lac_band
- forest_county_potawatomi_community
- forest_county_potawatomi_community,wisconsin
- fort_alexander_band
- fort_belknap_indian_community_of_the_fort_belknap_reservation
- fort_bidwell_indian_community
- fort_independence_indian_community
- fort_mcdermitt_paiute_and_shoshone_tribe_of_nevada_and_oregon
- fort_mcdowell_yavapai_nation
- fort_mojave_indian_tribe_of_arizona
- fort_mojave_indian_tribe_of_arizona,california,and_nevada
- fort_sill_apache_tribe_of_oklahoma
- fort_yukon
- fortuna_ledge
- fountain_band
- four_winds_cherokee
- french_canadian/french_american_indian
- gabrieleno
- gakona
- galena
- galena_village
- gambell
- garden_river_nation
- georgetown
- georgia_eastern_cherokee
- gibson_band
- gila_river_indian_community_of_the_gila_river_indian_reservation
- gitksan
- golden_hill_paugussett
- golovin
- goodnews_bay
- grand_portage_band
- grand_river_band_of_ottawa_indians
- grand_traverse_band_of_ottawa_and_chippewa_indians
- grassy_narrows_first_nation
- greenland_inuit
- greenville_rancheria
- grindstone_indian_rancheria_of_wintun-wailaki_indians
- gros_ventres
- group_of_capitan_grande_band
- guarani
- guatemalan_indian
- guatemalan_mayan
- guaymi
- guidiville_rancheria_of_california
- guilford_native_american_association
- gulkana_council
- gulkana_village_council

- gull_bay_band
- guyanese_south_american_indian
- gwichya_gwich'in
- habematolel_pomo_of_upper_lake
- haïda
- haines
- haliwa-saponi_indian_tribe
- hannahville_potawatomi_indian_tribe
- hannahville_potawatomi_indian_tribe_michigan
- hassanamisco_band_of_the_nipmuc_nation
- havasupai_tribe_of_the_havasupai_reservation
- healy_lake
- healy_lake_village
- heiltsuk_band
- herring_pond_wampanoag_tribe
- hesquiaht_band
- hiawatha_first_nation
- hidatsa
- ho-chunk_nation
- hoh_indian_tribe
- holikachuk
- holy_cross_tribe
- honduran_indian
- hoonah_indian_association
- hoopa_extension
- hoopa_valley_tribe
- hooper_bay
- hope_band
- hopi_tribe*
- hopland_band_of_pomo_indians
- houlton_band_of_maliseet_indians
- hualapai_indian_tribe_of_the_hualapai_indian_reservation
- hualapai_tribe*
- huastec
- huave
- hughes_village
- huichol
- huron
- huron_of_lorretteville
- huslia
- huslia_village
- huu-ay-aht_first_nation
- hydaburg_cooperative_association
- igiugig
- igiugig_village
- iipay_nation_of_santa_ysabel
- iliamna
- illinois_miami
- inaja_band_of_diegueno_mission_indians_of_the_inaja_and_cosmit_reservation
- inalik
- inca
- indian_township
- indiana_miami
- indigenous
- indigenous_maya
- innu
- interior_salish
- inuit
- inupiaq
- inupiat
- inupiat_community_of_the_arctic_slope
- ione_band_of_miwok_indians
- iowa_tribe
- iowa_tribe_of_kansas_and_nebraska
- iowa_tribe_of_oklahoma
- iqugmuit_traditional_council
- iroquois
- ivanof_bay
- ivanof_bay_village
- ixcatec
- jackson_band_of_miwuk_indians
- james_bay_cree
- james_smith_cree_nation
- jamestown_s'klallam_tribe
- jamul_indian
- jamul_indian_village
- jena_band_of_choctaw_indians
- jicarilla_apache_nation
- juaneno
- kaguyak
- kaguyak_village
- kahkewistahaw_first_nation
- kaibab_band_of_paiute_indians_of_the_kaibab_indian_reservation
- kaktovik
- kaktovik_village
- kalapuya
- kalispel_indian_community
- kalskag
- kaltag
- kamloops_band
- kanaka_bar
- kanatak
- kanjobal
- karluk
- karuk_tribe
- kashia_band_of_pomo_indians_of_the_stewarts_point_rancheria
- kasigluk_traditional_elders_council
- kaska_dena
- kathlamet
- kaw_nation
- kawerak
- keeseekooseland
- kekchi
- kenaitze_indian_tribe
- kern_valley_indian_community
- ketchikan_indian_corporation
- kewa_pueblo
- kewa_pueblo_new_mexico
- keweenaubay_indian_community
- kialagee_tribal_town
- kiana
- kickapoo
- kickapoo_traditional_tribe_of_texas
- kickapoo_tribe_of_indians_of_texas

- f_the_kickapoo_reservation_in_kansas
- kickapoo_tribe_of_oklahoma
- kikiallus
- king_cove
-
- king_island_native_community
- king_salmon_tribe
- kingsclear_band
- kiowa
-
- kiowa_indian_tribe_of_oklahoma
- kipnuk
- kitamaat
- kitigan_zibi_anishinabeg
- kivalina
- klahoose_first_nation
- klallam
- klamath_tribes
- klawock_cooperative_association
-
- kletsel_dehe_band_of_wintun_indians
- klukwan
- kluti_kaah
- knik_tribe
- koasek
- koasek_traditional_band_of_the_sovereign_abenaki_nation
- kobuk
- kodiak
- koi_nation_of_northern_california
- kokhanok
- kokhanok_village
- kongiganak
- koniag_aleut
- konkow
- kootenai_tribe_of_idaho
- kotlik
- kotzebue
- koyuk
- koyukuk
- koyukuk_native_village
- kumeyaay
- kuna_indian
- kwakiutl
- kwigillingok
- kwikwetlem_first_nation
- kwinhagak
- kyuquot_band

- la_jolla_band_of_luiseno_indians
-
- la_jolla_band_of_luiseno_indians_california
-
- la_posta_band_of_diegueno_mission_indians
-
- lac_courte_oreilles_band_of_lake_superior_chippewa
-
- lac_du_flambeau_band_of_lake_superior_chippewa_indian
-
- lac_vieux_desert_band_of_lake_superior_chippewa_indians
- lacandon
- lagunero
- lakahahmen_band
- lake_manitoba_band
- lake_minchumina
- lake_st_martin_band
- lake_superior_chippewa
- larsen_bay
-
- las_vegas_tribe_of_paiute_indians_of_the_las_vegas_indian_colony
- lassik
- leech_lake_band
- lemhi-shoshone
- lenca
- lenni-lenape
- lennox_island_band
- levelock
- levelock_village
- liard_river_first_nation
- lillooet
- lime_village
- lipan_apache
- listuguj_mi'gmaq_first_nation
-
- little_river_band_of_ottawa_indians_of_michigan
-
- little_shell_tribe_of_chippewa_indians_of_montana
- little_shuswap_band
-
- little_traverse_bay_bands_of_odawa_indians
- lone_pine_paiute-shoshone_tribe

- long_plain_first_nation
-
- los_coyotes_band_of_cahuilla_and_cupeno_indians
- louden_village
- louisiana_choctaw_tribe
-
- lovelock_paiute_tribe_of_the_lovelock_indian_colony
-
- lovelock_paiute_tribe_of_the_lovelock_indian_colony_nevada
-
- lower_brule_sioux_tribe_of_the_lower_brule_reservation
-
- lower_brule_sioux_tribe_of_the_lower_brule_reservation_south_dakota
-
- lower_eastern_cherokee_nation_sc
-
- lower_elwha_tribal_community
- lower_kalskag
- lower_muskogee_creek_tribe
- lower_nicola_indian_band
-
- lower_sioux_indian_community_in_the_state_of_minnesota
- lower_skagit
- lower_umpqua
- luiseno
- lumbee
-
- lumbee_tribe_of_north_carolina
- lummi_tribe
-
- lytton_rancheria_of_california
- ma-
- chis_lower_creek_indian_tribe_of_alabama
- maidu
- makah_indian_tribe
- malahat_first_nation
- malheur_paiute
- maliseet
-
- manchester_band_of_pomo_indians_of_the_manchester_rancheria

- manchester_band_of_pomo_indians_of_the_manchester_rancheria,_california
- mandan
- manley_hot_springs
- manley_hot_springs_village
- manokotak
- manokotak_village
- manzanita_band_of_diegueno_mission_indians
- mapuche
- maricopa
- marietta_band_of_nooksack
- marshall
- mary's_igloo
- mashantucket_pequot_indian_tribe
- mashpee_wampanoag_tribe
- matachewan_band
- match-e-be-nash-she-wish_band_of_pottawatom_i_Indian_tribe
- matinecock
- mattaponi_indian_tribe
- maya_central_american
- maya_south_american
- mazahua
- mazatec
- mcgrath
- mcgrath_native_village
- mcleod_lake
- mdewakanton_sioux
- mechoopda_indian_tribe_of_chico_rancheria
- meherrin_indian_tribe
- mekoryuk
- menominee_indian_tribe
- mentasta_traditional_council
- mesa_grande_band_of_diegueno_mission_indians
- mescalero_apache_tribe_of_the_mescalero_reservation
- mescalero_apache_tribe_of_the_mescalero_reservation,_new_mexico
- mesoamerican_indian
- metis
- metlakatla_indian_community
- metlakatla_indian_community,_annette_island_reserve

- metrolina_native_american_association
- mexican_american_indian
- mexican_indian
- miami_tribe
- miami_tribe_of_oklahoma
- miccosukee_tribe_of_indians_of_florida
- micmac
- middletown_rancheria_of_pomo_indians
- millbrook_first_nation
- mille_lacs_band
- minnesota_chippewa
- minto
- miskito
- mission_indians
- mississauga_of_the_credit
- mississippi_band_of_choctaw_indians
- miwok/me-wuk
- mixe
- mixtec
- moapa_band_of_paiute_Indian_tribe_of_the_moapa_river_Indian_reservation
- moapa_band_of_paiute_Indian_tribe_of_the_moapa_river_Indian_reservation,_nevada
- modoc
- mohawk
- mohawk_canadian
- mohawk_kahnawake
- mohawks_of_kanesatake
- mohawks_of_the_bay_of_quinte
- mohegan_tribe_of_indians_of_connecticut
- mohican_canadian
- molalla
- monacan_indian_nation
- montagnais
- montauk
- moor_indian
- mooretown_rancheria_of_maidu_indians
- morongo_band_of_mission_indians
- morongo_band_of_mission_indians,_california

- mountain_maidu
- mowa_band_of_choctaw_indians
- muckleshoot_indian_tribe
- munsee
- muscogee_nation
- musqueam_band
- n'quatqua
- nahua
- nahuatl
- naknek
- naknek_native_village
- namgis_first_nation
- nana_inupiat
- nanaimo
- nanoose_first_nation
- nansemond_indian_nation
- nanticoke
- nanticoke_lenni-lenape
- nanwalek
- napaimute
- napakiak
- naparyarmiut
- napaskiak
- narragansett_indian_tribe
- naskapi
- natchez_indian_tribe
- natchitoches_tribe_of_louisiana
- nation_huronne_wendat
- native_american*
- native_american_alaskan_native_tribe*
- native_village
- native_village_of_afognak
- native_village_of_akiok
- native_village_of_akutan
- native_village_of_aleknagik
- native_village_of_ambler
- native_village_of_atka
- native_village_of_barrow_inupiat_traditional_government
- native_village_of_belkofski
- native_village_of_brevig_mission
- native_village_of_buckland
- native_village_of_cantwell
- native_village_of_chanega
- native_village_of_chanega
- native_village_of_chignik

- native_village_of_chignik_lagoon
- native_village_of_chitina
- native_village_of_chuathbaluk
- native_village_of_council
- native_village_of_deering
- native_village_of_dillingham
- native_village_of_diomede
- native_village_of_diomede
- native_village_of_eagle
- native_village_of_eek
- native_village_of_ekuk
- native_village_of_ekwok
- native_village_of_elim
- native_village_of_eyak
- native_village_of_eyak
- native_village_of_false_pass
- native_village_of_fort_yukon
- native_village_of_gakona
- native_village_of_gambell
- native_village_of_georgetown
- native_village_of_goodnews_bay
- native_village_of_hamilton
- native_village_of_hooper_bay
- native_village_of_hooper_bay
- native_village_of_kanatak
- native_village_of_karluk
- native_village_of_kiana
- native_village_of_kipnuk
- native_village_of_kivalina
- native_village_of_kluti_kaah
- native_village_of_kobuk
- native_village_of_kongigana_k
- native_village_of_kotzebue
- native_village_of_koyuk
- native_village_of_kwigillingok
- native_village_of_kwinhagak
- native_village_of_larsen_bay
- native_village_of_marshall
- native_village_of_mary's_igloo
- native_village_of_mekoryuk
- native_village_of_minto
- native_village_of_nanwalek
- native_village_of_napaimute
- native_village_of_napakiak
- native_village_of_napaskiak
- native_village_of_nelson_lagoon
- native_village_of_nightmute
- native_village_of_nikolski
- native_village_of_noatak
- native_village_of_nuiqsut
- native_village_of_nunam_iq_ua
- native_village_of_nunapitchuk
- native_village_of_ouzinkie
- native_village_of_paimiut
- native_village_of_perryville
- native_village_of_pilot_point
- native_village_of_point_hope
- native_village_of_point_lay
- native_village_of_port_graham
- native_village_of_port_heiden
- native_village_of_port_lions
- native_village_of_ruby
- native_village_of_saint_michael
- native_village_of_savoonga
- native_village_of_scammon_bay
- native_village_of_selawik
- native_village_of_shaktoolik
- native_village_of_shishmaref
- native_village_of_shungnak
- native_village_of_stevens
- native_village_of_tanacross
- native_village_of_tanana
- native_village_of_tatitlek
- native_village_of_tazlina
- native_village_of_teller
- native_village_of_tetlin
- native_village_of_tuntutuliak
- native_village_of_tununak
- native_village_of_tyonek
- native_village_of_unalakleet
- native_village_of_unga
- native_village_of_wales
- native_village_of_white_mountain
- nausu_waiwash
- navajo
- navajo_nation
- nelson_lagoon
- nenana_native_association
- nett_lake
- new_jersey_sand_hill_band_of_indians
- new_jersey_sand_hill_band_of_indians_inc
- new_koliganek_council
- new_koliganek_village_council
- new_stuyahok
- new_stuyahok_village
- newhalen
- newhalen_village
- newtok
- newtok_village
- nez_perce_tribe
- nicaraguan_indian
- nightmute
- nikolai
- nikolai_village
- nikolski
- nimpkish
- ninilchik
- ninilchik_village
- nipissing_first_nation
- nipmuc
- nisenen
- nisenen
- nisga'a_nation
- nishinam
- nisqually_indian_tribe
- noatak
- nome_eskimo_community
- nomlaki
- nondalton
- nondalton_village
- non-hispanic_american_indian
- nooiksut
- nooksack_indian_tribe
- noorvik_native_community
- nootka

- north_fork_rancheria_of_mono_indians
- north_thompson_band
- northern_arapaho_tribe
-
- northern_cherokee_nation_of_missouri_and_arkansas
-
- northern_cheyenne_tribe_of_the_northern_cheyenne_reservation
-
- northern_cheyenne_tribe_of_the_northern_cheyenne_reservation_montana
- northern_paiute
- northern_pomo
- northway
- northway_village
-
- northwestern_band_of_the_shoshone_nation
-
- nottawaseppi_huron_band_of_the_potawatomi
-
- nottawaseppi_huron_band_of_the_potawatomi_michigan
- nottoway
-
- nottoway_indian_tribe_of_virginia
- nuiqsut
- nulato
- nulato_village
-
- nulhegan_band_of_the_coosuk_abenaki_nation
- nunakauyarmiut_tribe
- nunam_iqua
- nunapitchuk
- nuu-chah-nulth
- nuxalk_nation
- nw_territory
-
- occaneechi_band_of_the_sapona_nation
- odanak
- oglala_sioux_tribe
- ohgsenakale
- ohiaht_band
- ohkay_owingeh
-
- ohkay_owingeh_new_mexico
-
- ohogamiut
- olmec
- omaha_tribe_of_nebraska
- oneida
- oneida_indian_nation
- oneida_nation
- oneida_nation_of_the_thames
- onondaga_nation
- opaskwayak_cree_nation
- opata
- oregon_athabascan
- organized_grayling
- organized_kake
- organized_kasaan
- organized_kwethluk
- organized_saxman
-
- organized_village_of_grayling
- organized_village_of_kake
- organized_village_of_kasaan
-
- organized_village_of_kwethluk
- organized_village_of_saxman
-
- orutsarmiut_traditional_native_council
- oscarville_traditional
- oscarville_traditional_village
- osoyoos_band
- otoe-
- missouria_tribe_of_indians
- otomi
- ottawa_tribe_of_oklahoma
- ouzinkie
- pacheedaht_first_nation
- paia
- paimiut
- paiute
- paiute_indian_tribe_of_utah
- paiute_indian_tribe_of_utah
- paiute-
- shoshone_tribe_of_the_fallon_reservation_and_colony
- paiute-
- shoshone_tribe_of_the_fallon_reservation_and_colony_nevada
-
- pala_band_of_mission_indians
- pamunkey_indian_tribe
- panamanian_indian
- paraguayan_indian
-
-
- pasqua_yaqui_tribe_of_arizona
-
- paskenta_band_of_nomlaki_indians
- passamaquoddy_tribe
-
- patawomeck_indian_tribe_of_virginia
- paucatuck_eastern_pequot
- pauloff_harbor
- pauloff_harbor_village
-
- pauma_band_of_luiseno_mission_indians
- pauquachin
- pawnee
- pawnee_nation_of_oklahoma
-
- pechanga_band_of_luiseno_mission_indians
- pedro_bay_village
-
- pee_dee_indian_nation_of_upper_south_carolina
-
- pee_dee_indian_tribe_of_south_carolina
- peepeekisis
- peguis
- pelican
- penelakut
- penobscot_nation
- penticton
-
- peoria_tribe_of_indians_of_oklahoma
- pequot
- perryville
- peruvian_indian
-
- petersburg_indian_association
-
- picayune_rancheria_of_chukchansi_indians
-
- piedmont_american_indian_association
-
- piedmont_american_indian_association-
- lower_eastern_cherokee_nation_sc
- pilot_point

- pilot_station_traditional
- pilot_station_traditional_village
- pima
- pine_creek
- pinoleville_pomo_nation
- pipestone_sioux
- pipil
- piqua_shawnee_tribe
- piro_manso_tiwa_tribe
- piscataway
- piscataway_conoy_tribe
- piscataway_indian_nation
- pit_river_tribe_of_california
- pitka's_point_traditional_council
- plains_cree
- platinum_traditional
- platinum_traditional_village
- pleasant_point_passamaquoddy
- poarch_band_of_creeks
- pocasset_wampanoag
- pocomoke_acohonock
- point_hope
- point_lay
- pointe_au-chien_indian_tribe
- pokagon_band_of_potawatomi_indians
- pokanoket
- pomo
- ponca
- ponca_tribe_of_indians_of_oklahoma
- ponca_tribe_of_nebraska
- ponkapoag
- poospatuck
- popoluca
- port_gamble_s'klallam_tribe
- port_graham
- port_heiden
- port_lions
- portage_creek
- portage_creek_village
- potawatomi
- potter_valley_tribe
- powhatan
- prairie_band_potawatomi_nation
- prairie_island_indian_community
- principal_creek_indian_nation
- pueblo
- pueblo_of_acoma
- pueblo_of_cochiti
- pueblo_of_isleta
- pueblo_of_jemez
- pueblo_of_laguna
- pueblo_of_nambe
- pueblo_of_picuris
- pueblo_of_pojoaque
- pueblo_of_san_felipe
- pueblo_of_san_ildefonso
- pueblo_of_sandia
- pueblo_of_santa_ana
- pueblo_of_santa_clara
- pueblo_of_taos
- pueblo_of_tesuque
- pueblo_of_zia
- puerto_rican_indian
- puget_sound_salish
- purepecha
- puyallup_tribe_of_the_puyallup_reservation
- pyramid_lake_paiute_tribe_of_the_pyramid_lake_reservation
- pyramid_lake_paiute_tribe_of_the_pyramid_lake_reservation,nevada
- qagan_tayagungin_tribe_of_sand_point
- qagan_tayagungin_tribe_of_sand_point_village
- qawalangin_tribe_of_unalaska
- quapaw_nation
- quartz_valley_indian_reservation
- quechan_tribe_of_the_fort_yuma_indian_reservation
- quechan_tribe_of_the_fort_yuma_indian_reservation,california_and_arizona
- quechua
- quiche
- quichua
- quileute_tribe_of_the_quileute_reservation
- quileute_tribe_of_the_quileute_reservation, washington
- quinault_indian_nation
- quinhagak
- rainy_river_first_nations
- rama
- ramapough_lenape_nation
- ramapough_mountain
- ramona_band_of_cahuilla
- ramona_band_of_cahuilla,california
- rampart
- rampart_village
- rappahannock_tribe
- rappahannock_tribe, inc.
- raramuri
- red_cliff_band_of_lake_superior_chippewa
- red_devil
- red_earth_band
- red_lake_band_of_chippewa_indians
- red_wood
- redding_rancheria
- redding_rancheria,california
- redwood_valley_or_little_river_band_of_pomo_indians_of_the_redwood_valley_rancheria_california
- reno-sparks_indian_colony
- reno-sparks_indian_colony,nevada
- reservation*
- resighini_rancheria
- rincon_band_of_luiseno_mission_indians
- robinson_rancheria
- roseau_river
- rosebud_sioux_tribe_of_the_rosebud_indian_reservation
- rosebud_sioux_tribe_of_the_rosebud_indian_reservation, south_dakota

- round_valley_indian_tribes
- royal_house_of_pokanoket
- ruby
- sac_and_fox
- sac_and_fox_nation
-
- sac_and_fox_nation,oklaho
 ma
-
- sac_and_fox_nation_of_miss
 ouri_in_kansas_and_nebrask
 a
-
- sac_and_fox_tribe_of_the_m
 ississippi_in_iowa
-
- sac_river_band_of_the_chic
 kamauga-cherokee
- saddle_lake
-
- saginaw_chippewa_indian_tr
 ibe
- sahnish
- saint_george_island
- saint_michael
- saint_paul_island
- saint_regis_mohawk_tribe
- sakimay_first_nations
- salamatof_tribe
- salinan
- salish
- salt_river_pima-
 maricopa_indian_communit
 y
- salvadoran_indian
- samish_indian_nation
-
- san_carlos_apache_tribe_of
 the_san_carlos_reservation
-
- san_juan_southern_paiute_tr
 ibe_of_arizona
- san_luis_rey_mission_indian
-
- san_manuel_band_of_missio
 n_indians
-
- san_manuel_band_of_missio
 n_indians,california
-
- san_pasqual_band_of_diegu
 eno_mission_indians
- sandy_bay_band
-
- santa_rosa_band_of_cahuilla
 _indians
-
- santa_rosa_indian_communi
 ty
-
- santa_ynez_band_of_chuma
 sh_mission_indians
-
- santee_indian_nation_of_sou
 th_carolina
- santee_indian_organization
- santee_sioux_nation
-
- santee_sioux_nation,nebras
 ka
- saponi
- saponny
- sarcee
- saugeen
- sauk-suiattle_indian_tribe
-
- sault_ste_marie_tribe_of_ch
 ippewa_indians
- saulteau_first_nations
- saulteaux
- savoonga
- scammon_bay
- schaghticoke
-
- scotts_valley_band_of_pom
 o_indians_of_california
- seabird_island
- seaconke_wampanoag
- sealaska_corporation
- sechelt
- seine_river_first_nation
- selawik
- seldovia_tribe
- seldovia_village_tribe
- seminole
- seminole_tribe_of_florida
- seneca_nation_of_indians
- seneca-cayuga_nation
- seri
- serpent_river
- serrano
- setalcott_indians
- seton_lake
- shageluk
- shageluk_native_village
-
- shakopee_mdewakanton_sio
 ux_community_of_minnesot
 a
- shaktoolik
- shasta
- shawnee
-
- shawnee_nation_united_rem
 nant_band
- shawnee_tribe
-
- sherwood_valley_rancheria
 _of_pomo_indians_of_califor
 nia
-
- shingle_springs_band_of_mi
 wok_indians
- shinnecock_indian_nation
- shishmaref
- shoal_lake_cree_nation
-
- shoalwater_bay_indian_tribe
 _of_the_shoalwater_bay_ind
 ian_reservation
- shoshone
- shoshone_paiute
- shoshone-
 bannock_tribes_of_the_fort
 hall_reservation
- shoshone-
 paiute_tribes_of_the_duck_v
 alley_reservation
- shungnak
- shuswap
- siberian_yupik
- siksika_canadian
- similkameen
- simpcw_first_nation
- sioux
- sisseton-
 wahpeton_oyate_of_the_lak
 e_traverse_reservation
- sisseton-
 wahpeton_oyate_of_the_lak
 e_traverse_reservation,sout
 h_dakota
- sitka_tribe_of_alaska
- siuslaw
- siuslaw_indians
- six_nations_canada
-
- six_nations_of_the_grand_ri
 ver
- skagway
- skagway_village
- skawahlook_first_nation
- skeetchestn_indian_band
- skokomish_indian_tribe
- skookum_chuck_band
- skowkale

- skull_valley_band_of_goshute_indians_of_utah
- skuppah
- skwah_first_nation
- skykomish
- slana
- sleetmute
- snohomish
- snoqualmie_indian_tribe
- snuneymuxw
-
- soboba_band_of_luiseno_indians
-
- sokaogon_chippewa_community
- songhees_first_nation
- soowahlie_first_nation
- south_american_indian
- south_naknek
- south_naknek_village
- southeast_alaska
-
- southeastern_cherokee_council
- southeastern_indians
-
- southeastern_mvskoke_nation_inc.
- southern_arapaho
- southern_cheyenne
- southern_paiute
-
- southern_ute_indian_tribe_of_the_southern_ute_reservation
- spanish_american_indian
- spirit_lake_tribe
-
- spokane_tribe_of_the_spokane_reservation
- spuzzum_first_nation
- squamish_nation
-
- squaxin_island_tribe_of_the_squaxin_island_reservation
-
- squaxin_island_tribe_of_the_squaxin_island_reservation_washington
-
- st_croix_chippewa_indians_of_wisconsin
- st_mary's
-
- standing_rock_sioux_tribe_of_north_&_south_dakota
- stanjikoming_first_nation
-
- stebbins_community_association
- steilacoom
-
- stillaguamish_tribe_of_indians_of_washington
- sto:lo_nation
- stockbridge-munsee_community
- stony_river
- stonyford
- sucker_creek_first_nation
- sugpiaq
-
- summit_lake_paiute_tribe_of_nevada
- sun'aq_tribe_of_kodiak
- susanville_indian_rancheria
-
- susanville_indian_rancheria_california
- susquehannock
- swampy_cree
-
- swan_creek_black_river_confederate_tribe
-
- swinomish_indian_tribal_community
-
- sycuan_band_of_the_kumeyaay_nation
- table_mountain_rancheria
- tachi
- tahltan
- taino
- takelma
- takotna
- takotna_village
- taku_river_tlingit
- talakamish
- tanacross
- tanana
- tanana_chiefs
- tangirnaq
- tangirnaq_native_village
- tarahumara
- tarasco
- tarasco
- tatitlek
- tazlina
-
- tehuelche
- tejon_indian_tribe
- telida
- telida_village
- teller
- temecula
- te-
- moak_tribes_of_western_shoshone_indians_of_nevada
- tenakee_springs
- tenino
- tepehua
- tequistlatec
- tete_de_boule
- tetlin
- teton_sioux
- the_chickasaw_nation
-
- the_choctaw_nation_of_oklahoma
-
- the_modoc_tribe_of_oklahoma
- the_muscogee
- the_osage_nation
-
- the_seminole_nation_of_oklahoma
-
- the_southeastern_mvskoke_nation
- the_suquamish_tribe
-
- the_waccamaw_indian_people
- thlopthlocco_tribal_town
-
- three_affiliated_tribes_of_ft_berthold_reservation
-
- three_affiliated_tribes_of_ft_berthold_reservation_north_dakota
- tillamook
- timbisha_shoshone_tribe
- tlapanec
- tlingit
- tobacco_plains_band
- tobique_first_nation
-
- tohono_o'odham_nation_of_arizona
- tojolabal
- tok
- toksook_bay
- tolowa

- tolowa_dee-ni'_nation
- toltec
- tonawanda_band_of_seneca
- tonkawa_tribe_of_indians_of_oklahoma
- tonto_apache_tribe_of_arizona
- toquaht
- torres_martinez_desert_cahuilla_indians
- traditional_band_of_the_sovereign_abenaki_nation
- traditional_togiak
- traditional_village_of_togiak
- tribal
- tribal_college
- tribal_community*
- tribal_council
- tribe*
- trique
- triqui
- tsartlip
- tsawout_first_nation
- tseycum
- tsimshian
- tsuut'ina_nation
- tuckabachee
- tulalip_tribes_of_washington
- tule_river_indian_tribe
- tuluksak_native_community
- tunica_biloxi_indian_tribe_of_louisiana
- tuntutuliak
- tununak
- tuolumne_band_of_mewuk_indians_of_california
- tupi
- turtle_mountain_band_of_chippewa_indians_of_north_dakota
- tuscarora_nation
- tuscola
- twenty-nine_palms_band_of_luiseno_mission_indians
- twin_hills
- twin_hills_village
- two-spirit
- tygh
- tyonek
- tzeltal
- tzotzil
- uchucklesaht
- ucluelet_first_nation
- ugashik
- ugashik_village
- umkumiut
- umkumiut_native_village
- umpqua
- unalakleet
- unalaska
- unangan
- unga
- united_auburn_indian_community_of_the_auburn_rancheria_of_california
- united_cherokee_ani-yun-wiya_nation
- united_houma_nation
- united_keetoowah_band_of_cherokee_indians_in_oklahoma
- upper_chinook
- upper_mattaponi_tribe
- upper_sioux_community
- upper_skagit_indian_tribe
- uruguayan_indian
- ute
- ute_indian_tribe_of_the_uintah_and_ouray_reservation
- ute_indian_tribe_of_the_uintah_and_ouray_reservation,_utah
- ute_mountain_ute_tribe
- utu_utu_gwaitu_paiute_tribe_of_the_benton_paiute_reservation
- utu_utu_gwaitu_paiute_tribe_of_the_benton_paiute_reservation,_california
- venetie
- venezuelan_indian
- viejas
- viejas_group_of_capitan_grande_band
- village_of_alakanuk
- village_of_anaktuvuk_pass
- village_of_aniak
- village_of_atmautluak
- village_of_bill_moore's_slough
- village_of_chefornak
- village_of_clark's_point
- village_of_crooked_creek
- village_of_dot_lake
- village_of_iliamna
- village_of_kalskag
- village_of_kaltag
- village_of_kotlik
- village_of_lower_kalskag
- village_of_ohogamiut
- village_of_red_devil
- village_of_sleetmute
- village_of_solomon
- village_of_stony_river
- village_of_venetie
- village_of_wainwright
- vuntut_gwitchin_first_nation
- wabauskang_first_nation
- waccamaw_siouan_indian_tribe
- wahpekute_sioux
- wahta_mohawk
- wailaki
- wainwright
- wakiakum_chinook
- walker_river_paiute_tribe_of_the_walker_river_reservation
- walker_river_paiute_tribe_of_the_walker_river_reservation,_nevada
- walla_walla
- walpole_island
- wampanoag
- wampanoag_tribe_of_gay_head
- wappo
- wasauksing_first_nation
- wasco
- washoe_tribe_of_nevada_and_california
- wassamasaw_tribe_of_varner_town_indians
- waywayseecappo_first_nation
- wazhaza_sioux
- wenatchee
- west_bay_band

- whilkut
- white_bear_band
- white_earth_band
- white_mountain
-
- white_mountain_apache_tribe_of_the_fort_apache_reservation
-
- white_mountain_apache_tribe_of_the_fort_apache_reservation, arizona
-
- white_river_band_of_the_chickamauga-chokechee
- whitefish_lake_band
- wichita_and_affiliated_tribes
-
- wichita_and_affiliated_tribes, oklahoma
- wicomico
- wikwemikong
- willapa_chinook
- wilton_rancheria
- wind_river
- winnebago
- winnebago_tribe_of_nebraska
-
- winnemucca_indian_colony_of_nevada
- wintun

- wiseman
- wishram
- wiyot_tribe
- wiyot_tribe, california
- wolf_lake_band
- woodland_cree_first_nation
- woodstock_first_nation
-
- wrangell_cooperative_association
- wyandotte_nation
- xaxli'p_first_nation
- yakama_cowlitz
- yakutat_tlingit_tribe
- yana
-
- yankton_sioux_tribe_of_south_dakota
- yanktonai_sioux
- yaqui_tribe
-
- yavapai_apache_nation_of_the_camp_verde_indian_reservation
- yavapai-prescott_tribe_of_the_yavapai_reservation
-
- yerington_paiute_tribe_of_the_yerington_colony_and_campbell_ranch

-
- yerington_paiute_tribe_of_the_yerington_colony_and_campbell_ranch, nevada
- yocha_dehe_wintun_nation
-
- yocha_dehe_wintun_nation, california
- yokuts
-
- yomba_shoshone_tribe_of_the_yomba_reservation
-
- yomba_shoshone_tribe_of_the_yomba_reservation, nevada
-
- ysleta_del_sur_pueblo_of_texas
- yuchi
- yuki
- yup'ik
- yup'ik_eskimo
- yupiit_of_andreaefski
- yurok_tribe
- zaparo
- zapotec
- zoque
- zuni_tribe_of_the_zuni_reservation

[asian]

- aanhpi
- aapi
- aapis
- afghan
- apida
- asian*
- asian_american*
- asian_indian
- asian-american*
- bangladeshi
- bengali
- bhutanese
- bruneian
- burmese
- buryat
- cambodian
- central_asian
- cham
- chinese
- east_asian

- filipin*
- hakka
- han_chinese
- hmong
- hong_kong
- indo
- indo-chinese
- indonesian
- iwo_jiman
- japanese
- kalmyk
- kazakh
- khmer
- korean
- kuki
- kyrgyz
- lahu
- laotian
- macanese
- malay

- malaysian
- maldivian
- mien
- mizo
- mongolian
- montagnard
- nepalese
- non-hispanic_asian
- okinawan
- pakistani
- pashtun
- philippine
- pilipin*
- punjabi
- sikh
- sindhi
- singaporean
- south_asian*
- southeast_asian*
- sri_lankan

- tai_dam
- taiwanese
- tajik
- thai

- tibetan
- timorese
- turkmen
- urdu

- uzbek
- vietnamese

[black]:

- african
- african_american*
- afro
- afro-american
- angolan
- anguillan
- antiguan_and_barbudan
- bahamian
- barbadian
- beninese
- bisseau-guinean
- black
- black/s
- black_african
- black_african_american*
- black_american*
- black_feminist_thought
- black_lives_matter
- black_non-hispanic*
- black-centric
- blacks
- black-specific
- black-white
- british_virgin_islander
- burkinabe
- burundian
- cameroonian
- central_african
- chadian

- congolese
- djiboutian
- dominica_islander
- equatorial_guinean
- eritrean
- ethiopian
- fulani
- gabonese
- gambian
- ghanaian
- grenadian
- guinean
- haitian
- hbcu
-
- historically_black_college/university
- igbo
- ivoirian
- jamaican
- john_henryism
- kenyan
- kittian_and_nevisian
- liberian
- malagasy
- malawian
- malian
- montserratian
- motswana

- mozambican
- namibian
- negro
- nigerian
- nigerien
- nigritian
- non-hispanic_african*
- non-hispanic_black*
- rwandan
- senegalese
- sierra_leonean
- somali
- south_african
- south_sudanese
- st_croix_islander
- st_lucian
- st_thomas_islander
- sudanese
- swazi
- tanzanian
- togolese
- trinidadian_and_tobagonian
- u.s_virgin_islander
- ugandan
- vincentian
- west_indian
- yoruba
- zambian
- zimbabwean

[latinx]:

- afro_latin*
- andalusian
- argentinean
- asturian
- balearic_islander
- bolivian
- californio
- canal_zone
- canarian
- caribbean_hispanic
- castillian
- catalan*
- central_american
- chican*
- chilean
- colombian
- costa_rican

- cuban
- dominican
- ecuadorian
- galleg*
- garifuna
- guatemalan
- hispanic
- hispanic_ethnicity
- hispanic_latino
- hispanics
- honduran
- la_raza
- latin*
- latin_american
- mestiz*
- mexican*
- nicaraguan

- nuevo_mexican*
- panamanian
- paraguayian
- peruvian
- puerto_rican
- salvadoran
- south_american
- spaniard
- spanish
- spanish_american
- spanish_basque
- tejan*
- uruguayan
- valencian
- venezuelan

[mena]:

- algerian
- arab
- arab_american*
- arabic
- assyrian
- bahraini
- berber
- chaldean
- copt
- egyptian
- emirati
- iranian
- iraqi
- israeli
- jordanian
- kurdish
- kuwaiti
- lebanese
- libyan
- middle_eastern
- moroccan
- north_african
- omani
- palestinian
- qatari
- saudi
- saudi_arabian
- syriac
- syrian
- tunisian
- yazidi
- yemeni

[nhopi]:

- aanhpi
- aapi*
- apida
- bikinian
- carolinian
- chamorro
- chuukese
- cook_islander
- easter_islander
- ebeye
- ejit
- enewetak_islander
- fijian
- french_polynesian
- guamanian
- hawaiian
- i-kiribati
- indo_fijian
- kanaka_maoli
- kili
- kosraean
- kwajalein_islander
- maori
- māori
- marshallese
- melanesian
- micronesia
- mili
- native_hawaiian
- native_hawaiians
- nauruan
- new_caledonian
- nhopi
- nhpi
- niuean
- ni-vanuatu
- northern_mariana_islander
- pacific_islander*
- pacific_peoples
- palauan
- papua_new_guinean
- part_hawaiian
- pohnpeian
- polynesian
- rotuman
- saipanese
- samoan
- solomon_island*
- tahitian
- tokelauan
- tongan
- tuvaluan
- ujelang
- wallisian_and_futunan
- yapese

[unspecified]:

- bipoc
- communities_of_color
- counterparts
- ethnic
- ethnic_disparit*
- ethnic_group*
- ethnic_minorit*
- ethnicity
- limited_english_proficiency
- man_of_color
- men_of_color
- minorities
- minority
- people_of_color
- race
- race_and_ethnicity
- race_ethnicity
- race_or_ethnicity
- racial
- racial_difference
- racial_ethnic
- racial_ethnic_commun*
- racial_ethnic_difference*
- racial_ethnic_dispar*
- racial_ethnic_group*
- racial_ethnic_minorit*
- racial_minorit*
- woman_of_color
- women_of_color

[white]:

- afrikaner
- albanian
- alsatian
- andorran
- anglo
- armenian
- australian
- austrian
- azerbaijani
- azores_islander
- basque
- bavarian
- belarusian
- belgian
- black-white
- bohemian
- bosnian_and_herzegovinian
- british
- british_islander
- bulgarian
- cajun
- canadian
- carpatho_rusyn
- caucasian
- celtic
- central_european
- channel_islander

- cornish
- corsican
- croatian
- cypriot
- czech
- czechoslovakian
- danish
- dutch
- eastern_european
- estonian
- european
- european_american*
- faroe_islander
- finnish
- finno_ugrian
- fleming
- french
- french_basque
- french_canadian
- frisian
- georgian_cis
- german
- german_from_russia
- germanic
- gibraltarian
- greek
- greenlandic
- hungarian
- icelandic
- irish
- italian

- kosovan
- lapp
- latvian
- liechtensteiner
- lithuanian
- luxembourger
- macedonian
- madeiran
- maltese
- manx
- mediterranean
- moldovan
- monegasque
- montenegrin
- moravian
- new_zealander
- non-hispanic_w*
- nordic
- north_caucasian
- northern_european
- northern_irelander
- norwegian
- pennsylvania_german
- polish
- portuguese
- prussian
- roma
- romanian
- rusnak
- russian
- ruthenian

- sardinian
- saxon
- scandinavian
- scots-irish
- scottish
- serbian
- siberian
- sicilian
- slavic
- slovak
- slovenian
- sorb
- soviet_union
- swedish
- swiss
- tatar
- turkish
- turkish_cypriote
- tyrolean
- ukrainian
- viking
- vlach
- welsh
- western_european
- white
- white/s
- white_american*
- white_non-hispanic
- whites
- yugoslavian

Dictionary of Explicit Theories

Most of the dictionary terms for explicit theories were derived from the following sources:

- Krieger, N. (2014). Got Theory? On the 21st c. CE Rise of Explicit use of Epidemiologic Theories of Disease Distribution: A Review and Ecosocial Analysis. *Current Epidemiology Reports*, 1(1), 45–56. <https://doi.org/10.1007/s40471-013-0001-1>
- Harvey, M. (2020). How do we explain the social, political, and economic determinants of health? A call for the inclusion of social theories of health inequality within U.S.-based public health pedagogy. *Pedagogy in Health Promotion*, 237337992093771–237337992093771. <https://doi.org/10.1177/2373379920937719>
- Rimer, B. K., Glanz, K., & National Cancer Institute. (2005). *Theory at a Glance: A Guide for Health Promotion Practice* (2nd ed.). U.S. Dept of Health and Human Services, National Institutes of Health, National Cancer Institute.

Additional terms were added to enhance existing terms drawing from the following sources for social determinants of health and socioeconomic status, respectively:

- Elias, R. R., Jutte, D. P., & Moore, A. (2019). Exploring consensus across sectors for measuring the social determinants of health. *SSM - Population Health*, 7, 100395. <https://doi.org/10.1016/j.ssmph.2019.100395>
- Nuru-Jeter, A. M., Michaels, E. K., Thomas, M. D., Reeves, A. N., Thorpe, R. J., & LaVeist, T. A. (2018). Relative Roles of Race Versus Socioeconomic Position in Studies of Health Inequalities: A Matter of Interpretation. *Annual Review of Public Health*, 39(1), 169–188. <https://doi.org/10.1146/annurev-publhealth-040617-014230>

Other terms were added through further engagement with the data. These words appeared in the dataset as similar to other words in the dictionary. they may have appeared in the keyword-in-context results as a variation of an existing term (e.g., home_environment) or within the keyness results as strongly associated with existing terms (e.g., ‘ses’). After conducting analysis on Aims 1 and Aim 3, I added more terms: (e.g., “*discrimination”, “*inequit*”, “unequal”; “neighborhood*.”)

The following are examples of terms excluded from all theory word lists because they represented similar ideas across more than one theory category.

- health_behavior (excluded from social ecology)
- community (excluded from community to distinguish it from the social ecology category)

- environment; excluded unless compounded with another word (food_environment was added based on the model of community food environments)
- food (excluded by itself but included as food_environment)

[behavior]:

- | | | |
|--------------------------------|-------------------------------------|-------------------------------|
| - acting # ambiguous | - perceived_severity | - social_support_theory |
| - attitude* | - perceived_social_norms | - stages_of_change |
| - awareness | - perceived_social_support | - stress |
| - behavior* | - perceived_susceptibility | - stress_and_coping |
| - behavioral_capability | - perceived_threat | - stress_appraisal |
| - belief* | - precaution_adoption_process_model | - stressor |
| - benefit* | - precontemplation | - strong_ties |
| - contemplation | - reciprocal_determinism | - subjective_norm |
| - cues_to_action | - reinforcements | - theory_of_planned_behavior* |
| - deciding_about_acting | - self-efficacy | - theory_of_reasoned_action |
| - deciding_not_to_act | - self-efficacy_theory | - transtheoretical_model |
| - deciding_to_act | - social_cognitive_theory | - unaware_of_issue |
| - expectations | - social_learning_theory | - unengaged_by_issue |
| - health_belief_model | - social_networks | - weak_ties |
| - integrated_behavioral_model | - social_networks_theory | |
| - intention* | - social_norms | |
| - lifestyle | - social_norms_theory | |
| - observational_learning | - social_support | |
| - perceived_behavioral_control | - social_support_networks | |
| - perceived_benefits | | |

The following terms were excluded due to ambiguity: action, decide, decision, maintenance

[biomedical]:

- | | | |
|-------------------|----------------------|----------------|
| - "*blood*" | - gene | - pathogen* |
| - "*disease*" | - genes | - physiol* |
| - "*transmitted*" | - genetic* | - pollution |
| - bacteri* | - genom* | - pollutant* |
| - biochem* | - genome | - rna |
| - biolog* | - immune_system | - sequelae |
| - biomarker* | - immuno* | - toxic* |
| - biomedical | - infect* | - transmission |
| - carcino* | - inflammat* | - vector |
| - cellular | - microbi* | - viral |
| - chemical* | - organ | - virus |
| - diagnos* | - organs | |
| - dna | - particulate_matter | |

[community]:

- | | | |
|----------------------------|--------------------------|-----------------------|
| - communication_theory | - local | - social_action |
| - community_capacity | - locality_development | - social_disadvantage |
| - community_organiz* | - media_agenda_setting | - social_planning |
| - compatibility | - observability | - trialability |
| - critical_consciousness | - participat* | |
| - diffusion | - policy_agenda_setting | |
| - diffusion_of_innovations | - problem_definition | |
| - empower* | - problem_identification | |
| - framing | - public_agenda_setting | |
| - issue_selection | - relative_advantage | |

The following terms were excluded due to ambiguity: complexity, relevance

[social_ecology]:

- "*poverty*"
- availability_of_food
- behavior_settings
- communities
- community
- community_factors
- complex_systems_theory - microsystem
- consumer_products
- ecological_model_of_health_behavior*
- ecological_psychology
- education
- educational_attainment
- employment
- employment_status
- environmental_psychology
- exosystem
- food_environment
- home_environment
- housing
- human_aggregate
- human-environment_interactions
- income
- institutional_factors
- interpersonal

- intrapersonal*
- media_and_cultural_messages
- mesosystem
- model_of_community_food_environments
- multi_level
- multilevel
- multi-level
- neighborhood
- nutrition_information
- operant_learning_theory
- organizational_settings
- personal_attributes
- physical_characteristics_of_products
- physical_environment*
- physical_settings
- physical_structures
- placement_of_food
- policy_environment
- price_of_food
- primary_groups
- promotion_of_food
- psychosocial
- public_policy
- residence
- school_environment

- self-management_model
- ses
- skills_and_choices
- social_climate
- social_determinants*
- social_ecolog*
- social_ecology_model_for_health_promotion
- social_environment*
- social_influence
- social_status
- social_structures_and_policies
- social_systems_theory
- socio-cultural
- sociocultural*
- socioecological_model
- socio-economic
- socioeconomic*
- spatial_arrangements
- structural_contingencies
- structural_influences
- structural-ecological_model
- systems_theory
- theory_of_triadic_influence
- wealth
- work_environment

[social_inequality]:

- "*racism"
- "*discrimination"
- "*inequ*"
- "*social_medicine"
- allostatic_load
- allostatics
- biopolitics
- biopolitics_and_governmentality
- changing_mechanisms
- critical_epidemiology
- critical_race
- critical_race_theory
- dialectical_critical_realism
- eco-epidemiology
- ecosocial
- ecosocial_theory
- embodi*
- environmental_justice
- everyday_violence
- flexible_resources
- fundamental_causality
- fundamental_cause
- fundamental_cause_theory
- gender_and_power
- governmentality

- health_and_human_rights
- health_of_underdevelopment
- health-disease-care_process
- hegemon*
- ideology
- intersectionality
- latin_american_critical_epidemiology
- life_course
- life_course_theory
- lifecourse
- life-course
- medicalization
- minority_stress
- minority_stress_theory
- multiple_disease_outcomes
- multiple_replaceable_mechanisms
- naturalized_inequality
- neoliberal
- neoliberalism
- political_economy
- political_economy_of_health
- public_health_critical_race_praxis
- racial_formation

- racializ*
- racism
- social_capital
- social_construction_of_illness
- social_determination
- social_practice
- social_practice_theory
- social_production_of_disease
- stigma*
- structural_stigma
- structural_violence
- structural_vulnerability
- syndemic_theory
- systems_science
- theories_of_ideology
- theories_of_risk
- theory_of_dependency
- theory_of_development
- theory_of_syndemics
- theory_of_underdevelopment
- underdevelopment
- underdevelopment_of_health
- unequal*
- victim_blaming
- violence_continuum
- weathering

Dictionary of Compound Words

Phrases in this list were iteratively generated from the following sources:

- analysis of multiword expressions (statistically significantly co-occurring phrases with 2, 3, or 4 words)
- phrases from the racial group dictionary
- phrases from the explicit theory dictionary
- false positives (e.g., to distinguish instances of “Ryan White” from ‘white’ people, I compounded the phrase “ryan white”)

"*communicable disease*"	"affordable care act"	"all-cause mortality"
"abenaki canadian"	"affordable care act's"	"allegheny lenape"
"abenaki nation of missisquoi"	"african american"	"allostatic load"
"absentee shawnee tribe of indians of oklahoma"	"african american*"	"alternative payment models"
"ACA medicaid expansion"	"african americans"	"alturas indian rancheria"
"academic medical center"	"afro latino"	"alutiiq tribe of old harbor"
"academic performance"	"agdaagux tribe of king cove"	"alzheimer's disease*"
"acadia band"	"agua caliente band of cahuilla indians"	"amazon indian"
"access healthcare"	"agua caliente"	"amazon mechanical turk"
"accountable care organization*"	"ahtna, inc. corporation"	"american cancer society"
"ache dene koe"	"aim 1"	"american college health association"
"ache indian"	"aim 2"	"american community survey"
"acquired immunodeficiency syndrome"	"aim 3"	"american diabetes association"
"acute care hospital*"	"air pollution"	"american eskimo"
"acute care setting*"	"air quality"	"american heart association"
"acute ischemic stroke"	"ak-chin indian community"	"american indian tribe"
"acute kidney injury"	"akiachak native community"	"american indian*"
"acute lymphoblastic leukemia"	"akiak native community"	"anaktuvuk pass"
"acute myocardial infarction"	"alabama creek"	"andean indian"
"acute respiratory distress"	"alabama quassarte tribal town"	"andersen behavioral model"
"acute respiratory syndrome coronavirus"	"alabama-coushatta tribe of texas"	"andersen's behavioral model"
"acute respiratory syndrome"	"alaska indian"	"anderson lake"
"adjusted logistic regression models"	"alaska native*"	"angoon community association"
"adjusted logistic regression"	"alaskan athabaskan"	"antibiotic resistance genes"
"adjusted odds ratio*"	"alaskan native*"	"antibiotic resistance"
"adjusted prevalence ratio"	"alatna village"	"antibiotic resistant bacteria"
"administrative claims data"	"alcohol consumption"	"antiguan and barbudan"
"adult learning theory"	"alcohol use disorder*"	"antiretroviral therapy"
"adverse childhood experience*"	"alcohol use"	"anvik village"
"adverse drug events"	"alderville first nation"	"aortic blood pressure"
"adverse events"	"aleut corporation"	"apache spark"
"aerobic exercise training"	"alexandria band"	"apache tribe of oklahoma"
	"algaaciq native village"	"arab american*"
	"algonquins of barriere lake"	"arapaho tribe of the wind river reservation"
	"allakaket village"	

"arapaho tribe of the wind river reservation, wyoming"
 "arctic slope corporation"
 "arctic village"
 "argentinean indian"
 "aroostook band of micmacs"
 "artery risk development"
 "asa'carsarmiut tribe"
 "asian american pacific islander*"
 "asian american*"
 "asian indian"
 "asian pacific islander desi american"
 "asian pacific islander*"
 "asian_american pacific islander*"
 "assiniboine and sioux tribes of the fort peck indian reservation"
 "assiniboine and sioux tribes of the fort peck indian reservation, montana"
 "assonet band of the wampanoag nation"
 "asymptomatic urethral inflammation"
 "atqasuk village"
 "augustine band of cahuilla indians"
 "augustine band of cahuilla indians, california"
 "autism spectrum disorder"
 "autism spectrum"
 "availability of food"
 "availability of harmful consumer products"
 "availability of protective consumer products"
 "azores islander"
 "bad river band of the lake superior tribe"
 "balearic islander"
 "bandura's social cognitive theory"
 "barker 1968"
 "baron long"
 "barona group of capitan grande band"
 "barrow inupiat traditional government"
 "barter island"
 "batchewana first nation"
 "bay mills indian community"
 "bear river band of rohnerville rancheria"
 "beardys and okemasis band"
 "beaver creek indians"
 "beaver village"
 "beck depression"
 "beck lab"
 "beck lancaster"
 "beecher bay"
 "behavior change intervention*"
 "behavior surveillance system"
 "behavior* change"
 "behavior* settings"
 "behavioral capability"
 "behavioral health"
 "behavioral risk factor surveillance survey"
 "belizean indian"
 "bella coola"
 "bering straits inupiat"
 "berry creek rancheria of maidu indians"
 "best practices"
 "bettles field"
 "big cove"
 "big grassy"
 "big lagoon rancheria"
 "big pine paiute tribe of the owens valley"
 "big sandy rancheria of western mono indians of california"
 "big valley band of pomo indians of the big valley rancheria"
 "bigstone cree nation"
 "bill moore's slough"
 "biloxi-chitimacha confederation"
 "binary logistic regression analyses"
 "binary logistic regression analysis"
 "binary logistic regression*"
 "binge drinking"
 "binomial logistic regression"
 "binomial regression models"
 "biopolitics and governmentality"
 "birch creek tribe"
 "birth cohort study"
 "birth control use"
 "birth outcomes"
 "birth weight"
 "bishop paiute tribe"
 "bivariate logistic regression"
 "black african american"
 "black african*"
 "black americans"
 "black box"
 "black boxes"
 "black carbon"
 "black feminist thought"
 "black flies"
 "black light"
 "black lives matter"
 "black lung"
 "black markets"
 "black non-hispanic*"
 "black pepper"
 "black raspberries"
 "blackfeet tribe of the blackfeet indian reservation of montana"
 "blood flow"
 "blood glucose levels"
 "blood glucose"
 "blood lead level*"
 "blood pressure control"
 "blood pressure"
 "blue lake rancheria"
 "body composition"
 "body fat percentage"
 "body image"
 "body mass index"
 "body weight"
 "bois forte band"
 "bolivian indian"
 "bonaparte band"
 "bone marrow registry"
 "bone mineral density"
 "bone morphogenetic protein 2"
 "borderline personality disorder"
 "bosnian and herzegovinian"
 "boston bar first nation"
 "boston medical center"
 "brazilian indian"
 "breast cancer"
 "breilh paz y mino"
 "brevig mission"
 "bridge river"
 "bridgeport paiute indian colony"
 "bristol bay aleut"
 "bristol bay"
 "british islander"
 "british virgin islander"
 "brokenhead ojibway nation"
 "bronfenbrenner 1979"
 "brule sioux"
 "buena vista rancheria of me-wuk indians of california"
 "buffalo point band"
 "built environment*"
 "burns paiute tribe"
 "burt lake band of ottawa and chippewa indians"
 "cabazon band of mission indians"
 "cachil dehe band of wintun indians of the colusa rancheria"
 "caddo adais indians"
 "caddo nation of oklahoma"
 "cahto indian tribe of the laytonville rancheria"

"cahuilla band of indians"
 "california health interview survey"
 "california state university"
 "california valley miwok tribe"
 "campbell river band"
 "campo band of diegueno mission indians"
 "campus sexual violence"
 "canadian indian"
 "canal zone"
 "cancer screening"
 "cancer survivors"
 "candian border"
 "candian residential school*"
 "candian swine"
 "cape mudge band"
 "capitan grande band of diegueno mission indians"
 "carcross/tagish first nation"
 "cardio* disease*"
 "care delivery system"
 "care team members"
 "caribbean hispanic"
 "caribbean indian"
 "carpatho rusyn"
 "carrier nation"
 "carry the kettle band"
 "case study"
 "catawba indian nation"
 "causal inference methods"
 "causal mediation analysis"
 "cayuga nation"
 "CD8 t cell*"
 "cedarville rancheria"
 "census tract"
 "centers for disease* control and prevention"
 "central african"
 "central american indian"
 "central american"
 "central asian"
 "central council of the tlingit and haida indian tribes"
 "central european"
 "central nervous system"
 "central pomo"
 "centre antoine lacassagne-27"
 "cervical cancer"
 "chalkyitsik village"
 "chaloklowa chickasaw"
 "changing mechanisms"
 "channel islander"
 "chappaquiddick tribe of the wampanoag indian nation"
 "chart review"
 "chaubunagungamaug nipmuck"
 "chawathil nation"
 "cheam band"
 "cheesh-na tribe"
 "chemainus first nation"
 "chemehuevi indian tribe"
 "cher-ae heights indian community of the trinidad rancheria"
 "cher-o-creek intratribal indians"
 "cherokee alabama"
 "cherokee bear clan of south carolina"
 "cherokee nation"
 "cherokee of georgia"
 "cherokee tribe of northeast alabama"
 "chevak native village"
 "cheyenne and arapaho tribes"
 "cheyenne and arapaho tribes, oklahoma"
 "cheyenne river sioux tribe of the cheyenne river reservation"
 "cheyenne river sioux tribe of the cheyenne river reservation, south dakota"
 "chi square test"
 "chickahominy indian tribe eastern division"
 "chickahominy indian tribe"
 "chickaloon native village"
 "chicken ranch rancheria of me-wuk indians"
 "chignik bay tribal council"
 "chignik lagoon"
 "chignik lake village"
 "chignik lake"
 "chilcotin nation"
 "child care homes"
 "child care workers"
 "child welfare system"
 "child wellbeing study"
 "childhood experiences"
 "childhood obesity"
 "chilean indian"
 "chilkat indian village"
 "chilkat indian"
 "chilkoot indian association"
 "chinik eskimo community"
 "chippewa cree indians of the rocky boy's reservation"
 "chippewa cree indians of the rocky boy's reservation, montana"
 "chippewa of sarnia"
 "chippewa of the thames"
 "chippewa/ojibwe canadian"
 "chi-square test*"
 "chitimacha tribe of louisiana"
 "choctaw-apache community of ebarb"
 "chronic care model"
 "chronic condition*"
 "chronic disease* management"
 "chronic disease* prevention"
 "chronic disease* risk"
 "chronic disease*"
 "chronic HCV infection"
 "chronic health condition*"
 "chronic hepatitis c"
 "chronic illness"
 "chronic kidney disease*"
 "chronic liver disease*"
 "chronic lung disease*"
 "chronic medical conditions"
 "chronic obstructive pulmonary disease*"
 "chronic obstructive pulmonary"
 "chronic pain conditions"
 "chronic pain"
 "chronic pelvic pain"
 "chugach aleut"
 "chugach corporation"
 "chuloonawick native village"
 "cigarette smoking"
 "circle native community"
 "citizen potawatomi nation"
 "citizen potawatomi nation, oklahoma"
 "clark's point"
 "clear lake"
 "clifton choctaw tribe of louisiana"
 "climate change"
 "clinical decision making"
 "clinical decision support"
 "clinical practice guideline*"
 "clinical practice"
 "clinical scholarly project"
 "clinical trial participation"
 "clinical trial*"
 "cloverdale rancheria of pomo indians of california"
 "cluster randomized controlled trial"
 "cocopah tribe of arizona"
 "coeur d'alene tribe"
 "cognitive behavioral therapy"
 "cognitive decline"
 "cognitive function"
 "cognitive impairment"
 "cognitive theory provided"
 "coharie indian tribe"

"cohen & willis" # spelled incorrectly
"cohen & wills"
"cohen 2000"
"cohen kappa"
"cohen's kappa"
"cohort study"
"cold lake first nations"
"cold springs rancheria of mono indians"
"coldwater band"
"college health assessment"
"college student population"
"college students"
"colombian indian"
"colorado river indian tribes"
"colorblind racism"
"colorectal cancer screening"
"colorectal cancer"
"columbia center"
"columbia institute"
"columbia intouch"
"columbia river chinook"
"columbia university"
"columbia, south carolina"
"comanche nation"
"comanche nation, oklahoma"
"communication theory"
"communities of color"
"community benefit spending"
"community benefit"
"community capacity"
"community college students"
"community factors"
"community health center*"
"community health improvement"
"Community Health Sciences"
"community health worker*"
"community members"
"community organ*"
"community vulnerability index"
"community-acquired respiratory distress syndrome"
"community-based participatory research"
"community-dwelling older adults"
"comox band"
"compassion fatigue"
"complex systems theory"
"comprehensive cancer network"
"comprehensive sexuality education"
"computational fluid dynamics"
"conceptual framework"
"conditional logistic regression"
"condom use behavior"
"confederated salish and kootenai tribes of the flathead nation"
"confederated tribes and bands of the yakama nation"
"confederated tribes of siletz indians of oregon"
"confederated tribes of the chehalis reservation"
"confederated tribes of the colville reservation"
"confederated tribes of the coos"
"confederated tribes of the coos, lower umpqua, and siuslaw indians"
"confederated tribes of the goshute reservation"
"confederated tribes of the grand ronde community of oregon"
"confederated tribes of the umatilla indian reservation"
"confederated tribes of warm springs"
"confidence interval*"
"confirmatory factor analyses"
"confirmatory factor analysis"
"congenital heart defects"
"congenital heart disease*"
"congestive heart failure"
"conrad & barker"
"conrad 30 program"
"constant comparative analysis"
"constant comparative method"
"constructivist grounded theory"
"consumer products"
"content analysis"
"contraception farmer" # <https://www.prb.org/wp-content/uploads/2014/07/senegal-unmet-need-contraception.pdf>
"contraceptive use"
"control group"
"convenience sample"
"convenience sampling"
"conventional content analysis"
"convergent mixed methods"
"convolutional neural network"
"cook inlet"
"cook islander"
"coping strategies"
"copper center"
"copper river"
"coquille indian tribe"
"coquitlam band"
"core body temperature"
"coronary artery disease*"
"coronary artery risk"
"coronary heart disease*"
"coronavirus disease* 2019"
"corporate wellness program"
"correlational research design"
"costa rican indian"
"costa rican"
"cote first nation"
"couchiching first nation"
"county health department"
"county health rankings"
"coushatta tribe of louisiana"
"covid-19 community vulnerability index"
"covid-19 pandemic"
"cow creek band of umpqua tribe of indians"
"cowessess band"
"cowlitz indian tribe"
"cox proportional hazard*"
"coyote valley band of pomo indians of california"
"raig tribal association"
"cree canadian"
"criminal justice system"
"criminal justice"
"critical access hospitals"
"critical consciousness"
"critical epidemiology"
"critical race theory"
"critical race"
"crooked creek"
"cross lake first nation"
"cross sectional study"
"cross-sectional online survey"
"cross-sectional quantitative study"
"cross-sectional research design"
"cross-sectional study"
"cross-sectional survey data"
"cross-sectional survey"
"crow creek sioux tribe of the crow creek reservation"
"crow creek sioux tribe of the crow creek reservation, south dakota"
"crow tribe of montana"
"cuban indian"
"clues to action"
"cultural capital"
"culturally appropriate"
"culturally sensitive"
"cumberland county association for indian people"
"current study"
"curve lake band"
"curyung tribal council"

"CVD risk"
 "daily physical activity"
 "data analysis"
 "data collection"
 "days per week"
 "death certificate data"
 "deaths per 100,000 live"
 "deaths per 100,000"
 "deaths per year"
 "deciding about acting"
 "deciding not to act"
 "deciding to act"
 "decision making"
 "deep learning model"
 "delaware nation"
 "delaware tribe of indians"
 "delaware tribe of indians, oklahoma"
 "delaware"
 "delgado & stefancic"
 "demographic health survey"
 "dene band nwt"
 "dene canadian"
 "dental care utilization"
 "dependent variable*"
 "depressive symptoms"
 "descriptive statistical analysis"
 "descriptive statistics"
 "developing countries"
 "diabetes management"
 "diabetes prevention program*"
 "diabetes self-management"
 "dialectical critical realism"
 "diastolic blood pressure"
 "diet quality"
 "dietary intake"
 "differential gene expression"
 "differentially expressed genes"
 "diffusion of innovation*"
 "dimaggio & garip"
 "direct patient care"
 "directed content analysis"
 "disability-adjusted life years"
 "disaster preparedness"
 "discrete choice experiment"
 "disease* control"
 "disordered eating behaviors"
 "district of columbia"
 "ditidaht band"
 "DNA methylation"
 "domestic violence"
 "dominica islander"
 "dominican indian"
 "dot lake"
 "douglas indian association"
 "drinking water"
 "drug monitoring programs"
 "drug overdose deaths"
 "drug poisoning deaths"
 "drug use"
 "dry creek rancheria band of pomo indians"
 "dry creek rancheria band of pomo indians, california"
 "duckwater shoshone tribe"
 "eagle creek"
 "eagle lake band"
 "early childhood development"
 "early childhood obesity"
 "early childhood"
 "early infant diagnosis"
 "early life trauma"
 "early life"
 "east asian*"
 "east of the river shawnee"
 "easter islander"
 "eastern band of cherokee indians"
 "eastern creec"
 "eastern creek"
 "eastern european"
 "eastern mediterranean"
 "eastern muscogee"
 "eastern pequot"
 "eastern pomo"
 "eastern shawnee tribe of oklahoma"
 "eastern shoshone tribe of the wind river reservation"
 "eastern shoshone tribe of the wind river reservation, wyoming"
 "eating habits"
 "ebb and flow band"
 "ebola virus disease*"
 "echota cherokee tribe of alabama"
 "e-cigarette use"
 "ecological model of health behavior*"
 "ecological model"
 "ecological momentary assessment"
 "ecological psychology"
 "ecological systems theory"
 "ecosocial model"
 "ecosocial theory"
 "ecuadorian indian"
 "ED visits"
 "edistoatcheek-kusso tribe of south carolina"
 "educational attainment"
 "educational intervention"
 "effects regression models"
 "egegik village"
 "eklutna native village"
 "electronic health record*"
 "electronic medical record*"
 "electronic nicotine delivery systems"
 "electronic nicotine delivery"
 "elem indian colony of the sulphur bank rancheria"
 "elk valley rancheria"
 "elkins & gorman"
 "elnu abenaki tribe"
 "ely shoshone tribe"
 "embodied inequality"
 "emergency department"
 "emergency medical services"
 "emergency room"
 "emerging infectious disease*s"
 "emmonak village"
 "end stage renal disease*"
 "end-stage renal disease*"
 "enewetak islander"
 "english bay"
 "english language proficiency"
 "english language"
 "english only"
 "english or"
 "english proficiency"
 "english proficient"
 "english river first nation"
 "enterprise rancheria of maidu indians"
 "environmental factors"
 "environmental health sciences"
 "environmental justice"
 "environmental protection agency"
 "environmental psychology"
 "epidermal growth factor receptor"
 "epithelial cells"
 "equatorial guinean"
 "estimated glomerular filtration rate"
 "estimated glomerular filtration"
 "et al"
 "ethnic disparities"
 "ethnic groups"
 "ethnic minorit*"
 "ethnic minorities"
 "ethnic minority groups"
 "european american*"
 "evansville village"
 "everyday violence"
 "ewiiaapaayp band of kumeyaay indians"
 "excess body weight"
 "expenditure per capita"
 "explanatory mixed methods"

"explanatory sequential mixed methods"
 "explanatory sequential mixed"
 "exploratory factor analysis"
 "exposure assessment methods"
 "extreme weather events"
 "factor surveillance survey"
 "factor surveillance system"
 "false pass"
 "family child care homes"
 "family child care"
 "family health history"
 "family history"
 "family members"
 "family planning"
 "family practice clinic"
 "family social support"
 "family systems"
 "farm equipment operators"
 "farmer interviews"
 "farmers market*"
 "farmer's market*"
 "faroe islander"
 "fasting blood glucose"
 "fatal drug poisonings"
 "fatty acid oxidation"
 "fatty acid*"
 "fatty liver disease*"
 "fecal indicator bacteria"
 "federal poverty level"
 "federal poverty line"
 "federally qualified health center*"
 "federated indians of graton rancheria"
 "fernandeno tataviam band of mission indians"
 "finite element analysis"
 "finno ugrian"
 "first nation"
 "fisher 2005"
 "fisher exact"
 "fisher river"
 "fisher's exact test"
 "five nations"
 "fixed effects model"
 "flandreau santee sioux tribe of south dakota"
 "flay & petraitis 1994"
 "flay & petraitis"
 "flexible resources"
 "floating catchment area"
 "focus group*"
 "fond du lac band"
 "food assistance programs"
 "food environment"
 "food frequency questionnaire"
 "food insecure households"
 "food insecurity"
 "food security status"
 "food security survey module"
 "food security survey"
 "food security"
 "foodborne illness outbreaks"
 "forest county potawatomi community"
 "forest county potawatomi community, wisconsin"
 "formerly incarcerated individuals"
 "fort alexander band"
 "fort belknap indian community of the fort belknap reservation"
 "fort bidwell indian community"
 "fort independence indian community"
 "fort mcdermitt paiute and shoshone tribe of nevada and oregon"
 "fort mcdowell yavapai nation"
 "fort mojave indian tribe of arizona"
 "fort mojave indian tribe of arizona, california, and nevada"
 "fort sill apache tribe of oklahoma"
 "fort yukon"
 "fortuna ledge"
 "fountain band"
 "four winds cherokee"
 "french basque"
 "french canadian"
 "french canadian/french american indian"
 "french polynesian"
 "fully adjusted models"
 "functional health literacy"
 "fundamental causality"
 "fundamental cause theory"
 "fundamental cause"
 "galena village"
 "garden river nation"
 "GDP per capita"
 "gender and sexual minorit*"
 "gender identity"
 "gender inequ*"
 "gender minorit*"
 "gender or sexual minorit*"
 "gendered racial stress"
 "gendered racism"
 "gene expression"
 "general health status"
 "general linear model*"
 "generalized anxiety disorder"
 "generalized estimating equation*"
 "generalized linear mixed model*"
 "generalized linear mixed"
 "generalized linear model*"
 "generic qualitative inquiry"
 "genetic counseling"
 "geographic information system*"
 "georgetown university"
 "georgia eastern cherokee"
 "georgian cis"
 "german from russia"
 "gestational age"
 "gestational diabetes mellitus"
 "gestational weight gain"
 "gibson band"
 "gila river indian community of the gila river indian reservation"
 "glanz 2005"
 "glass & mcatee 2006"
 "glass & mcatee"
 "global climate change"
 "global health"
 "global public health"
 "glomerular filtration rate"
 "golden hill paugussett"
 "goodnews bay"
 "graduate medical education"
 "graduate nursing students"
 "grand portage band"
 "grand river band of ottawa indians"
 "grand traverse band of ottawa and chippewa indians"
 "grassy narrows first nation"
 "greek life"
 "greek organizations"
 "green space exposure"
 "greenhouse gas emissions"
 "greenland inuit"
 "greenville rancheria"
 "grindstone indian rancheria of wintun-wailaki indians"
 "gros ventres"
 "gross domestic product"
 "grounded theory"
 "group of capitan grande band"
 "group-based trajectory modeling"
 "growth curve modeling"
 "growth factor receptor"
 "guatemalan indian"
 "guatemalan mayan"
 "guideline concordant care"
 "guidiville rancheria of california"
 "guilford native american association"
 "gulkana council"

"gulkana village council"
 "gull bay band"
 "gut microbiome"
 "guyanese south american indian"
 "gwichya gwich'in"
 "habematolel pomo of upper lake"
 "habitual sleep duration"
 "haliwa-saponi indian tribe"
 "han chinese"
 "hand hygiene"
 "hannahville potawatomi indian tribe"
 "hannahville potawatomi indian tribe, michigan"
 "harm reduction"
 "hassanamisco band of the nipmuc nation"
 "hasasupai tribe of the hasasupai reservation"
 "hazardous alcohol use"
 "HCV antibody test"
 "health and human rights"
 "Health and Human Services"
 "health behavior* change*"
 "health behavior*"
 "health belief model"
 "health disparities"
 "health education programs"
 "health education"
 "health information exchange"
 "health information seeking"
 "health information technology"
 "health insurance"
 "health issues"
 "health literacy"
 "health needs assessment"
 "health of underdevelopment"
 "health organization"
 "health outcomes"
 "Health Policy and Management"
 "health policy makers"
 "health problems"
 "health professional shortage areas"
 "health professionals"
 "health promoting behaviors"
 "health promotion interventions"
 "health promotion model"
 "health promotion programs"
 "health promotion"
 "health related quality"
 "health risk behavior*"
 "health seeking behavior*"
 "health service delivery"
 "health service use"
 "health service utilization"
 "health services administration"
 "health services research"
 "health services use"
 "health services utilization"
 "health services"
 "health status"
 "health survey data"
 "health system performance"
 "health system*"
 "healthcare access"
 "healthcare delivery system*"
 "healthcare delivery"
 "healthcare facilities"
 "healthcare facility"
 "healthcare organizations"
 "healthcare outcomes"
 "healthcare professionals"
 "healthcare provider*"
 "healthcare reform"
 "healthcare resources"
 "healthcare service*"
 "healthcare services"
 "healthcare settings"
 "healthcare spending"
 "healthcare system*"
 "healthcare team"
 "healthcare use"
 "healthcare utilization"
 "healthcare workers"
 "health-disease*-care process"
 "healthy child development"
 "healthy eating index"
 "healthy eating"
 "healthy food access"
 "healthy food choices"
 "healthy lifestyle behaviors"
 "healthy people 2020"
 "healy lake village"
 "healy lake"
 "hearing loss"
 "heart disease*"
 "heart failure"
 "heart rate"
 "health system complexity"
 "heavy episodic drinking"
 "heiltsuk band"
 "hematopoietic stem cell*"
 "hepatitis b virus"
 "hepatitis c virus"
 "hepatitis c"
 "herring pond wampanoag tribe"
 "hesquiaht band"
 "hiawatha first nation"
 "hierarchical linear modeling"
 "hierarchical linear regression"
 "hierarchical multiple regression"
 "hierarchical regression analysis"
 "high blood pressure"
 "high fat diet"
 "high intensity breastfeeding"
 "high mortality rate*"
 "high prevalence"
 "high quality care"
 "high school"
 "high vs low"
 "higher education institutions"
 "hispanic ethnicity"
 "hispanic latino"
 "historically black college or university"
 "historically black colleges or universities"
 "HIV behavioral surveillance"
 "HIV care continuum"
 "HIV infection"
 "HIV pre-exposure prophylaxis"
 "HIV prevention efforts"
 "HIV prevention interventions"
 "HIV prevention strategies"
 "HIV prevention"
 "HIV testing history"
 "HIV testing"
 "HIV treatment outcomes"
 "HIV viral load"
 "HIV viral suppression"
 "ho-chunk nation"
 "hoh indian tribe"
 "holy cross tribe"
 "home environment"
 "home food environment"
 "home health"
 "honduran indian"
 "hong kong"
 "honorio delgado"
 "hoonah indian association"
 "hoopa extension"
 "hoopa valley tribe"
 "hooper bay"
 "hope band"
 "hopi tribe of arizona"
 "hopi tribe"
 "hopland band of pomo indians"
 "hospital community benefit"
 "hospital readmission rates"
 "host immune response"
 "host nation"
 "houlton band of maliseet indians"
 "hours per week"
 "household air pollution"
 "household food insecurity"
 "household food security"
 "household income"

"HPV vaccination"
 "HPV vaccine"
 "hualapai indian tribe of the hualapai indian reservation"
 "hualapai tribe*"
 "hughes village"
 "human aggregate"
 "human epidermal growth factor"
 "human epidermal growth"
 "human immunodeficiency virus"
 "human-environment interactions"
 "hume crawford"
 "huron of lorretteville"
 "hurricane harvey"
 "huslia village"
 "huu-ay-aht first nation"
 "hydaburg cooperative association"
 "igiugig village"
 "ipay nation of santa ysabel"
 "illicit drug use"
 "illicit substance screening"
 "illinois miami"
 "immune cell infiltration"
 "immune response*"
 "immune system"
 "in english"
 "inaja band of diegueno mission indians of the inaja and cosmit reservation"
 "incidence rate ratio"
 "inclusion criteria"
 "income ineq*"
 "independent sample t-test"
 "independent samples t-test*"
 "independent variables included"
 "independent variables"
 "in-depth interviews"
 "in-depth qualitative interviews"
 "in-depth semi-structured interviews"
 "indian health service"
 "indian township"
 "indian tribe*"
 "indiana miami"
 "indigenous maya"
 "individuals experiencing homelessness"
 "indo fijian"
 "indoor air pollution"
 "indoor air quality"
 "inductive thematic analysis"
 "infant birth weight"
 "infant feeding practices"
 "infant health outcomes"
 "infant mortality"
 "infectious disease* outbreaks"
 "infectious disease* transmission"
 "infectious disease**"
 "inflammatory bowel disease*"
 "influence health outcomes"
 "influenza vaccination"
 "influenza vaccine uptake"
 "information national trends survey"
 "information seeking behavior"
 "injection drug use"
 "injection drug users"
 "innate immune responses"
 "innate immune system"
 "institutional factors"
 "institutional racism"
 "institutional review board"
 "insulin resistance"
 "insurance coverage"
 "integrated behavioral model"
 "intensive care unit*"
 "interior salish"
 "intermediate vs low"
 "internalized racism"
 "international physical activity questionnaire"
 "interpersonal processes"
 "interpretative phenomenological analysis"
 "interpretive phenomenological analysis"
 "interrupted time series analysis"
 "interrupted time series"
 "intimate partner violence"
 "intimate partner"
 "into english"
 "intrapersonal factors"
 "intrapersonal influence"
 "inupiat community of the arctic slope"
 "invasive breast cancer"
 "inverse probability weighted"
 "inverse probability weighting"
 "inverse probability weights"
 "ione band of miwok indians"
 "iowa conrad 30 program"
 "iowa department"
 "iowa model"
 "iowa state"
 "iowa tribe of kansas and nebraska"
 "iowa tribe of oklahoma"
 "iowa tribe"
 "iqugmuit traditional council"
 "ischemic heart disease*"
 "issue selection"
 "ivanof bay village"
 "ivanof bay"
 "iwo jiman"
 "jackson band of miwuk indians"
 "james bay cree"
 "james smith cree nation"
 "jamestown s'klallam tribe"
 "jamul indian village"
 "jamul indian"
 "jena band of choctaw indians"
 "jicarilla apache nation"
 "job satisfaction"
 "john henryism"
 "jones 2000"
 "kaguyak village"
 "kawkewistahaw first nation"
 "kaibab band of paiute indians of the kaibab indian reservation"
 "kaktovik village"
 "kalispel indian community"
 "kamloops band"
 "kanaka bar"
 "karuk tribe"
 "kashia band of pomo indians of the stewarts point rancheria"
 "kasigluk traditional elders council"
 "kaska dena"
 "kaw nation"
 "keeseekoos band"
 "kenaitze indian tribe"
 "kern valley indian community"
 "ketchikan indian corporation"
 "kewa pueblo"
 "kewa pueblo, new mexico"
 "keweenaw bay indian community"
 "key informant interviews"
 "kialegee tribal town"
 "kickapoo traditional tribe of texas"
 "kickapoo tribe of indians of the kickapoo reservation in kansas"
 "kickapoo tribe of oklahoma"
 "king cove"
 "king island native community"
 "king salmon tribe"
 "kingsclear band"
 "kiowa indian tribe of oklahoma"
 "kitigan zibi anishinabeg"
 "kittian and nevisian"
 "klahoose first nation"
 "klamath tribes"
 "klawock cooperative association"
 "kletsel dehe band of wintun indians"

"kluti kaah"
 "knik tribe"
 "koasek traditional band of the sovereign abenaki nation"
 "koi nation of northern california"
 "kokhanok village"
 "koniag aleut"
 "kootenai tribe of idaho"
 "koyukuk native village"
 "kuna indian"
 "kwajalein islander"
 "kwikwetlem first nation"
 "kyuquot band"
 "la jolla band of luiseno indians"
 "la jolla band of luiseno indians, california"
 "la posta band of diegueno mission indians"
 "la raza"
 "lac courte oreilles band of lake superior chippewa"
 "lac du flambeau band of lake superior chippewa indian"
 "lac vieux desert band of lake superior chippewa indians"
 "lakahahmen band"
 "lake manitoba band"
 "lake minchumina"
 "lake st. martin band"
 "lake superior chippewa"
 "larsen bay"
 "las vegas tribe of paiute indians of the las vegas indian colony"
 "latent class analysis"
 "latent class"
 "latent growth curve"
 "latent profile analysis"
 "latin american critical epidemiology"
 "latin american social medicine"
 "latin american"
 "law enforcement"
 "lazarus & folkman"
 "least squares regression"
 "leech lake band"
 "leisure-time physical activity"
 "lennox island band"
 "lessons learned"
 "levelock village"
 "levels of racism"
 "lewin 1951"
 "lewin's change theory"
 "liard river first nation"
 "life course perspective"
 "life course theory"
 "life course"
 "lime village"
 "limited english proficiency"
 "linear mixed effects"
 "linear mixed model*"
 "linear regression analyses"
 "linear regression analysis"
 "linear regression model*"
 "linear regression"
 "link & phelan"
 "lipan apache"
 "listuguj mi'gmaq first nation"
 "literature review"
 "little river band of ottawa indians of michigan"
 "little shell tribe of chippewa indians of montana"
 "little shuswap band"
 "little traverse bay bands of odawa indians"
 "live births"
 "lived experience*"
 "local farmer"
 "local health department*"
 "local public health agencies"
 "locality development"
 "logistic regression analyses"
 "logistic regression analysis"
 "logistic regression indicated"
 "logistic regression model"
 "logistic regression modeling"
 "logistic regression models"
 "logistic regression revealed"
 "logistic regression showed"
 "logistic regression*"
 "lone pine paiute-shoshone tribe"
 "long plain first nation"
 "long term care"
 "long-acting reversible contraception"
 "long-term care facilities"
 "long-term health outcomes"
 "los angeles county"
 "Los Angeles"
 "los coyotes band of cahuilla and cupeno indians"
 "louden village"
 "louisiana choctaw tribe"
 "lovelock paiute tribe of the lovelock indian colony"
 "lovelock paiute tribe of the lovelock indian colony, nevada"
 "low back pain"
 "low birth weight"
 "low resource settings"
 "low-and middle-income countries"
 "lower brule sioux tribe of the lower brule reservation"
 "lower brule sioux tribe of the lower brule reservation, south dakota"
 "lower eastern cherokee nation sc"
 "lower elwha tribal community"
 "lower kalskag"
 "lower muskogee creek tribe"
 "lower nicola indian band"
 "lower respiratory tract"
 "lower rio grande valley"
 "lower sioux indian community in the state of minnesota"
 "lower skagit"
 "lower umpqua"
 "lumbee tribe of north carolina"
 "lummi tribe"
 "lung cancer"
 "lyme disease*"
 "lytton rancheria of california"
 "machine learning"
 "ma-chis lower creek indian tribe of alabama"
 "magnetic resonance imaging"
 "major depressive disorder"
 "makah indian tribe"
 "malahat first nation"
 "malheur paiute"
 "man of color"
 "manchester band of pomo indians of the manchester rancheria"
 "manchester band of pomo indians of the manchester rancheria, california"
 "manley hot springs village"
 "manley hot springs"
 "mann-whitney u test"
 "manokotak village"
 "manzanita band of diegueno mission indians"
 "maricopa county"
 "marietta band of nooksack"
 "marijuana use"
 "marital status"
 "marshall fortuna ledge"
 "mary's igloo"
 "mashantucket pequot indian tribe"
 "mashpee wampanoag tribe"
 "mass drug administration"
 "matachewan band"
 "match-e-be-nash-she-wish band of pottawatomi indians"
 "maternal health outcomes"
 "maternal health services"

"maternal health"
 "maternal healthcare utilization"
 "maternal healthcare"
 "maternal mortality rates"
 "maternal mortality ratio"
 "maternal mortality"
 "mattaponi indian tribe"
 "maya central american"
 "maya south american"
 "mayo clinic"
 "mcgrath native village"
 "mcleod lake"
 "mcleroy 1988"
 "mdewakanton sioux"
 "mean square error"
 "mean squared error"
 "mechoopda indian tribe of chico rancheria"
 "media agenda setting"
 "media and cultural messages"
 "medicaid claims data"
 "medicaid expansion states"
 "medicaid expansion"
 "medicaid managed care"
 "medical center"
 "medical expenditure panel survey"
 "medical record data"
 "medical record review"
 "medical records"
 "medicare part d"
 "medication adherence"
 "medication assisted treatment"
 "mediterranean diet"
 "mediterranean style"
 "meherrin indian tribe"
 "men of color"
 "menominee indian tribe"
 "mental health services administration"
 "mental health"
 "mental healthcare"
 "mental illness"
 "mentasta traditional council"
 "mesa grande band of diegueno mission indians"
 "mescalero apache tribe of the mescalero reservation"
 "mescalero apache tribe of the mescalero reservation, new mexico"
 "mesenchymal stem cells"
 "mesoamerican indian"
 "metabolic syndrome"
 "methicillin-resistant staphylococcus aureus"
 "metlakatla indian community"
 "metlakatla indian community, annette island reserve"
 "metrolina native american association"
 "metropolitan statistical area"
 "mexican american indian"
 "mexican american"
 "mexican geography"
 "mexican indian"
 "miami tribe of oklahoma"
 "miami tribe"
 "miccosukee tribe of indians of florida"
 "middle east"
 "middle eastern"
 "middle income countries"
 "middle school students"
 "middletown rancheria of pomo indians"
 "mild cognitive impairment"
 "military service members"
 "millbrook first nation"
 "mille lacs band"
 "millennium development goals"
 "million new cases"
 "minimum inhibitory concentration"
 "minimum wage"
 "minnesota chippewa"
 "minority stress theory"
 "minority stress"
 "minutes per week"
 "miranda bailey"
 "mission indians"
 "mississaugas of the credit"
 "mississippi band of choctaw indians"
 "mitogen-activated protein kinase"
 "mixed effects model*"
 "mixed methods"
 "moapa band of paiute indians of the moapa river indian reservation"
 "moapa band of paiute indians of the moapa river indian reservation, nevada"
 "model minority"
 "model of community food environments"
 "mohawk canadian"
 "mohawk kahnawake"
 "mohawks of kanesatake"
 "mohawks of the bay of quite"
 "mohegan tribe of indians of connecticut"
 "mohican canadian"
 "monacan indian nation"
 "monte carlo simulation"
 "moor indian"
 "mooretown rancheria of maidu indians"
 "moos 1980"
 "morongo band of mission indians"
 "morongo band of mission indians, california"
 "morphogenetic protein 2"
 "mortality rate*"
 "motivational interviewing"
 "mountain maidu"
 "mowa band of choctaw indians"
 "muckleshoot indian tribe"
 "multi level"
 "multilevel logistic regression"
 "multinomial logistic regression"
 "multiple case study"
 "multiple chronic conditions"
 "multiple data sources"
 "multiple disease* outcomes"
 "multiple indicator cluster"
 "multiple linear regression analysis"
 "multiple linear regression"
 "multiple logistic regression analyses"
 "multiple logistic regression analysis"
 "multiple logistic regression*"
 "multiple regression analyses"
 "multiple regression analysis"
 "multiple regression models"
 "multiple regression"
 "multiple replaceable mechanisms"
 "multivariable linear regression"
 "multivariable logistic regression analyses"
 "multivariable logistic regression models"
 "multivariable logistic regression*"
 "multivariable regression analyses"
 "multivariable regression models"
 "multivariate linear regression"
 "multivariate logistic regression analysis"
 "multivariate logistic regression models"
 "multivariate logistic regression*"
 "multivariate logistic"

"muscogee nation"
 "musqueam band"
 "nail polish"
 "naknek native village"
 "namgis first nation"
 "nana inupiat"
 "nanoose first nation"
 "nansmond indian nation"
 "nanticoke lenni-lenape"
 "narragansett indian tribe"
 "natchez indian tribe"
 "natchitoches tribe of louisiana"
 "nation huronne wendat"
 "national cancer institute"
 "National Center for Health
 Statistics"
 "national college health
 assessment"
 "national comprehensive cancer
 network"
 "National Health and Nutrition
 Examination Survey"
 "national health insurance"
 "national health interview survey"
 "national HIV behavioral
 surveillance"
 "national inpatient sample"
 "National Institute"
 "National Institutes of Health"
 "national latino and asian american
 study"
 "National Library of Medicine"
 "national longitudinal study"
 "national longitudinal survey"
 "national public health"
 "national school lunch program"
 "national youth tobacco survey"
 "nationally representative"
 "native american*"
 "native hawaiian*"
 "native tribe*"
 "native village of afognak"
 "native village of akhiok"
 "native village of akutan"
 "native village of aleknagik"
 "native village of ambler"
 "native village of atka"
 "native village of barrow inupiat
 traditional government"
 "native village of belkofski"
 "native village of brevig mission"
 "native village of buckland"
 "native village of cantwell"
 "native village of chanega"
 "native village of chignik lagoon"
 "native village of chignik"
 "native village of chitina"
 "native village of chuathbaluk"
 "native village of council"
 "native village of deering"
 "native village of dillingham"
 "native village of diomede"
 "native village of eagle"
 "native village of eek"
 "native village of ekuk"
 "native village of ekwok"
 "native village of elim"
 "native village of eyak"
 "native village of false pass"
 "native village of fort yukon"
 "native village of gakona"
 "native village of gambell"
 "native village of georgetown"
 "native village of goodnews bay"
 "native village of hamilton"
 "native village of hooper bay"
 "native village of kanatak"
 "native village of karluk"
 "native village of kiana"
 "native village of kipnuk"
 "native village of kivalina"
 "native village of kluti kaah"
 "native village of kobuk"
 "native village of kongiganak"
 "native village of kotzebue"
 "native village of koyuk"
 "native village of kwigillingok"
 "native village of kwinhagak"
 "native village of larsen bay"
 "native village of marshall"
 "native village of mary's igloo"
 "native village of mekoryuk"
 "native village of minto"
 "native village of nanwalek"
 "native village of napaimute"
 "native village of napakiak"
 "native village of napaskiak"
 "native village of nelson lagoon"
 "native village of nightmute"
 "native village of nikolski"
 "native village of noatak"
 "native village of nuiqsut"
 "native village of nunam iqua"
 "native village of nunapitchuk"
 "native village of ouzinkie"
 "native village of paimiut"
 "native village of perryville"
 "native village of pilot point"
 "native village of point hope"
 "native village of point lay"
 "native village of port graham"
 "native village of port heiden"
 "native village of port lions"
 "native village of ruby"
 "native village of saint michael"
 "native village of savoonga"
 "native village of scammon bay"
 "native village of selawik"
 "native village of shaktoolik"
 "native village of shishmaref"
 "native village of shungnak"
 "native village of stevens"
 "native village of tanacross"
 "native village of tanana"
 "native village of tatilek"
 "native village of tazlina"
 "native village of teller"
 "native village of tetlin"
 "native village of tuntutuliak"
 "native village of tununak"
 "native village of tyonek"
 "native village of unalakleet"
 "native village of unga"
 "native village of wales"
 "native village of white mountain"
 "natural language processing"
 "naturalized inequality"
 "nausu waiwash"
 "navajo county"
 "navajo nation"
 "neck squamous cell"
 "negative binomial models"
 "negative binomial regression
 models"
 "negative binomial regression*"
 "neighborhood environment*"
 "neighborhood social cohesion"
 "neighborhood socioeconomic
 environment"
 "nelson lagoon"
 "nenana native association"
 "neonatal abstinence syndrome"
 "neonatal intensive care unit"
 "neonatal intensive care"
 "nett lake"
 "new caledonian"
 "new england"
 "new hampshire"
 "new jersey sand hill band of
 indians"
 "new jersey sand hill band of
 indians, inc"
 "new jersey"
 "new koliganek council"
 "new koliganek village council"
 "new mexico"
 "new stuyahok village"
 "new stuyahok"

"new york city"
 "new york state"
 "new york"
 "new zealander"
 "newhalen village"
 "newtok village"
 "nez perce tribe"
 "nicaraguan indian"
 "nicotine delivery systems"
 "nikolai village"
 "niniichik village"
 "nipissing first nation"
 "nisga'a nation"
 "nisqually indian tribe"
 "nome eskimo community"
 "non-alcoholic fatty liver disease*"
 "non-alcoholic fatty liver"
 "non-anginal chest pain"
 "nondalton village"
 "non-gender minorit*"
 "non-hispanic african*"
 "non-hispanic american"
 "non-hispanic asian"
 "non-hispanic black"
 "non-hispanic white*"
 "non-sexual minorit*"
 "non-small cell lung cancer"
 "non-traumatic dental conditions"
 "nooksack indian tribe"
 "noorvik native community"
 "north african"
 "north carolina"
 "north caucasian"
 "north dakota"
 "north fork rancheria of mono indians"
 "north thompson band"
 "northeastern united states"
 "northern arapaho tribe"
 "northern cherokee nation of missouri and arkansas"
 "northern cheyenne tribe of the northern cheyenne reservation"
 "northern cheyenne tribe of the northern cheyenne reservation, montana"
 "northern european"
 "northern irelander"
 "northern mariana islander"
 "northern paiute"
 "northern pomo"
 "northway village"
 "northwestern band of the shoshone nation"

"nottawaseppi huron band of the potawatomi"
 "nottawaseppi huron band of the potawatomi, michigan"
 "nottoway indian tribe of virginia"
 "nuevo mexicano"
 "nulato village"
 "nulhegan band of the coosuk abenaki nation"
 "number one cause"
 "nunakauyarmiut tribe"
 "nunam iqua"
 "nurse practitioners"
 "nursing home quality"
 "nursing home residents"
 "nursing homes"
 "nursing practice"
 "nutrition education program"
 "nutrition education"
 "nutrition information"
 "nuu-chah-nulth"
 "nuxalk nation"
 "nw territory"
 "obesity prevention programs"
 "observational learning"
 "obstructive pulmonary disease*"
 "obstructive sleep apnea"
 "occaneechi band of the saponi nation"
 "occupational therapy practitioners"
 "occupational therapy"
 "odds ratio*"
 "oglala sioux tribe"
 "ohiaht band"
 "ohkay owingeh"
 "ohkay owingeh, new mexico"
 "older adults"
 "omaha tribe of nebraska"
 "omi & winant"
 "oneida indian nation"
 "oneida nation of the thames"
 "oneida nation"
 "online health information"
 "online social media"
 "online survey"
 "onondaga nation"
 "opaskwayak cree nation"
 "open-ended interview questions"
 "operant learning theory"
 "operating characteristic curve"
 "operation iraqi freedom"
 "opioid crisis"
 "opioid epidemic"
 "opioid misuse prevention"
 "opioid misuse"

"opioid overdose death*"
 "opioid overdose"
 "opioid prescribing"
 "opioid use disorder*"
 "opioid use"
 "or english"
 "oral health"
 "oral squamous cell carcinoma"
 "ordinal logistic regression"
 "ordinary least squares"
 "oregon athabaskan"
 "organizational settings"
 "organized grayling"
 "organized kake"
 "organized kasaan"
 "organized kwethluk"
 "organized saxman"
 "organized village of grayling"
 "organized village of kake"
 "organized village of kasaan"
 "organized village of kwethluk"
 "organized village of saxman"
 "orutsararmiut traditional native council"
 "oscarville traditional village"
 "oscarville traditional"
 "osoyoos band"
 "otoe-missouria tribe of indians"
 "ottawa tribe of oklahoma"
 "outcome measures"
 "ovarian cancer risk"
 "overall health status"
 "overdose deaths"
 "over-the-counter birth control"
 "pacheedaht first nation"
 "pacific islander*"
 "pacific northwest"
 "paid family leave"
 "paid maternity leave"
 "paired sample t-test"
 "paired samples t-test"
 "paired t test"
 "paired t-test"
 "paiute indian tribe of utah"
 "paiute-shoshone tribe of the fallon reservation and colony"
 "paiute-shoshone tribe of the fallon reservation and colony, nevada"
 "pala band of mission indians"
 "pamunkey indian tribe"
 "panamanian indian"
 "papua new guinean"
 "paraguayan indian"
 "parkinson's disease*"
 "part hawaiian"
 "participatory action research"

"participatory research approach"
 "particulate matter"
 "partner violence"
 "pascua yaqui tribe of arizona"
 "paskenta band of nomlaki indians"
 "passamaquoddy tribe"
 "patawomeck indian tribe of virginia"
 "patient complexity"
 "patient education materials"
 "patient education"
 "patient health outcomes"
 "patient health questionnaire-9"
 "patient satisfaction"
 "patient-centered medical home"
 "paucatuck eastern pequot"
 "pauloff harbor village"
 "pauloff harbor"
 "pauma band of luiseno mission indians"
 "pawnee nation of oklahoma"
 "pechanga band of luiseno mission indians"
 "pediatric HIV testing"
 "pediatric primary care providers"
 "pediatric primary care"
 "pediatric trauma patients"
 "pedro bay village"
 "pee dee indian nation of upper south carolina"
 "pee dee indian tribe of south carolina"
 "peet & hartwick"
 "pender's health promotion model"
 "pennsylvania german"
 "penobscot nation"
 "people experiencing homelessness"
 "people of color"
 "peoria tribe of indians of oklahoma"
 "per 1,000 live"
 "per 100,000 live"
 "per 100,000 people"
 "per 100,000 population"
 "per 100,000"
 "per 1000 live"
 "per day"
 "per week"
 "per year"
 "perceived behavioral control"
 "perceived benefits"
 "perceived body image"
 "perceived ethnic discrimination"
 "perceived health status"
 "perceived racial discrimination"
 "perceived severity"
 "perceived social norms"
 "perceived social support"
 "perceived stress scale"
 "perceived stress"
 "perceived susceptibility"
 "perceived threat"
 "percent body fat"
 "percentage point increase"
 "perinatal illicit substance screening"
 "perinatal illicit substance"
 "periodontal disease*"
 "peripheral arterial disease*"
 "personal attributes"
 "personal care products"
 "personal protective equipment"
 "peruvian indian"
 "petersburg indian association"
 "phelan & link"
 "physical activity questionnaire"
 "physical activity"
 "physical characteristics of products"
 "physical environment*"
 "physical health outcomes"
 "physical health problems"
 "physical settings"
 "physical structures"
 "picayune rancheria of chukchansi indians"
 "piedmont american indian association"
 "piedmont american indian association-lower eastern cherokee nation sc"
 "pilot point"
 "pilot station traditional village"
 "pilot station traditional"
 "pima county"
 "pine creek"
 "pinoleville pomo nation"
 "pipestone sioux"
 "piqua shawnee tribe"
 "piro manso tiwa tribe"
 "piscataway conoy tribe"
 "piscataway indian nation"
 "pit river tribe of california"
 "pitka's point traditional council"
 "placement of food"
 "plains cree"
 "platinum traditional village"
 "platinum traditional"
 "pleasant point passamaquoddy"
 "pm2.5 air pollution"
 "poarch band of creeks"
 "pocasset wampanoag"
 "pocomoke acohonock"
 "point hope"
 "point lay"
 "pointe au-chien indian tribe"
 "point-of-care viral load"
 "poisson regression models"
 "pokagon band of potawatomi indians"
 "policy agenda setting"
 "policy environment*"
 "policy makers"
 "political economy of health"
 "political economy"
 "polycyclic aromatic hydrocarbons"
 "polycystic ovary syndrome"
 "polygenic risk score*"
 "polymerase chain reaction"
 "ponca tribe of indians of oklahoma"
 "ponca tribe of nebraska"
 "population health outcomes"
 "port gamble s'klallam tribe"
 "port graham"
 "port heiden"
 "port lions"
 "portage creek ohgsenakale"
 "portage creek village"
 "positive youth development"
 "post hoc analysis"
 "postpartum depression"
 "posttraumatic stress disorder"
 "post-traumatic stress disorder"
 "posttraumatic stress symptoms"
 "potter valley tribe"
 "practice improvement project"
 "prairie band potawatomi nation"
 "prairie island indian community"
 "precaution adoption process model"
 "predominantly white institution*"
 "predominantly white"
 "pregnancy risk assessment monitoring system"
 "pregnant women"
 "prenatal aneuploidy screening"
 "prenatal care"
 "prep care continuum"
 "prescription drug misuse"
 "prescription drug monitoring programs"
 "prescription drug monitoring"
 "prescription opioid misuse"
 "prescription opioid supply"

"prescription opioid use"
 "prescription opioid*"
 "preterm birth"
 "preventive dental behaviors"
 "preventive dental care"
 "preventive dental services"
 "preventive health services"
 "preventive healthcare"
 "preventive services task force"
 "preventive services task"
 "previous research suggests"
 "price of food"
 "primary care clinic"
 "primary care clinicians"
 "primary care clinics"
 "primary care facilities"
 "primary care nps"
 "primary care office"
 "primary care patients"
 "primary care physician*"
 "primary care practice*"
 "primary care provider*"
 "primary care services"
 "primary care setting*"
 "primary care team"
 "primary care utilization"
 "primary care visits"
 "primary care"
 "primary data collection"
 "primary groups"
 "primary healthcare"
 "primary research question"
 "principal component analysis"
 "principal creek indian nation"
 "private health insurance"
 "problem definition"
 "problem identification"
 "promotion of food"
 "propensity score"
 "prospective cohort"
 "prostate cancer"
 "protective factors"
 "psychological distress"
 "public agenda setting"
 "public drinking water"
 "public health agencies"
 "public health authorities"
 "public health critical race praxis"
 "public health department*"
 "public health education"
 "public health experts"
 "public health facilities"
 "public health field"
 "public health infrastructure"
 "public health insurance"
 "public health leaders"
 "public health messages"
 "public health officials"
 "public health policy"
 "public health practitioners"
 "public health professionals"
 "public health program*"
 "public health researchers"
 "public health sector"
 "public health services"
 "public health surveillance"
 "public health system*"
 "public health workers"
 "public health"
 "public healthcare"
 "public policy"
 "publicly available data"
 "pueblo of acoma"
 "pueblo of cochiti"
 "pueblo of isleta"
 "pueblo of jemez"
 "pueblo of laguna"
 "pueblo of nambe"
 "pueblo of picuris"
 "pueblo of pojoaque"
 "pueblo of san felipe"
 "pueblo of san ildefonso"
 "pueblo of sandia"
 "pueblo of santa ana"
 "pueblo of santa clara"
 "pueblo of taos"
 "pueblo of tesuque"
 "pueblo of zia"
 "puerto rican indian"
 "puerto rican"
 "puget sound salish"
 "puyallup tribe of the puyallup reservation"
 "pyramid lake paiute tribe of the pyramid lake reservation"
 "pyramid lake paiute tribe of the pyramid lake reservation, nevada"
 "qagan tayagungin tribe of sand point village"
 "qagan tayagungin tribe of sand point"
 "qawalangin tribe of unalaska"
 "qualitative action research"
 "qualitative case study"
 "qualitative content analysis"
 "qualitative data analysis"
 "qualitative data collection"
 "qualitative data"
 "qualitative descriptive study"
 "qualitative in-depth interviews"
 "qualitative interview data"
 "qualitative interviews"
 "qualitative research design"
 "qualitative research methods"
 "qualitative semi-structured interviews"
 "qualitative study"
 "quality healthcare"
 "quality improvement"
 "quantitative data analysis"
 "quantitative microbial risk"
 "quapaw nation"
 "quartz valley indian reservation"
 "quasi-experimental quality improvement project"
 "quechan tribe of the fort yuma indian reservation"
 "quechan tribe of the fort yuma indian reservation, california and arizona"
 "quileute tribe of the quileute reservation"
 "quileute tribe of the quileute reservation, washington"
 "quinault indian nation"
 "race and ethnicity"
 "race or ethnicity"
 "race_ethnic*"
 "racial capitalism"
 "racial difference"
 "racial disparities"
 "racial formation"
 "racial health disparities"
 "racial inequ*"
 "racial minorit*"
 "racial residential segregation"
 "racial_ethnic commun*"
 "racial_ethnic difference*"
 "racial_ethnic dispar*"
 "racial_ethnic group*"
 "racial_ethnic minorit*"
 "racial_ethnic*"
 "rainy river first nations"
 "ramapough lenape nation"
 "ramapough mountain"
 "ramona band of cahuilla"
 "ramona band of cahuilla, california"
 "rampart village"
 "random forest model"
 "randomized clinical trial*"
 "randomized control trial*"
 "randomized controlled trial*"
 "rank transform test"
 "rape myth acceptance"
 "rappahannock tribe"
 "rappahannock tribe, inc."

"reactive oxygen species"
 "readmission rates"
 "readmissions reduction program"
 "receiver operating characteristic"
 "receptive anal intercourse"
 "reciprocal determinism"
 "red blood cells"
 "red cliff band of lake superior chippewa"
 "red devil"
 "red earth band"
 "red lake band of chippewa indians"
 "red wood"
 "redding rancheria"
 "redding rancheria, california"
 "redwood valley or little river band of pomo indians of the redwood valley rancheria california"
 "registered dietitian nutritionists"
 "registered nurse anesthetists"
 "registered nurses"
 "regression analyses"
 "regression analysis"
 "regression discontinuity design"
 "regression model*"
 "regulatory t cells"
 "relative advantage"
 "religious minorit*"
 "reno-sparks indian colony"
 "reno-sparks indian colony, nevada"
 "repeated measures ANOVA"
 "representative sample"
 "reproductive health"
 "research participation"
 "research question*"
 "residual clinical biospecimens"
 "resighini rancheria"
 "respiratory distress syndrome"
 "respiratory syndrome coronavirus 2"
 "respiratory syndrome coronavirus"
 "restrictive abortion policies"
 "retrospective chart review"
 "retrospective cohort"
 "rhode island"
 "rincon band of luiseno mission indians"
 "rio grande valley"
 "risk assessment tool"
 "risk behavior surveillance system"
 "risk factor*"
 "risk prediction models"
 "risky health behavior*"
 "risky sexual behavior*"
 "robert wood johnson"
 "robinson rancheria"
 "root mean square error"
 "root mean square"
 "roseau river"
 "rosebud sioux tribe of the rosebud indian reservation"
 "rosebud sioux tribe of the rosebud indian reservation, south dakota"
 "round valley indian tribes"
 "royal house of pokanoket"
 "rural areas"
 "rural communities"
 "rural healthcare"
 "rural primary care clinic"
 "rural primary care"
 "rutherford category 5"
 "ryan white"
 "sac and fox nation of missouri in kansas and nebraska"
 "sac and fox nation"
 "sac and fox nation, oklahoma"
 "sac and fox tribe of the mississippi in iowa"
 "sac and fox"
 "sac river band of the chickamauga-chokechee"
 "saddle lake"
 "safe drinking water"
 "safe firearm storage"
 "safety net programs"
 "saginaw chippewa indian tribe"
 "saint george island"
 "saint michael"
 "saint paul island"
 "saint regis mohawk tribe"
 "sakimay first nations"
 "salamatof tribe"
 "salish sea"
 "salt river pima-maricopa indian community"
 "salvadoran indian"
 "samish indian nation"
 "sample size"
 "san carlos apache tribe of the san carlos reservation"
 "san diego county"
 "san juan southern paiute tribe of arizona"
 "san juan"
 "san luis rey mission indian"
 "san manuel band of mission indians"
 "san manuel band of mission indians, california"
 "san pasqual band of diegueno mission indians"
 "sandy bay band"
 "santa rosa band of cahuilla indians"
 "santa rosa indian community"
 "santa ynez band of chumash mission indians"
 "santee indian nation of south carolina"
 "santee indian organization"
 "santee sioux nation"
 "santee sioux nation, nebraska"
 "SAS version 9.4"
 "saudi arabia*"
 "sauk-suiattle indian tribe"
 "sault ste. marie tribe of chippewa indians"
 "saulteau first nations"
 "scambler & scambler"
 "scammon bay"
 "school environment"
 "school environment*"
 "school lunch program"
 "School of Public Health"
 "school-based sex education"
 "scoping literature review"
 "scotts valley band of pomo indians of california"
 "screening participation"
 "screening tool"
 "seabird island"
 "seaconke wampanoag"
 "sealaska corporation"
 "secondary analysis"
 "secondary data analyses"
 "secondary data analysis"
 "secondary data set"
 "secondary data sources"
 "secondary data"
 "secondary traumatic stress"
 "security survey module"
 "sedentary behavior*"
 "seine river first nation"
 "seldovia tribe"
 "seldovia village tribe"
 "self-efficacy theory"
 "self-management model"
 "self-reported health status"
 "semi structured interviews"
 "seminole tribe of florida"
 "semi-structured in-depth interviews"

"semi-structured individual interviews"
"semi-structured interview guide"
"semi-structured interviews"
"semi-structured key informant interviews"
"semi-structured key informant"
"semi-structured qualitative interviews"
"seneca nation of indians"
"seneca-cayuga nation"
"sequential mixed methods design"
"sequential mixed methods"
"serious mental illness"
"serious psychological distress"
"serpent river"
"service delivery model*"
"service delivery networks"
"service delivery"
"service utilization"
"services task force"
"setalcott indians"
"seton lake"
"severe acute respiratory syndrome"
"severe acute respiratory"
"severe maternal morbidity"
"severe psychological distress"
"sex* education"
"sexual and gender minorit*"
"sexual health"
"sexual minorit*"
"sexual or gender minorit*"
"sexual orientation"
"sexual partner concurrency"
"sexual risk behavior"
"sexual risk behavior*"
"sexual risk taking"
"sexual violence prevention"
"sexual violence"
"sexually transmitted disease**"
"sexually transmitted infection*"
"shageluk native village"
"shakopee mdewakanton sioux community of minnesota"
"shared decision making"
"shawnee nation united remnant band"
"shawnee tribe"
"sherwood valley rancheria of pomo indians of california"
"shingle springs band of miwok indians"
"shinnecock indian nation"
"shoal lake cree nation"
"shoalwater bay indian tribe of the shoalwater bay indian reservation"
"short sleep duration"
"shoshone paiute"
"shoshone-bannock tribes of the fort hall reservation"
"shoshone-paiute tribes of the duck valley reservation"
"siberian yupik"
"sickle cell disease*"
"sickle cell trait"
"side effects"
"sierra leonean"
"signed rank test"
"significant difference"
"siksika canadian"
"simpew first nation"
"simple linear regression"
"singer & clair"
"single nucleotide polymorphism*"
"sisseton-wahpeton oyate of the lake traverse reservation"
"sisseton-wahpeton oyate of the lake traverse reservation, south dakota"
"sitka tribe of alaska"
"siuslaw indians"
"six nations canada"
"six nations of the grand river"
"skagway village"
"skawahlook first nation"
"skeetchestn indian band"
"skeletal muscle"
"skilled nursing facilities"
"skilled nursing facility"
"skills and choices"
"skin cancer screening"
"skinner 1953"
"skokomish indian tribe"
"skookum chuck band"
"skull valley band of goshute indians of utah"
"skwah first nation"
"skway first nation"
"sleep duration"
"sleep quality"
"smoking cessation program"
"smoking cessation"
"snoqualmie indian tribe"
"soboba band of luiseno indians"
"social action"
"social capital"
"social change"
"social climate"
"social cognitive theory"
"social construction of illness"
"social determinants of health"
"social determinants"
"social determination"
"social disadvantage"
"social ecological model"
"social ecological"
"social ecology model for health promotion"
"social ecology"
"social environment*"
"social inequ*"
"social influence"
"social learning theory"
"social media data"
"social media platform*"
"social media posts"
"social media sites"
"social media use"
"social media users"
"social medicine"
"social network analysis"
"social network characteristics"
"social network members"
"social network"
"social networking sites"
"social networks theory"
"social networks"
"social norms theory"
"social norms"
"social planning"
"social practice theory"
"social practice"
"social production of disease*"
"social safety net"
"social service organizations"
"social status"
"social structures and policies"
"social support networks"
"social support systems"
"social support theory"
"social support"
"social systems theory"
"social vulnerability index"
"social work practice"
"sociocultural influence"
"socioecological model"
"socioeconomic status"
"sokaogon chippewa community"
"solomon islander"
"songhees first nation"
"soowahlie first nation"
"south africa*"
"south african"
"south american indian"

"south american"
 "south asian americans"
 "south asian*"
 "south carolina"
 "south dakota"
 "south naknek village"
 "south naknek"
 "south sudan"
 "south sudanese"
 "southeast alaska"
 "southeast asia"
 "southeast asian*"
 "southeastern cherokee council"
 "southeastern indians"
 "southeastern mvskoke nation, inc."
 "southeastern united states"
 "southern arapaho"
 "southern california"
 "southern cheyenne"
 "southern paiute"
 "southern united states"
 "southern ute indian tribe of the southern ute reservation"
 "southwestern united states"
 "soviet union"
 "spanish american indian"
 "spanish american"
 "spanish basque"
 "spanish flu"
 "spanish influenza"
 "spatial arrangements"
 "special supplemental nutrition program"
 "specific aims"
 "spinal cord injury"
 "spirit lake tribe"
 "spokane tribe of the spokane reservation"
 "SPSS version 25"
 "spuzzum first nation"
 "squamish nation"
 "squamous cell carcinoma"
 "squaxin island tribe of the squaxin island reservation"
 "squaxin island tribe of the squaxin island reservation, washington"
 "sri lankan"
 "st. croix chippewa indians of wisconsin"
 "st. croix islander"
 "st. lucian"
 "st. mary's"
 "st. thomas islander"
 "stage breast cancer"
 "stages of change"
 "standing rock sioux tribe of north & south dakota"
 "stanjikoming first nation"
 "state medicaid programs"
 "states healthcare system"
 "statistical significance"
 "statistically significant"
 "stebbins community association"
 "stepping stone"
 "stigma power"
 "stigma theory"
 "stillaguamish tribe of indians of washington"
 "sto:lo nation"
 "stockbridge-munsee community"
 "stokols 1992"
 "stony river"
 "stress and coping theory"
 "stress and coping"
 "stress appraisal"
 "stress buffering model"
 "stress process model"
 "stressful life events"
 "strong ties"
 "structural contingencies"
 "structural equation model"
 "structural equation modeling"
 "structural equation models"
 "structural influences"
 "structural racism"
 "structural stigma"
 "structural violence"
 "structural vulnerability"
 "structural-ecological model"
 "study design"
 "study participation"
 "subject matter experts"
 "subjective norm*"
 "sub-saharan africa"
 "sub-saharan african countries"
 "substance abuse treatment"
 "substance abuse"
 "substance use behaviors"
 "substance use disorder treatment"
 "substance use disorder*"
 "substance use initiation"
 "substance use prevention"
 "substance use treatment"
 "substance use"
 "sucker creek first nation"
 "suicidal ideation"
 "summit lake paiute tribe of nevada"
 "sun'aq tribe of kodiak"
 "supplemental nutrition assistance program"
 "supply chain"
 "surveillance system survey"
 "surveillance system*"
 "survey data"
 "susenville indian rancheria"
 "susenville indian rancheria, california"
 "sustainable development goal*"
 "swampy cree"
 "swan creek black river confederate tribe"
 "swinomish indian tribal community"
 "sycuan band of the kumeyaay nation"
 "symbolic capital"
 "symbolic power"
 "symbolic violence"
 "syndemic theory"
 "syndrome coronavirus 2"
 "syringe exchange program*"
 "systematic literature review"
 "systematic review"
 "systemic racism"
 "systems science"
 "systems theory"
 "systolic blood pressure"
 "t cell*"
 "table mountain rancheria"
 "tai dam"
 "takotna village"
 "taku river tlingit"
 "tanana chiefs"
 "tangirnaq native village"
 "teachers college"
 "technology acceptance model"
 "teen dating violence"
 "tejon indian tribe"
 "telida village"
 "te-moak tribes of western shoshone indians of nevada"
 "tenakee springs"
 "tete de boule"
 "teton sioux"
 "the black death"
 "the chickasaw nation"
 "the choctaw nation of oklahoma"
 "the modoc tribe of oklahoma"
 "the muscogee"
 "the osage nation"
 "the seminole nation of oklahoma"
 "the southeastern mvskoke nation"
 "the suquamish tribe"
 "the waccamaw indian people"
 "thematic analysis approach"
 "thematic analysis"

"thematic content analysis"
 "theoretical foundation"
 "theoretical framework"
 "theories of ideology"
 "theories of risk"
 "theories of social capital"
 "theory of dependency"
 "theory of development"
 "theory of gender and power"
 "theory of planned behavior*"
 "theory of reasoned action"
 "theory of syndemics"
 "theory of triadic influence"
 "theory of underdevelopment"
 "thlopthlocco tribal town"
 "threat assessment teams"
 "three affiliated tribes of ft. berthold reservation"
 "three affiliated tribes of ft. berthold reservation, north dakota"
 "thymic negative selection"
 "timbisha shoshone tribe"
 "time series"
 "times per day"
 "times per week"
 "to english"
 "tobacco control policies"
 "tobacco harm reduction"
 "tobacco outlet density"
 "tobacco plains band"
 "tobacco product use"
 "tobacco products"
 "tobacco use"
 "tobique first nation"
 "tohono o'odham nation of arizona"
 "toksook bay"
 "tolowa dee-ni' nation"
 "tonawanda band of seneca"
 "tonkawa tribe of indians of oklahoma"
 "tonto apache tribe of arizona"
 "torres martinez desert cahuilla indians"
 "total hip arthroplasty"
 "total knee arthroplasty"
 "total physical activity"
 "traditional band of the sovereign abenaki nation"
 "traditional togiak"
 "traditional village of togiak"
 "traffic-related air pollution"
 "transient receptor potential"
 "transmembrane epithelial antigen"
 "transtheoretical model"
 "traumatic brain injuries"
 "traumatic brain injury"
 "tribal college*"
 "tribal communit*"
 "trinidadian and tobagonian"
 "triple negative breast cancer"
 "triple-negative breast cancer"
 "tsawout first nation"
 "tsuut'ina nation"
 "tulalip tribes of washington"
 "tule river indian tribe"
 "tuluksak native community"
 "tumor necrosis factor"
 "tunica biloxi indian tribe of louisiana"
 "tuolumne band of me-wuk indians of california"
 "turkish cypriote"
 "turtle mountain band of chippewa indians of north dakota"
 "tuscarora nation"
 "twenty-nine palms band of luiseno mission indians"
 "twin hills village"
 "twin hills"
 "type 1 diabetes"
 "type 2 diabetes mellitus"
 "type 2 diabetes"
 "type 2 diabetic"
 "type 2"
 "type II diabetes"
 "u.s. virgin islander"
 "UCLA Fielding School of Public Health"
 "UCLA School of Public Health"
 "ucluelet first nation"
 "ugashik village"
 "umkumiut native village"
 "unaware of issue"
 "underdevelopment of health"
 "undergraduate students"
 "unengaged by issue"
 "unintended pregnancy"
 "united arab emirates"
 "united auburn indian community of the auburn rancheria of california"
 "united cherokee ani-yun-wiya nation"
 "united houma nation"
 "united keetoowah band of cherokee indians in oklahoma"
 "united nations"
 "united states alone"
 "united states department"
 "united states healthcare system"
 "united states healthcare"
 "united states population"
 "united states"
 "universal health coverage"
 "university medical center"
 "University of California Los Angeles"
 "University of California"
 "university of"
 "unknown HIV status"
 "unmet social needs"
 "unsuppressed HIV viral"
 "upper chinook"
 "upper mattaponi tribe"
 "upper sioux community"
 "upper skagit indian tribe"
 "upstate new york"
 "urban areas"
 "urinary tract infection*"
 "urinary tract"
 "uruguayan indian"
 "US healthcare system"
 "ute indian tribe of the uintah and ouray reservation"
 "ute indian tribe of the uintah and ouray reservation, utah"
 "ute mountain ute tribe"
 "utu utu gwaitu paiute tribe of the benton paiute reservation"
 "utu utu gwaitu paiute tribe of the benton paiute reservation, california"
 "vaccine uptake"
 "variable selection methods"
 "venezuelan indian"
 "veterans health administration"
 "victim blaming"
 "viejas group of capitan grande band"
 "village of alakanuk"
 "village of anaktuvuk pass"
 "village of aniak"
 "village of atmautluak"
 "village of bill moore's slough"
 "village of cheformak"
 "village of clark's point"
 "village of crooked creek"
 "village of dot lake"
 "village of iliamna"
 "village of kalskag"
 "village of kaltag"
 "village of kotlik"
 "village of lower kalskag"
 "village of ohogamiut"
 "village of red devil"

"village of sleetmute"
 "village of solomon"
 "village of stony river"
 "village of venetie"
 "village of wainwright"
 "violence continuum"
 "violence prevention program*"
 "violent crime rates"
 "viral load"
 "viral suppression"
 "vitamin d"
 "volatile organic compounds"
 "vulnerable populations"
 "vuntut gwitchin first nation"
 "wabauskang first nation"
 "waccamaw siouan indian tribe"
 "wahpekute sioux"
 "wahta mohawk"
 "wakiakum chinook"
 "walker river paiute tribe of the walker river reservation"
 "walker river paiute tribe of the walker river reservation, nevada"
 "walla walla"
 "wallisian and futunan"
 "walpole island"
 "wampanoag tribe of gay head"
 "wasauksing first nation"
 "washington state department"
 "washoe tribe of nevada and california"
 "wassamasaw tribe of varnertown indians"
 "wastewater treatment plant*"
 "water quality"
 "waywayseecappo first nation"
 "wazhaza sioux"
 "weak ties"
 "wealth ineq*"
 "wearable sensor data"
 "weight gain"
 "weight loss"
 "weight management interventions"
 "weight management program"
 "weight status"
 "weighted logistic regression"
 "well child visit"
 "wellness program participation"
 "west bay band"
 "west indian"
 "west Nile virus"
 "west virginia"
 "western blot analysis"
 "western european"
 "white adipocyte"
 "white adipose tissue"
 "white americans"
 "white bear band"
 "white blood cell*"
 "white bread"
 "white cell"
 "white coats"
 "white earth band"
 "white fish"
 "white garlic"
 "White House"
 "white light"
 "white matter"
 "white memorial"
 "white mountain apache tribe of the fort apache reservation"
 "white mountain apache tribe of the fort apache reservation, arizona"
 "white mountain"
 "white nationalism"
 "white noise"
 "white non-hispanic*"
 "white paper"
 "white privilege"
 "white river band of the chickamauga-cherokee"
 "white spot"
 "white supremacist"
 "white supremacy"
 "whitefish lake band"
 "whole genome sequencing"
 "wichita and affiliated tribes"
 "wichita and affiliated tribes, oklahoma"
 "wilcoxon rank sum"
 "wilcoxon signed rank test"
 "wilcoxon signed rank"
 "willapa chinook"
 "wilton rancheria"
 "wind river"
 "wingood & diclemente"
 "winnebago tribe of nebraska"
 "winnemucca indian colony of nevada"
 "wiyot tribe"
 "wiyot tribe, california"
 "wolf lake band"
 "woman of color"
 "women of color"
 "women's health initiative"
 "woodland cree first nation"
 "woodstock first nation"
 "work environment"
 "work environment*"
 "world health organization"
 "world health organization's"
 "world health"
 "world war II"
 "wrangell cooperative association"
 "wyandotte nation"
 "xaxli'p first nation"
 "yakama cowlitz"
 "yakutat tlingit tribe"
 "yale new haven"
 "yankton sioux tribe of south dakota"
 "yanktonai sioux"
 "yaqui tribe*"
 "yavapai apache nation of the camp verde indian reservation"
 "yavapai-prescott tribe of the yavapai reservation"
 "year fixed effects"
 "yerington paiute tribe of the yerington colony and campbell ranch"
 "yerington paiute tribe of the yerington colony and campbell ranch, nevada"
 "yocha dehe wintun nation"
 "yocha dehe wintun nation, california"
 "yomba shoshone tribe of the yomba reservation"
 "yomba shoshone tribe of the yomba reservation, nevada"
 "young adult*"
 "young children"
 "youth risk behavior surveillance"
 "youth risk behavior survey"
 "youth tobacco survey"
 "ysleta del sur pueblo of texas"
 "yup'ik eskimo"
 "yupiit of andreaufski"
 "yurok tribe"
 "zero-inflated negative binomial"
 "zip code level"
 "zoonotic disease*"
 "zuni tribe of the zuni reservation"

High Entropy Words

The following words were removed from the sparse document-feature matrix for topic modelling due to high entropy scores (i.e., associated with more than one topic).

Appendix Table 5-23 *Removed Words with High Entropy Scores (N=887)*

Feature	Entropy	Feature	Entropy
data	11.04228	effective	9.294137
research	10.77933	help	9.275348
health	10.72515	social	9.272798
well	9.976034	literature	9.268587
united_states	9.945701	quantitative	9.25904
background	9.81683	characteristics	9.258825
interventions	9.78304	education	9.25145
overall	9.781111	programs	9.246764
based	9.777082	evaluate	9.232947
public_health	9.745627	greater	9.223093
examined	9.660174	groups	9.220909
model	9.656965	access	9.206297
determine	9.650529	implications	9.184671
level	9.646274	despite	9.17539
care	9.614815	conclusions	9.175044
due	9.555621	new	9.150339
different	9.512039	barriers	9.13443
analyzed	9.505282	lack	9.123899
support	9.474687	status	9.114131
conclusion	9.464075	multiple	9.101208
address	9.461287	experience	9.086045
reduce	9.460562	prevalence	9.085504
rates	9.458424	strategies	9.080929
role	9.438772	models	9.07608
collected	9.399502	work	9.058699
information	9.398981	intervention	9.058462
differences	9.393798	populations	9.051224
limited	9.373159	key	9.049499
associations	9.364727	known	9.028086
influence	9.364333	total	9.027473
number	9.361098	healthcare	9.024869
development	9.355886	changes	9.024149
needed	9.348082	inform	9.015766
community	9.342024	specific	9.011308
explore	9.312701	efforts	9.010098
national	9.306901	common	9.005191

Feature	Entropy
several	8.995941
observed	8.983683
services	8.983083
developed	8.98118
objective	8.95165
prevention	8.947635
qualitative	8.937198
revealed	8.936351
group	8.93078
design	8.923362
additionally	8.920435
program	8.914331
although	8.908734
exposure	8.898789
aims	8.897817
primary	8.894058
regarding	8.893583
develop	8.890396
additional	8.890124
third	8.880407
health_outcomes	8.878013
provided	8.874922
living	8.873179
risk_factors	8.865935
state	8.862884
aim	8.854049
test	8.846862
major	8.832469
quality	8.823471
indicated	8.819232
investigate	8.819078
addition	8.80514
year	8.803189
particularly	8.79622
variables	8.787636
improved	8.785883
contribute	8.784931
often	8.782355
measures	8.777309
interviews	8.771794
statistically_significant	8.769852
large	8.766214
especially	8.757293
importance	8.747211

Feature	Entropy
demographic	8.745711
explored	8.744953
clinical	8.742102
following	8.741373
framework	8.741316
policy	8.740764
relationships	8.73783
little	8.732288
life	8.728237
type	8.723185
estimated	8.72127
resources	8.709676
existing	8.702659
assessment	8.699646
challenges	8.695594
focus	8.690123
specifically	8.688766
burden	8.680264
poor	8.678082
evaluated	8.674558
needs	8.666074
aimed	8.662744
process	8.660277
change	8.652236
focused	8.650299
previous	8.647149
performed	8.646856
result	8.645418
without	8.644782
given	8.642901
finally	8.642208
method	8.639866
odds	8.633574
medical	8.629711
available	8.620656
context	8.614737
communities	8.610155
experiences	8.604489
policies	8.603592
critical	8.601782
period	8.563029
various	8.560102
implementation	8.55836
control	8.54837

Feature	Entropy
affect	8.545561
reducing	8.545495
order	8.542635
highest	8.53915
provides	8.538952
themes	8.532655
measure	8.530436
yet	8.527615
measured	8.527554
recommendations	8.520274
respectively	8.516598
utilized	8.511494
suggests	8.491331
mortality	8.48074
impacts	8.478364
therefore	8.472566
physical	8.470003
evaluation	8.464113
outcome	8.456074
settings	8.454532
areas	8.453156
cross-sectional	8.449471
general	8.43531
demonstrated	8.433566
promote	8.430793
human	8.430783
average	8.418885
developing	8.414748
early	8.410418
conditions	8.407401
recent	8.404144
approaches	8.399744
similar	8.399423
system	8.397342
least	8.392485
countries	8.3894
considered	8.371824
completed	8.370883
area	8.369857
present	8.36355
predictors	8.346576
hiv	8.338393
cases	8.333977
indicate	8.332239

Feature	Entropy
project	8.331745
practices	8.327036
management	8.324937
goal	8.311212
prior	8.307168
types	8.306392
months	8.304164
unique	8.303795
providing	8.30252
investigated	8.29661
effectiveness	8.287353
experienced	8.270142
part	8.263249
response	8.260097
complex	8.254871
mean	8.247367
disparities	8.244651
growing	8.244308
since	8.24273
via	8.242322
even	8.241632
death	8.238208
prevent	8.236647
longitudinal	8.234126
public	8.231759
setting	8.228471
times	8.223734
ability	8.221661
healthy	8.220169
practice	8.220087
describe	8.217402
local	8.214636
past	8.209311
mental_health	8.209033
shown	8.191702
remains	8.187902
patterns	8.179978
make	8.178909
million	8.174753
addressing	8.172068
sources	8.167133
affected	8.16223
family	8.157989
relative	8.155817

Feature	Entropy
concern	8.15039
diagnosis	8.147917
lead	8.140866
implemented	8.130173
cohort	8.128422
factor	8.123777
majority	8.118833
objectives	8.104065
applied	8.104052
incidence	8.103288
cross-sectional_study	8.091349
gaps	8.090149
set	8.090079
main	8.089827
adjusted	8.088464
gap	8.086601
introduction	8.082834
reduced	8.082744
scores	8.080359
issues	8.077236
report	8.075926
responses	8.071451
novel	8.07116
targeted	8.066384
compare	8.065359
still	8.061587
designed	8.060445
currently	8.06014
baseline	8.058606
possible	8.057126
providers	8.053872
risks	8.053095
towards	8.049244
per	8.045758
received	8.040064
around	8.035423
region	8.030097
linked	8.025404
hospital	8.020073
either	8.014862
strong	8.004969
made	7.998926
thus	7.998016
statistical	7.99656

Feature	Entropy
small	7.995728
surveys	7.995459
suggested	7.992766
tested	7.989684
researchers	7.988263
long-term	7.985531
systems	7.984936
defined	7.9843
opportunities	7.980983
mechanisms	7.979864
interest	7.979727
recommended	7.977268
global	7.975732
morbidity	7.97488
questions	7.973856
range	7.965996
approximately	7.964444
potentially	7.964416
larger	7.96399
highly	7.963886
furthermore	7.95731
estimates	7.948266
comprehensive	7.946595
controlling	7.945328
difference	7.943071
likelihood	7.934987
disproportionately	7.934319
like	7.929183
exploring	7.917106
diagnosed	7.913859
increases	7.911147
trends	7.908825
play	7.908272
testing	7.907873
history	7.895215
pregnancy	7.892522
obtained	7.890936
utilization	7.889114
though	7.889017
target	7.888999
obesity	7.888628
issue	7.88373
diabetes	7.882986
distribution	7.879815

Feature	Entropy
necessary	7.877727
reduction	7.872041
continue	7.865972
receive	7.860148
scale	7.858684
appropriate	7.856949
adjusting	7.855
presence	7.852465
training	7.842382
cancer	7.838518
consider	7.829754
selected	7.826964
described	7.826361
food	7.826181
cost	7.824543
standard	7.823574
together	7.822352
ways	7.816259
employed	7.809505
find	7.804111
consistent	7.801724
guide	7.800129
demonstrate	7.797677
consequences	7.794248
evaluating	7.79023
visits	7.787574
exposures	7.783892
remain	7.781798
logistic_regression	7.777232
guided	7.774772
receiving	7.773033
face	7.772156
provider	7.770956
affects	7.770412
review	7.767883
create	7.767173
relevant	7.763825
last	7.761108
depression	7.759066
throughout	7.758239
strategy	7.756213
regression	7.755568
might	7.752272
score	7.745784

Feature	Entropy
costs	7.745705
world	7.745516
county	7.741177
follow-up	7.740082
case	7.731983
predict	7.728175
paper	7.727882
secondary_data	7.72711
activities	7.723866
delivery	7.722439
account	7.716743
source	7.716041
influenced	7.71299
experiencing	7.711851
adolescents	7.701145
become	7.698294
positively	7.697978
ensure	7.697856
enrolled	7.696607
students	7.69602
sought	7.695262
established	7.694216
country	7.691185
concerns	7.690033
frequency	7.688039
causes	7.686553
decisions	7.685043
involved	7.684078
utilizing	7.680689
recruited	7.675339
followed	7.672051
interview	7.670503
influences	7.667588
half	7.667267
essential	7.665939
independent	7.664251
highlight	7.656066
versus	7.655873
self-reported	7.655867
discussion	7.653653
extent	7.652778
studied	7.652601
exist	7.652156
guidelines	7.648811

Feature	Entropy
predicted	7.644334
interaction	7.642725
determined	7.639897
much	7.637712
daily	7.635922
service	7.635234
created	7.630972
addressed	7.630641
performance	7.62991
tool	7.629229
components	7.6271
symptoms	7.626203
sexual	7.623967
nearly	7.622227
resulting	7.619824
states	7.619574
personal	7.61668
certain	7.614292
field	7.611588
insight	7.611187
processes	7.610696
rural	7.60901
successful	7.599633
secondary	7.597214
terms	7.595568
research_questions	7.593985
days	7.593639
previously	7.583588
exposed	7.578767
deaths	7.577983
direct	7.57512
best	7.574343
substantial	7.567716
index	7.567287
implementing	7.566234
families	7.566001
led	7.565696
achieve	7.563031
predictor	7.560673
comparison	7.557807
screening	7.554265
home	7.553318
tests	7.546488
correlation	7.546376

Feature	Entropy
variable	7.542897
proposed	7.540702
combined	7.539881
semi-structured_interviews	7.538448
urban	7.537971
safety	7.537901
engage	7.534315
commonly	7.53348
along	7.532494
way	7.52972
mixed	7.524179
primarily	7.523856
descriptive	7.523437
communication	7.523089
making	7.522499
particular	7.522092
questionnaire	7.518905
impacted	7.516036
decades	7.514433
single	7.514338
calculated	7.513916
samples	7.512787
taken	7.506545
modeling	7.505051
upon	7.504526
must	7.502602
stakeholders	7.500707
worldwide	7.498042
participation	7.496319
participated	7.49413
tools	7.492184
traditional	7.491613
reporting	7.490086
opportunity	7.48782
significance	7.483856
birth	7.481254
variation	7.480575
according	7.477668
improvement	7.473834
old	7.471883
varied	7.470658
working	7.467677
value	7.467659

Feature	Entropy
investigation	7.464582
improvements	7.464156
final	7.463722
physical_activity	7.462266
respondents	7.462167
form	7.452248
contributing	7.448541
serve	7.448133
characterize	7.445614
school	7.442562
largely	7.442385
center	7.439721
qualitative_study	7.437389
others	7.426307
globally	7.425229
attention	7.423856
variety	7.423015
categories	7.419359
point	7.41896
mixed_methods	7.411928
dataset	7.410685
required	7.409491
coverage	7.407408
explain	7.407327
underlying	7.407097
aspects	7.402925
implement	7.400042
predictive	7.399985
covariates	7.39838
characterized	7.397941
contributes	7.385472
engagement	7.382131
emerged	7.367698
chronic	7.363887
informed	7.362092
useful	7.36079
suggesting	7.3601
events	7.355524
understood	7.354958
evidence-based	7.353143
limitations	7.352936
monitoring	7.351498
government	7.350196
availability	7.34307

Feature	Entropy
enhance	7.342959
resulted	7.341447
geographic	7.340653
end	7.339088
comparing	7.33829
promoting	7.337341
educational	7.337176
component	7.336444
indicating	7.333435
household	7.332262
toward	7.331813
finding	7.328607
moderate	7.326667
presented	7.324089
indicators	7.320585
expected	7.317213
department	7.316789
every	7.316682
goals	7.309362
beyond	7.307359
negatively	7.304805
alternative	7.304367
directly	7.302351
body	7.29762
central	7.293136
lives	7.292298
explores	7.28373
widely	7.283376
identification	7.28191
surveillance	7.2758
subsequent	7.273727
generally	7.271999
distinct	7.269753
place	7.26814
validated	7.264216
active	7.264158
bmi	7.262975
lastly	7.261768
complete	7.261362
prevalent	7.260536
annual	7.248414
examination	7.247033
location	7.246374
insights	7.244685

Feature	Entropy
stratified	7.242845
parents	7.239052
efficacy	7.238795
considering	7.237999
next	7.235601
american	7.235485
measurement	7.232529
sampling	7.231005
modified	7.230788
initial	7.230022
longer	7.227415
residents	7.224413
interactions	7.222082
staff	7.221132
emotional	7.216038
continued	7.215876
good	7.214753
regions	7.212513
workers	7.211662
mixed-methods	7.210721
meet	7.20692
able	7.204584
decision-making	7.204112
increasingly	7.204048
effectively	7.200641
administered	7.194928
long	7.194738
full	7.194359
values	7.18977
healthcare_providers	7.185479
uptake	7.183852
relatively	7.182838
median	7.182717
body_mass_index	7.178126
database	7.176742
hypothesis	7.175367
ratio	7.173214
health_disparities	7.171776
members	7.164646
another	7.162627
seeking	7.161352
live	7.16121
facilitators	7.159954
pathways	7.158149

Feature	Entropy
occur	7.156546
moreover	7.152444
fully	7.151278
multivariate	7.150052
percent	7.148409
affecting	7.148242
largest	7.146326
integrated	7.145996
robust	7.143504
relation	7.141985
facilities	7.141457
function	7.140326
centers	7.138608
points	7.137586
activity	7.135604
require	7.135261
met	7.13252
in-depth_interviews	7.132035
unknown	7.131591
weight	7.129785
influencing	7.129748
insurance	7.128802
washington	7.124583
smoking	7.122355
documented	7.120862
planning	7.120438
structure	7.117316
retrospective	7.117119
acute	7.110504
seen	7.103214
drug	7.102326
facilitate	7.099992
partners	7.096222
differ	7.093187
published	7.08863
reasons	7.087983
risk_factor	7.084345
constructs	7.083196
occurred	7.079196
continues	7.07746
women's	7.076844
epidemic	7.075883
adherence	7.07362
vary	7.071155

Feature	Entropy
california	7.07049
targeting	7.066778
remained	7.064394
sites	7.063067
combination	7.0613
consisted	7.058497
policymakers	7.058483
supporting	7.047029
elevated	7.045593
trial	7.042599
random	7.039196
consumption	7.039064
diet	7.037797
ongoing	7.037119
dietary	7.035821
correlated	7.034649
challenge	7.027468
bivariate	7.026448
descriptive_statistics	7.026076
later	7.025659
adequate	7.024004
ultimately	7.023891
medication	7.023699
epidemiology	7.018778
visit	7.016419
focuses	7.014997
well-being	7.014119
nutrition	7.008761
caused	7.004061
frequently	7.003064
protective	7.002959
qualitative_data	7.00228
emerging	6.999552
requires	6.997707
drugs	6.99728
online	6.99722
take	6.995206
consistently	6.994769
exists	6.992087
techniques	6.992005
eight	6.988834
weeks	6.988213
concentrations	6.987947
engaging	6.983218

Feature	Entropy
supported	6.981034
federal	6.980853
fewer	6.975855
means	6.975562
contributed	6.975291
expand	6.975111
lowest	6.971712
selection	6.971047
application	6.965604
survival	6.964363
trend	6.962623
mitigate	6.960306
accounting	6.958602
statistics	6.957292
clinic	6.953742
eligible	6.953639
persons	6.952993
seven	6.951056
medicaid	6.950553
health_system	6.949733
represent	6.949559
example	6.94707
offer	6.946966
success	6.942992
rather	6.940297
data_collection	6.939887
linear	6.931209
difficult	6.929306
preventing	6.923671
changing	6.92285
methodology	6.922018
detection	6.916502
regardless	6.914676
data_analysis	6.914648
thematic_analysis	6.913788
routine	6.91358
degree	6.910378
exploratory	6.909605
duration	6.908542
pilot	6.905048
roles	6.900556
criteria	6.897024
mental	6.895986
safe	6.89591

Feature	Entropy
tailored	6.89532
illness	6.893204
shared	6.890583
measuring	6.890309
systematic_review	6.887074
whereas	6.886985
date	6.886821
vital	6.886309
reports	6.881881
recognized	6.881557
growth	6.881136
participating	6.880472
allow	6.879574
users	6.878526
participate	6.876374
university	6.873837
utilize	6.873195
high-risk	6.872485
presents	6.870479
exploration	6.869276
hospitals	6.86586
achieved	6.864314
healthcare_system	6.864021
international	6.863944
done	6.862715
options	6.857651
initiation	6.852971
manage	6.852601
reach	6.849741
confidence_interval	6.848442
health_services	6.847783
hypothesized	6.846112
confirmed	6.84556
january	6.844487
greatest	6.844454
disorders	6.837227
interviewed	6.835987
seek	6.833291
derived	6.830525
emergency	6.828245
condition	6.825918
survey_data	6.824964
residing	6.824555
network	6.82417

Feature	Entropy
plan	6.823479
discussed	6.822227
cardiovascular_disease	6.821833
serious	6.82011
feasibility	6.819514
explained	6.817662
spatial	6.816662
optimal	6.816653
provision	6.816077
investigating	6.81515
gain	6.814846
chronic_diseases	6.812035
college	6.811735
probability	6.8101
treated	6.8101
varying	6.806602
rise	6.804947
unclear	6.803161
locations	6.80236
sensitivity	6.801151
alone	6.800615
in-depth	6.796173
contexts	6.79483
transcribed	6.794416
epidemiological	6.788274
quantify	6.786165
vaccine	6.779257
coding	6.776864
ten	6.776777
medicine	6.776583
households	6.776461
building	6.776217
focus_groups	6.775086
december	6.774932
study_design	6.774551
mechanism	6.772768
clear	6.771774
determining	6.771774
highlights	6.767801
complications	6.765683
skills	6.760456
demonstrates	6.75838
priority	6.757313
records	6.756558

Feature	Entropy
professional	6.756537
schools	6.756227
creating	6.754533
encourage	6.753574
analyzing	6.753574
indicates	6.750707
highlighted	6.750707
frequent	6.749657
therapy	6.749153
standardized	6.747281
protect	6.744222
build	6.741255

Feature	Entropy
modification	6.74096
health_insurance	6.74071
facility	6.738177
infants	6.738007
loss	6.733149
dynamics	6.733108
biological	6.731128
phase	6.730898
numerous	6.730784
americans	6.675687
disparity	6.31315
recommendation	5.805315

REFERENCES

- Acevedo-Gil, N. (2017). College-conocimiento: toward an interdisciplinary college choice framework for Latinx students. *Race Ethnicity and Education, 20*(6), 829–850.
- Adia, A. C., Nazareno, J., Operario, D., & Ponce, N. A. (2020). Health Conditions, Outcomes, and Service Access Among Filipino, Vietnamese, Chinese, Japanese, and Korean Adults in California, 2011-2017. *American Journal of Public Health, 110*(4), 520–526.
- Adkins-Jackson, P. B., Chantarat, T., Bailey, Z. D., & Ponce, N. A. (2022). Measuring Structural Racism: A Guide for Epidemiologists and Other Health Researchers. *American Journal of Epidemiology, 191*(00), 539–547.
- Adkins-Jackson, P. B., Legha, R. K., & Jones, K. A. (2021). How to Measure Racism in Academic Health Centers. *AMA Journal of Ethics, 23*(2), E140-145.
- Afolabi, T., Borowsky, H. M., Cordero, D. M., Paul, D. W., Said, J. T., Sandoval, R. S., Davis, D., Ölveczky, D., & Chatterjee, A. (2021). Student-led efforts to advance anti-racist medical education. *Academic Medicine: Journal of the Association of American Medical Colleges, 96*(6), 802–807.
- Alang, S., & Blackstock, O. (2023). Health justice: A framework for mitigating the impacts of HIV and COVID-19 on disproportionately affected communities. *American Journal of Public Health, 113*(2), 194–201.
- Alang, S., Hardeman, R., Karbeah, J., Akosionu, O., McGuire, C., Abdi, H., & McAlpine, D. (2021). White Supremacy and the Core Functions of Public Health. *American Journal of Public Health, 111*(5), 815–819.
- Alexander, S. A., Jones, C. M., Tremblay, M.-C., Beaudet, N., Rod, M. H., & Wright, M. T. (2020). Reflexivity in Health Promotion: A Typology for Training. *Health Promotion Practice, 21*(4), 499–509.
- Allen, W. R., McLewis, C., Jones, C., & Harris, D. (2018). From Bakke to Fisher: African American students in U.S. Higher education over forty years. *The Russell Sage Foundation Journal of the Social Sciences, 4*(6), 41–72.
- Amani, B., Cabral, A., Sharif, M. Z., Huynh, J., Skrine Jeffers, K., Baptista, S. A., McAndrew, B., Bradford, N. J., de la Rocha, P., & Ford, C. L. (2022). Integrated Methods for Applying Critical Race Theory to Qualitative COVID-19 Equity Research. *Ethnicity & Disease, 32*(3), 243–256.
- American Medical Association, & Association of American Medical Colleges. (2021). *Advancing Health Equity: A Guide to Language, Narrative, and Concepts*. <http://ama-assn.org/equity-guide>

- American Public Health Association. (2020, October). *Structural Racism is a Public Health Crisis: Impact on the Black Community*. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2021/01/13/structural-racism-is-a-public-health-crisis>
- Amershi, S., Cakmak, M., Knox, W. B., & Kulesza, T. (2014). Power to the people: The role of humans in interactive machine learning. *AI Magazine*, 35(4), 105–120.
- Annamma, S. A., Jackson, D. D., & Morrison, D. (2017). Conceptualizing color-evasiveness: using dis/ability critical race theory to expand a color-blind racial ideology in education and society. *Race Ethnicity and Education*, 20(2), 147–162.
- Anyon, J. (1979). Ideology and United States History Textbooks. *Harvard Educational Review*, 49(3), 361–386.
- Apple, M. W. (2019). *Ideology and Curriculum* (4th ed.). Routledge, Taylor & Francis Group.
- Aqil, A. R., Malik, M., Jacques, K. A., Lee, K., Parker, L. J., Kennedy, C. E., Mooney, G., & German, D. (2021). Engaging in Anti-Oppressive Public Health Teaching: Challenges and Recommendations. *Pedagogy in Health Promotion*, 7(4), 344–353.
- Arafeh, S. (2016). Curriculum mapping in higher education: a case study and proposed content scope and sequence mapping tool. *Journal of Further and Higher Education*, 40(5), 585–611.
- Association of Schools & Programs of Public Health. (2021). *Dismantling Racism and Structural Racism in Academic Public Health: A Framework*. https://asp-ph-wp-production.s3.us-east-1.amazonaws.com/wp-content/uploads/2022/01/ASPPH-Task-Force-Statement_2021-1.pdf
- Au, W. (2011). *Critical curriculum studies* (1st ed.). Routledge.
- Bacong, Nguyen, & Hing. (2020). Making the Invisible Visible : The Role of Public Health Critical Race Praxis in Data Disaggregation of Asian Americans and Pacific Islanders in the Midst of the COVID-19 Pandemic. *AAPI Nexus Journal: Asian Americans and Pacific Islanders Policy, Practice*, 17(1).
- Baden, C., Pipal, C., Schoonvelde, M., & van der Velden, M. A. C. G. (2022). Three Gaps in Computational Text Analysis Methods for Social Sciences: A Research Agenda. *Communication Methods and Measures*, 16(1), 1–18.
- Bailey, Z. D., Feldman, J. M., & Bassett, M. T. (2021). How Structural Racism Works — Racist Policies as a Root Cause of U.S. Racial Health Inequities. *The New England Journal of Medicine*, 384(8), 768–773.
- Becker, M. H. (1986). The tyranny of health promotion. *Public Health Reviews*, 14(1), 15–23.

- Bediako, S. M., & Griffith, D. M. (2008). Eliminating Racial/Ethnic Health Disparities: Reconsidering Comparative Approaches. *Journal of Health Disparities Research and Practice*, 2(1), 5.
- Benjamin, R. (2019). *Race after technology: abolitionist tools for the new Jim code*. Polity Press.
- Benoit, K. (n.d.). Package 'quanteda.textstats.'
- Benoit, K., Chester, P., & Müller, S. (n.d.). *quanteda.classifiers: Models for supervised text classification* (version 0.2) [R package]. Github. Retrieved January 13, 2024, from <https://github.com/quanteda/quanteda.classifiers>
- Benoit, K., Watanabe, K., Wang, H., Nulty, P., Obeng, A., Müller, S., & Matsuo, A. (2018). quanteda: An R package for the quantitative analysis of textual data. *Journal of Open Source Software*, 3(30), 774.
- Bentley, K. M., Fortune, D., Rooks, R., & Walter, G. (2021). Antiracism and the Pursuit of Social Justice. *Pedagogy in Health Promotion*, 7(4), 296–298.
- Binder, A. J. (2000). Why Do Some Curricular Challenges Work While Others Do Not? The Case of Three Afrocentric Challenges. *Sociology of Education*, 73(2), 69–91.
- Birkenmaier, L., Lechner, C. M., & Wagner, C. (2023). The Search for Solid Ground in Text as Data: A Systematic Review of Validation Practices and Practical Recommendations for Validation. *Communication Methods and Measures*, 1–29.
- Blei, D. M., Ng, A. Y., & Jordan, M. I. (2003). Latent Dirichlet Allocation. *Journal of Machine Learning Research: JMLR*. <https://www.jmlr.org/papers/volume3/blei03a/blei03a.pdf>
- Bonilla-Silva, E. (1997). Rethinking Racism: Toward a Structural Interpretation. *American Sociological Review*, 62(3), 465–480.
- Bonini, S. M., & Matias, C. E. (2021). The impact of Whiteness on the education of nurses. *Journal of Professional Nursing: Official Journal of the American Association of Colleges of Nursing*, 37(3), 620–625.
- Bourdieu, P., & Nice, R. (1977). Structures, habitus, power: Basis for a theory of symbolic power. In *Outline of a Theory of Practice* (pp. 159–197). Cambridge University Press.
- Bowleg, L. (2017). Towards a Critical Health Equity Research Stance: Why Epistemology and Methodology Matter More Than Qualitative Methods. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 44(5), 677–684.
- Bowleg, L. (2021). “The Master’s Tools Will Never Dismantle the Master’s House”: Ten Critical Lessons for Black and Other Health Equity Researchers of Color. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 48(3), 237–249.

- Boyd, R. W., Lindo, E. G., Weeks, L. D., & McLemore, M. R. (2020). On Racism: A New Standard For Publishing On Racial Health Inequities. *Health Affairs Forefront*. <https://doi.org/10.1377/forefront.20200630.939347>
- Bradford, N. J., Amani, B., Walker, V. P., Sharif, M. Z., & Ford, C. L. (2022). Barely Tweeting and Rarely About Racism: Assessing US State Health Department Twitter Use During the COVID -19 Vaccine Rollout. *Ethnicity & Disease*, 32(3), 257–264.
- Braveman, P. A. (2006). Health disparities and health equity: Concepts and measurement. *Annual Review of Public Health*, 27, 167–194.
- Braveman, P. A. (2014). What are health disparities and health equity? We need to be clear. *Public Health Reports*, 129 Suppl 2(SUPPL. 2), 5–8.
- Braveman, P. A., Arkin, E., Proctor, D., Kauh, T., & Holm, N. (2022). Systemic And Structural Racism: Definitions, Examples, Health Damages, And Approaches To Dismantling. *Health Affairs* , 41(2), 171–178.
- Braveman, P. A., & Parker Dominguez, T. (2021). Abandon “Race.” Focus on Racism. *Frontiers in Public Health*, 9(September), 689462.
- Bray, S. R. M., & McLemore, M. R. (2021). Demolishing the Myth of the Default Human That Is Killing Black Mothers. *Frontiers in Public Health*, 9(May), 675788.
- Briscoe, F. M., & Khalifa, M. A. (2015). ‘That racism thing’: a critical race discourse analysis of a conflict over the proposed closure of a black high school. *Race Ethnicity and Education*, 18(6), 739–763.
- Bump, J. B., & Aniebo, I. (2022). Colonialism, malaria, and the decolonization of global health. *PLOS Global Public Health*, 2(9), e0000936.
- Cadena, R. S. (2023). Toward a DuBoisian theorization of school curricula. *Sociology Compass*, 17(12). <https://doi.org/10.1111/soc4.13135>
- Caiola, C., Nelson, T. B., Black, K. Z., Calogero, C., Guard, K., Haberstroh, A., & Corral, I. (2023). Structural competency in pre-health and health professional learning: A scoping review. *Journal of Interprofessional Care*, 37(6), 922–931.
- Carlsen, H. B., & Ralund, S. (2022). Computational grounded theory revisited: From computer-led to computer-assisted text analysis. *Big Data & Society*, 9(1), 20539517221080144.
- Casellas Connors, I., & McCoy, H. (2022). Performing Anti-racism: Universities Respond to Anti-Black Violence. *Race and Justice*, 12(3), 588–613.
- Castle, B., Wendel, M., Kerr, J., Brooms, D., & Rollins, A. (2019). Public Health’s Approach to Systemic Racism: a Systematic Literature Review. *Journal of Racial and Ethnic Health Disparities*, 6(1), 27–36.

- CDC. (2023, June 26). *Geographic division or region*. Centers for Disease Control and Prevention. <https://www.cdc.gov/nchs/hus/sources-definitions/geographic-region.htm>
- Chae, D. H., Clouston, S., Martz, C. D., Hatzenbuehler, M. L., Cooper, H. L. F., Turpin, R., Stephens-Davidowitz, S., & Kramer, M. R. (2018). Area racism and birth outcomes among Blacks in the United States. *Social Science & Medicine*, 199, 49–55.
- Chakravarty, P., Kuo, R., Grubbs, V., & McIlwain, C. (2018). #CommunicationSoWhite. *The Journal of Communication*, 68(2), 254–266.
- Chandanabhumma, P. P., Duran, B. M., Peterson, J. C., Pearson, C. R., Oetzel, J. G., Dutta, M. J., & Wallerstein, N. B. (2020). Space within the Scientific Discourse for the Voice of the Other? Expressions of Community Voice in the Scientific Discourse of Community-Based Participatory Research. *Health Communication*, 35(5), 616–627.
- Chandanabhumma, P. P., & Narasimhan, S. (2020). Towards health equity and social justice: an applied framework of decolonization in health promotion. *Health Promotion International*, 35(4), 831–840.
- Chandler, C. E., Williams, C. R., Turner, M. W., & Shanahan, M. E. (2022). Training Public Health Students in Racial Justice and Health Equity : A Systematic Review. *Public Health Reports*, 137(2), 375–385.
- Chang, R. C., Penaia, C., & Thomas, K. (2020). Count Native Hawaiian and Pacific Islanders in COVID-19 data—it’s an OMB mandate. *Health Affairs Forefront*. <https://www.healthaffairs.org/content/forefront/count-native-hawaiian-and-pacific-islanders-covid-19-data-s-omb-mandate>
- Chang-Bacon, C. K. (2022). “We Sort of Dance Around the Race Thing”: Race-Evasiveness in Teacher Education. *Journal of Teacher Education*, 73(1), 8–22.
- Chapman-Hilliard, C., & Beasley, S. T. (2018). “it’s like power to move”: Black students’ psychosocial experiences in black studies courses at a predominantly white institution. *Journal of Multicultural Counseling and Development*, 46(2), 129–151.
- Chávez, V., Turalba, R.-A. N., & Malik, S. (2006). Teaching public health through a pedagogy of collegiality. *American Journal of Public Health*, 96(7), 1175–1180.
- Chávez-Moreno, L. C. (2022a). Critiquing Racial Literacy: Presenting a Continuum of Racial Literacies. *Educational Researcher*, 51(7), 481–488.
- Chávez-Moreno, L. C. (2022b). The continuum of racial literacies: Teacher practices countering whitestream bilingual education. *Research in the Teaching of English*, 57(2), 108–132.
- Chávez-Moreno, L. C. (2023). Examining Race in LatCrit: A Systematic Review of Latinx Critical Race Theory in Education. *Review of Educational Research*, 00346543231192685.

- Chen, E., Wallace, D., Leos, C., & Merino, Y. (2023). Examining the White Supremacist Practices of Funding Organizations for Public Health Research and Practice: A Composite Narrative From Female, BIPOC Junior Researchers in Public Health. *Health Promotion Practice*, 24(1), 45–58.
- Chen, M. S. (2019). Rectifying Disparities in Funding of Asian American, Native Hawaiian, and Pacific Islander Research by the US National Institutes of Health. In *JAMA Network Open* (Vol. 2, Issue 7, pp. 197561–197561). American Medical Association. <https://doi.org/10.1001/jamanetworkopen.2019.7561>
- Chowkwanyun, M. (2011). THE STRANGE DISAPPEARANCE OF HISTORY FROM RACIAL HEALTH DISPARITIES RESEARCH. *Du Bois Review: Social Science Research on Race*, 8(1), 253–270.
- Cogburn, C. D. (2019). Culture, Race, and Health: Implications for Racial Inequities and Population Health. *The Milbank Quarterly*, 97(3), 736–761.
- Collins, P. H. (1986). Learning from the outsider within: The sociological significance of black feminist thought. *Social Problems*, 33(6), S14–S32.
- Collins, P. H. (2022). Black Women and Wellness. *Women & Therapy*, 45(4), 354–368.
- Constantino, R. (1970). The mis-education of the filipino. *Journal of Contemporary Asia*, 1(1), 20–36.
- Coombe, L., Severinsen, C. A., & Robinson, P. (2022). Mapping competency frameworks: implications for public health curricula design. *Australian and New Zealand Journal of Public Health*, 46(5), 564–571.
- Coombe, L., Severinsen, C., & Robinson, P. (2020). Practical competencies for public health education: a global analysis. *International Journal of Public Health*, 65(7), 1159–1167.
- Council on Education for Public Health. (n.d.). *About*. Council on Education for Public Health. Retrieved October 13, 2022, from <https://ceph.org/about/org-info/>
- Council on Education for Public Health. (2016). *Accreditation Criteria: Schools of Public Health and Public Health Programs* (pp. 1–50). Council on Education for Public Health. <https://ceph.org/assets/2016.Criteria.pdf>
- Council on Education for Public Health. (2022). *Accreditation procedures: Schools of public health, public health programs, standalone baccalaureate programs*. <https://media.ceph.org/documents/Procedures.pdf>
- Cousins, S. J., & Matias, C. E. (2023). Toward Critically Analyzing Whiteness in Immigrant Health. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 50(4), 493–499.

- Cozier, Y. (2022, June 2). *10-Point Plan for Diversity, Equity, Inclusion, and Justice*. Boston University School of Public Health. <https://www.bu.edu/sph/news/articles/2022/sph-10-point-plan-for-diversity-equity-inclusion-and-justice/>
- Creswell, J. W. (2014). *Research design : qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.
- Criss, S., Nguyen, T. T., Michaels, E. K., Gee, G. C., Kiang, M. V., Nguyen, Q. C., Norton, S., Titherington, E., Nguyen, L., Yardi, I., Kim, M., Thai, N., Shepherd, A., & Kennedy, C. J. (2023). Solidarity and strife after the Atlanta spa shootings: A mixed methods study characterizing Twitter discussions by qualitative analysis and machine learning. *Frontiers in Public Health, 11*, 952069.
- Cross, R. I. (2018). Commentary: Can Critical Race Theory Enhance the Field of Public Health? A Student’s Perspective. *Ethnicity & Disease, 28*(Supp 1), 267–270.
- Curammeng, E. R., Lopez, D. D., & Tintiangco-Cubales, A. (2016). Community responsive literacies: the development of the Ethnic Studies Praxis Story Plot. *English Teaching, 15*(3), 411–429.
- Dankwa-Mullan, I., Zhang, X., Le, P.-T., & Riley, W. T. (2021). Applications of big data science and analytic techniques for health disparities research. In *The Science of Health Disparities Research* (pp. 221–242). Wiley. <https://doi.org/10.1002/9781119374855.ch14>
- Davies, D. (2022, June 14). “1619 Project” journalist lays bare why Black Americans “live sicker and die quicker.” *NPR*. <https://www.npr.org/sections/health-shots/2022/06/14/1103935147/linda-villarosa-under-the-skin-racism-healthcare>
- Delgado Bernal, D. (1998). Using Chicana Feminist Epistemology In Educational Research. *Harvard Educational Review, 68*(4), 555–582.
- Delgado Bernal, D., & Villalpando, O. (2002). An apartheid of knowledge in academia: The struggle over the “legitimate” knowledge of faculty of color. *Equity & Excellence in Education: University of Massachusetts School of Education Journal, 35*(2), 169–180.
- Delgado, R. (1984). The imperial scholar: Reflections on a review of civil rights literature. *University of Pennsylvania Law Review, 132*(3), 561.
- Delgado, R. (1989). Storytelling for Oppositionists and Others: A Plea for Narrative. *Michigan Law Review, 87*(8), 2411–2441.
- Demararig, D. L. L., Sabado-Liwag, M., Divino, L. A., Nagtalon-Ramos, J., Heyrana, K., & Javier, J. R. (2023). An interdisciplinary critical lens on the herstorical contributions and health outcomes among Filipinx American women. *Asian American Journal of Psychology*. <https://doi.org/10.1037/aap0000327>
- Desai. (2016). Critical “Kapwa”: Possibilities of Collective Healing from Colonial Trauma. *Educational Perspectives, 48*, 34–40.

- Diez Roux, A. V. (2012). Conceptual approaches to the study of health disparities. *Annual Review of Public Health, 33*(1), 41–58.
- Doàn, L. N., Takata, Y., Hooker, K., Mendez-Luck, C., & Irvin, V. L. (2022). Trends in Cardiovascular Disease by Asian American, Native Hawaiian, and Pacific Islander Ethnicity, Medicare Health Outcomes Survey 2011-2015. *Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 77*(2), 299–309.
- Dotson, K. (2011). Tracking epistemic violence, tracking practices of silencing. *Hypatia, 26*(2), 236–257.
- Douglass Horsford, S. (2014). When Race Enters the Room: Improving Leadership and Learning Through Racial Literacy. *Theory into Practice, 53*(2), 123–130.
- DuBois, W. E. B. (2003). The health and physique of the Negro American. 1906. *American Journal of Public Health, 93*(2), 272–276.
- Duncan Andrade. (2009). Note to Educators: Hope Required When Growing Roses in Concrete. *Harvard Educational Review, 79*(2), 181–194.
- Dyer, Z., Alcusky, M. J., Galea, S., & Ash, A. (2023). Measuring The Enduring Imprint Of Structural Racism On American Neighborhoods. *Health Affairs, 42*(10), 1374–1382.
- Eshima, S., Imai, K., & Sasaki, T. (2023). Keyword-assisted topic models. *American Journal of Political Science*. <https://doi.org/10.1111/ajps.12779>
- Evashwick, C., Tao, D., Perkiö, M., Grivna, M., & Harrison, R. (2020). A scoping review of studies evaluating the education of health professional students about public health. *Public Health, 178*, 105–111.
- Fay-berquist, F. A., Garcia, N., Ledesma, E., Saleh, S., Selassie, S., Smith, S. J., & Torres, M. (2016). *CHS 296, Section 2: We Gon' Be Alright: Addressing Racism and Anti-black Violence as a Public Health Crisis* (pp. 1–8).
- Feagin, J., & Bennefield, Z. (2014). Systemic racism and U.S. health care. *Social Science & Medicine, 103*, 7–14.
- Fernandez, F. (2018). Understanding the (Sub) Baccalaureate Origins of Latina/o Doctorates in Education, Humanities, and Social Science Fields. *Hispanic Journal of Behavioral Sciences, 40*(2), 115–133.
- Fernandez, F. (2020). Where do Latinas and Latinos earn social science doctorates? *Education Policy Analysis Archives, 28*, 97–97.
- Figuroa, C. A., Manalo-Pedro, E., Pola, S., Darwish, S., Sachdeva, P., Guerrero, C., von Vacano, C., Jha, M., De Maio, F., & Kennedy, C. J. (2023). The stories about racism and health: the development of a framework for racism narratives in medical literature using a

- computational grounded theory approach. *International Journal for Equity in Health*, 22(1), 1–9.
- Fine, M. (2021). George Floyd (October 14, 1973-May 25, 2020): Make Future Public Health Better Than the Past. *American Journal of Public Health*, 111(5), 758.
- Fleming, P. J. (2020). The Importance of Teaching History of Inequities in Public Health Programs. *Pedagogy in Health Promotion*, 6(4), 253–256.
- Fleming, P. J., Spolum, M. M., Lopez, W. D., & Galea, S. (2020). The Public Health Funding Paradox: How Funding the Problem and Solution Impedes Public Health Progress. *Public Health Reports*, 136(1), 10–13.
- Flores, A. I., Gaxiola Serrano, T. J., & Solórzano, D. G. (2019). 7. Critical Race Theory, Racial Stratification in Education, and Public Health. In C. L. Ford, D. M. Griffith, M. A. Bruce, & K. L. Gilbert (Eds.), *Racism: Science & Tools for the Public Health Professional*. American Public Health Association.
- Flores, Y. A., & Greenwood, H. M. (2023). The Future of Public Health Must be Radical: Incorporating Racial Capitalism. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 50(4), 473–476.
- Ford, C. L., & Airhihenbuwa, C. O. (2010a). The public health critical race methodology: Praxis for antiracism research. *Social Science and Medicine*, 71(8), 1390–1398.
- Ford, C. L., & Airhihenbuwa, C. O. (2010b). Critical Race Theory, Race Equity, and Public Health: Toward Antiracism Praxis. *American Journal of Public Health*, 100(SUPPL. 1), S30–S35.
- Ford, C. L., & Airhihenbuwa, C. O. (2018). Commentary: Just What is Critical Race Theory and What's it Doing in a Progressive Field like Public Health? *Ethnicity & Disease*, 28(Supp 1), 223–223.
- Ford, C. L., Amani, B., Harawa, N. T., Akee, R., Gee, G. C., Sarrafzadeh, M., Abotsi-Kowu, C., Fazeli, S., Le, C., Nwankwo, E., Zamanzadeh, D., Ovalle, A., & Ponder, M. L. (2021). Adequacy of Existing Surveillance Systems to Monitor Racism, Social Stigma and COVID Inequities: A Detailed Assessment and Recommendations. *International Journal of Environmental Research and Public Health*, 18(24). <https://doi.org/10.3390/ijerph182413099>
- Ford, C. L., Griffith, D. M., Bruce, M. A., & Gilbert, K. L. (2019). *Racism: Science & Tools for the Public Health Professional* (C. L. Ford, D. M. Griffith, M. A. Bruce, & K. L. Gilbert, Eds.). American Public Health Association.
- Ford, C. L., & Harawa, N. T. (2010). A new conceptualization of ethnicity for social epidemiologic and health equity research. *Social Science and Medicine*, 71(2), 251–258.

- Forde, A. T., Crookes, D. M., Suglia, S. F., & Demmer, R. T. (2019). The weathering hypothesis as an explanation for racial disparities in health: a systematic review. *Annals of Epidemiology*, *33*, 1-18.e3.
- Fox, M. F. J., Kandiko Howson, C., & Kingsbury, M. (2023). Equity, diversity, and inclusion – does social justice from the top trickle down? *Journal of Further and Higher Education*, *47*(6), 850–861.
- Galea, S., & Vaughan, R. D. (2019). Public health, politics, and the creation of meaning: A public health of consequence, July 2019 [Review of *Public health, politics, and the creation of meaning: A public health of consequence, July 2019*]. *American Journal of Public Health*, *109*(7), 966–968.
- Garbers, S., Joseph, M. A., Jankunis, B., O’Brien, M., & Fried, L. P. (2023). FORWARD: Building a Model to Hold Schools of Public Health Accountable for Antiracism Work. *American Journal of Public Health*, *113*(10), 1086–1088.
- García, J. J.-L., & Sharif, M. Z. (2015). Black Lives Matter: A Commentary on Racism and Public Health. *American Journal of Public Health*, *105*(8), e27-30.
- Gee, G. C., Chien, J., Sharif, M. Z., Penaia, C., & Tran, E. (2023). East is East ... or Is it? Racialization of Asian, Middle Eastern, and Pacific Islander Persons. *Epidemiologic Reviews*. <https://doi.org/10.1093/epirev/mxad007>
- Gee, G. C., & Ford, C. L. (2011). Structural racism and health inequities: Old Issues, New Directions. *Du Bois Review: Social Science Research on Race*, *8*(1), 115–132.
- Gee, G. C., & Hicken, M. T. (2021). Commentary-Structural Racism: The Rules and Relations of Inequity. *Ethnicity and Disease*, *31*, 293–300.
- Gee, G. C., Ro, A., Shariff-Marco, S., & Chae, D. (2009). Racial Discrimination and Health Among Asian Americans: Evidence, Assessment, and Directions for Future Research. *Epidemiologic Reviews*, *31*(1), 130–151.
- Gildersleeve, R. E., Croom, N. N., & Vasquez, P. L. (2011). “Am I going crazy?!”: A Critical Race Analysis of Doctoral Education. *Equity & Excellence in Education: University of Massachusetts School of Education Journal*, *44*(1), 93–114.
- Golden, S. D., & Earp, J. A. L. (2012). Social ecological approaches to individuals and their contexts: twenty years of health education & behavior health promotion interventions. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, *39*(3), 364–372.
- Goodman, M. S., Plepys, C. M., Bather, J. R., Kelliher, R. M., & Healton, C. G. (2020). Racial/Ethnic Diversity in Academic Public Health: 20-Year Update. *Public Health Reports*, *135*(1), 74–81.

- Graham, L., Brown-Jeffy, S., Aronson, R., & Stephens, C. (2011). Critical race theory as theoretical framework and analysis tool for population health research. *Critical Public Health, 21*(1), 81–93.
- Griffith, D. M., Johnson, J., Ellis, K. R., & Schulz, A. J. (2010). Cultural context and a critical approach to eliminating health disparities. *Ethnicity & Disease, 20*(1), 71–76.
- Griffiths, T. L., & Steyvers, M. (2004). Finding scientific topics. *Proceedings of the National Academy of Sciences of the United States of America, 101 Suppl 1*(Suppl 1), 5228–5235.
- Grimmer, J., Roberts, M. E., & Stewart, B. M. (2022). *Text as data*. Princeton University Press.
- Groos, M., Wallace, M., Hardeman, R., & Theall, K. (2018). Measuring Inequity: A Systematic Review of Methods Used to Quantify Structural Racism. *Journal of Health Disparities Research and Practice, 11*(2), 190–206.
- Grootendorst, M. (2022). BERTopic: Neural topic modeling with a class-based TF-IDF procedure. In *arXiv [cs.CL]*. arXiv. <http://arxiv.org/abs/2203.05794>
- Gwayi-Chore, M. C., Del Villar, E. L., Fraire, L. C., Waters, C., Andrasik, M. P., Pfeiffer, J., Slyker, J., Mello, S. P., Barnabas, R., Moise, E., & Heffron, R. (2021). “Being a Person of Color in This Institution Is Exhausting”: Defining and Optimizing the Learning Climate to Support Diversity, Equity, and Inclusion at the University of Washington School of Public Health. *Frontiers in Public Health, 9*(April), 642477.
- Hagopian, A., West, K. M., Ornelas, I. J., Hart, A. N., Hagedorn, J., & Spigner, C. (2018). Adopting an anti-racism public health curriculum competency: The University of Washington experience. *Public Health Reports, 133*(4), 507–513.
- Halagao, P. E. (2010). Liberating Filipino Americans through decolonizing curriculum. *Race Ethnicity and Education, 13*(4), 495–512.
- Hannegan-Martinez, S., Mendoza Aviña, S., Delgado Bernal, D., & Solorzano, D. G. (2022). (Re)Imagining Transformational Resistance: Seeds of Resistance and Pedagogical Ruptures. *Urban Education, 00420859221092973*.
- Harawa, N. T., Amani, B., Abotsi-Kowu, C., Nwankwo, E., & Ford, C. L. (2022). Best Practices and Recommendations. *Ethnicity & Disease, 32*(2), 151–164.
- Haraway, D. (1988). Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies: FS, 14*(3), 575–599.
- Hardeman, R. R., Medina, E. M., & Boyd, R. W. (2020). Stolen Breaths. *The New England Journal of Medicine, 383*(3), 197–199.
- Hardeman, R. R., Murphy, K. A., Karbeah, J., & Kozhimannil, K. B. (2018). Naming Institutionalized Racism in the Public Health Literature: A Systematic Literature Review. *Public Health Reports, 133*(3), 240–249.

- Hardy, C., Phillips, N., & Harley, B. (2004). Discourse analysis and content analysis: Two solitudes? *Qualitative Methods*, 2(1), 19–22.
- Harper, S. R. (2012). Race without racism: How higher education researchers minimize racist institutional norms. *Review of Higher Education*, 36(1 SUPPL.), 9–29.
- Harris, C. I. (1993). Whiteness as Property. *Harvard Law Review*, 106(8), 1707.
- Harris, J. K., Croston, M. A., Hutti, E. T., & Eyler, A. A. (2020). Diversify the syllabi: Underrepresentation of female authors in college course readings. *PloS One*, 15(10), e0239012.
- Harrison, R. A., Gemmell, I., & Reed, K. (2015). The effect of using different competence frameworks to audit the content of a masters program in public health. *Frontiers in Public Health*, 3, 143.
- Harvey, M. (2020). How do we explain the social, political, and economic determinants of health? A call for the inclusion of social theories of health inequality within U.S.-based public health pedagogy. *Pedagogy in Health Promotion*, 237337992093771–237337992093771.
- Harvey, M., & McGladrey, M. (2019). Explaining the origins and distribution of health and disease: an analysis of epidemiologic theory in core Master of Public Health coursework in the United States. *Critical Public Health*, 29(1), 5–17.
- Harvey, M., Neff, J., Knight, K. R., Mukherjee, J. S., Shamasunder, S., Le, P. V., Tittle, R., Jain, Y., Carrasco, H., Bernal-Serrano, D., Goronga, T., & Holmes, S. M. (2022). Structural competency and global health education. *Global Public Health*, 17(3), 341–362.
- Heller, J. C., Fleming, P. J., Petteway, R. J., Givens, M., & Pollack Porter, K. M. (2023). Power Up: A Call for Public Health to Recognize, Analyze, and Shift the Balance in Power Relations to Advance Health and Racial Equity. *American Journal of Public Health*, 113(10), 1079–1082.
- Heller, J. C., Little, O. M., Faust, V., Tran, P., Givens, M. L., Ayers, J., & Farhang, L. (2023). Theory in Action: Public Health and Community Power Building for Health Equity. *Journal of Public Health Management and Practice: JPHMP*, 29(1), 33.
- Herman. (1996). Toward a conceptualization of race in epidemiologic research. In *Ethnicity & disease* (Vol. 6, Issues 1–2, pp. 7–20).
- Hicken, M. T., Kravitz-Wirtz, N., Durkee, M., & Jackson, J. S. (2018). Racial inequalities in health: Framing future research. *Social Science & Medicine*, 199, 11–18.
- Hicken, M. T., Miles, L., Haile, S., & Esposito, M. (2021). Linking History to Contemporary State-Sanctioned Slow Violence through Cultural and Structural Racism. *The Annals of the American Academy of Political and Social Science*, 694(1), 48–58.

- Hirst, G., Riabinin, Y., Graham, J., Boizot-Roche, M., & Morris, C. (2014). Text to ideology or text to party status? In *From Text to Political Positions* (pp. 93–116). John Benjamins Publishing Company.
- Hooks, B. (1990). *Marginality as a Site of Resistance* (R. Ferguson, M. Gever, T. T. Minh-ha, C. West, & M. Tucker, Eds.; pp. 341–343). MIT Press.
- Hordern, J. (2015). Teaching, teacher formation, and specialised professional practice. *European Journal of Teacher Education*, 38(4), 431–444.
- Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288.
- Hswen, Y., Xu, X., Hing, A., Hawkins, J. B., Brownstein, J. S., & Gee, G. C. (2021). Association of “#covid19” Versus “#chinesevirus” With Anti-Asian Sentiments on Twitter: March 9–23, 2020. *American Journal of Public Health*, e1–e9.
- Identify and score multi-word expressions*. (n.d.). Retrieved September 22, 2022, from https://quanteda.io/reference/textstat_collocations.html
- Jaenecke, S., Coombe, L., Harrison, R., King, L. R., & Robinson, P. (2023). Education of the public health workforce and the Sustainable Development Goals: An analysis of existing competency sets. *Public Health in Practice (Oxford, England)*, 5, 100374.
- Jayakumar, U. M. (2022). Introduction: CRT in Higher Education: Confronting the Boogeyman Bans, Censorship, and Attacks on Racial Justice. *Philosophy and Theory in Higher Education*, 4(3), 1–12.
- Jayakumar, U. M., & Page, S. E. (2021). Cultural Capital and Opportunities for Exceptionalism: Bias in University Admissions. *The Journal of Higher Education*, 92(7), 1109–1139.
- Jenkins, W. C., Schoenbach, V. J., Rowley, D. L., & Ford, C. L. (2019). 2. Overcoming the Impact of Racism on the Health of Communities: What We Have Learned and What We Have Not. In C. L. Ford, D. M. Griffith, M. A. Bruce, & K. L. Gilbert (Eds.), *Racism: Science & Tools for the Public Health Professional*. American Public Health Association.
- Jones, C. P. (2000). Levels of racism: a theoretic framework and a gardener’s tale. *American Journal of Public Health*, 90(8), 1212–1215.
- Jones, C. P. (2001). Invited commentary: “Race,” racism, and the practice of epidemiology. *American Journal of Epidemiology*, 154(4), 299–304.
- Jones, C. P. (2002). Confronting Institutionalized Racism. *Phylon*, 50(1/2), 7–22.
- Jones, C. P. (2018). Toward the Science and Practice of Anti-Racism: Launching a National Campaign Against Racism. *Ethnicity & Disease*, 28(Supp 1), 231–231.

- Jones, C. P., Laveist, T. A., & Lillie-Blanton, M. (1991). "Race" in the epidemiologic literature: An examination of the American Journal of Epidemiology, 1921-1990. *American Journal of Epidemiology*, 134(10), 1079–1084.
- Jones, J. M. (1988). Racism in Black and White. In P. A. Katz & D. A. Taylor (Eds.), *Eliminating Racism: Profiles in Controversy* (pp. 117–135). Springer US.
- K. P., M. (2019). Capturing the Gramscian Project in Critical Pedagogy: Towards a Philosophy of Praxis in Education. *Review of Development and Change*, 24(1), 123–145.
- Kagawa-Singer, M., Dressler, W. W., George, S. M., & Elwood, W. N. (2015). *The cultural framework for health : An integrative approach for research and program design and evaluation*.
- Kamlongera, M. I., & Katenga-Kaunda, A. K. (2023). 'What is gender to you?': An Africana Womanist take on perceptions of gender reality on women's agency among a rural Malawian Community. *Gender and Education*, 35(3), 299–314.
- Katenga-Kaunda, A. P. K. (2015). Are we right to blame it all on colonialism? The subject of history and gender in schools in a Malawian context. *Journal of Comparative Social Work*, 10(2), 167–194.
- Kayum Ahmed, A., Wispelwey, B., & Asi, Y. (2023). Health Faculty Call for Ceasefire in Gaza and Centering Palestine in the Classroom. *Health and Human Rights Journal*. <https://www.hhrjournal.org/2023/11/health-faculty-call-for-ceasefire-in-gaza-and-centering-palestine-in-the-classroom/>
- Komro, K. A., Lang, D. L., Walker, E. R., & Harper, P. D. (2018). Integrating structural determinants into MPH training of health promotion professionals. *American Journal of Public Health*, 108(4), 477–479.
- Korp, P. (2010). Problems of the Healthy Lifestyle Discourse. *Sociology Compass*, 4(9), 800–810.
- Krieger, N. (2000). Refiguring "race": epidemiology, racialized biology, and biological expressions of race relations. *International Journal of Health Services: Planning, Administration, Evaluation*, 30(1), 211–216.
- Krieger, N. (2001). Theories for social epidemiology in the 21st century: an ecosocial perspective. *International Journal of Epidemiology*, 30(4), 668–677.
- Krieger, N. (2014). Got Theory? On the 21st c. CE Rise of Explicit use of Epidemiologic Theories of Disease Distribution: A Review and Ecosocial Analysis. *Current Epidemiology Reports*, 1(1), 45–56.
- Krieger, N. (2016). Living and Dying at the Crossroads: Racism, Embodiment, and Why Theory Is Essential for a Public Health of Consequence. *American Journal of Public Health*, 106(5), 832–833.

- Krieger, N. (2020). Measures of Racism, Sexism, Heterosexism, and Gender Binarism for Health Equity Research: From Structural Injustice to Embodied Harm—an Ecosocial Analysis. *Annual Review of Public Health, 41*(1), 4.1-4.26.
- Krieger, N. (2021). Structural Racism, Health Inequities, and the Two-Edged Sword of Data: Structural Problems Require Structural Solutions. *Frontiers in Public Health, 9*(April), 655447.
- Krieger, N., Boyd, R. W., Maio, F. D., & Maybank, A. (2021). Medicine's Privileged Gatekeepers: Producing Harmful Ignorance About Racism And Health. *Health Affairs Blog, 1*–13.
- Kulasegaram, K., Mylopoulos, M., Tonin, P., Bernstein, S., Bryden, P., Law, M., Lazor, J., Pittini, R., Sockalingam, S., Tait, G. R., & Houston, P. (2018). The alignment imperative in curriculum renewal. *Medical Teacher, 40*(5), 443–448.
- Kumar, A., & Rothman, M. (2023). Occupation is a Public Health Crisis Too. *Health and Human Rights Journal*. <https://www.hhrjournal.org/2023/11/occupation-is-a-public-health-crisis-too/>
- Lam, B. H., & Tsui, K. T. (2016). Curriculum mapping as deliberation – examining the alignment of subject learning outcomes and course curricula. *Studies in Higher Education, 41*(8), 1371–1388.
- Lamont, M. (2012). Toward a comparative sociology of valuation and evaluation. *Annual Review of Sociology, 38*(1), 201–221.
- Lamont, M., Beljean, S., & Clair, M. (2014). What is missing? Cultural processes and causal pathways to inequality. *Socio-Economic Review, 12*(3), 573–608.
- Laughter, J., & Hurst, H. (2022). Critical AntiRacist Discourse Analysis (CARDA). *Urban Education, 00420859221097029*.
- Laughter, J., Pellegrino, A., Waters, S., & Smith, M. (2021). Toward a framework for critical racial literacy. *Race Ethnicity and Education, 00*(00), 1–21.
- LaVeist, T. A. (1994). Beyond dummy variables and sample selection: what health services researchers ought to know about race as a variable. *Health Services Research, 29*(1), 1–16.
- LaVeist, T. A., Fullilove, M., & Fullilove, R. (2019). 400 Years of Inequality Since Jamestown of 1619. *American Journal of Public Health, 109*(1), 83–84.
- Le, C., Robinson, N., Neubauer, L. C., & Fleming, P. J. (2023). Public Health Students' Perspectives on the Future of Public Health Education. *Health Education & Behavior: The Official Publication of the Society for Public Health Education, 50*(4), 461–464.
- Lett, E., Adekunle, D., McMurray, P., Asabor, E. N., Irie, W., Simon, M. A., Hardeman, R., & McLemore, M. R. (2022). Health Equity Tourism: Ravaging the Justice Landscape. *Journal of Medical Systems, 46*(3), 17.

- Lett, E., Asabor, E., Beltrán, S., Cannon, A. M., & Arah, O. A. (2022). Conceptualizing, Contextualizing, and Operationalizing Race in Quantitative Health Sciences Research. *Annals of Family Medicine*, 20(2), 157–163.
- Lewis, S. C., Zamith, R., & Hermida, A. (2013). Content Analysis in an Era of Big Data: A Hybrid Approach to Computational and Manual Methods. *Journal of Broadcasting & Electronic Media*, 57(1), 34–52.
- Lightfoot, A. F., Efird, C. R., & Redding, E. M. (2021). Developing an Antiracist Lens: Using Photography to Facilitate Public Health Critical Race Praxis in a Foundational MPH Course. *Pedagogy in Health Promotion*, 7(4), 317–326.
- Ling, C. X., Huang, J., Zhang, H., & Others. (2003). AUC: a statistically consistent and more discriminating measure than accuracy. *Ijcai*, 3, 519–524.
- Link, B. G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior, Spec No*, 80–94.
- Link, Bruce G., & García, S. J. (2021). Diversions: How the Underrepresentation of Research on Advantaged Groups Leaves Explanations for Health Inequalities Incomplete. *Journal of Health and Social Behavior*, 62(3), 334–349.
- Liu, Z., Lin, Y., & Sun, M. (2020). *Representation Learning for Natural Language Processing*. Springer Nature Singapore.
- Lorde, A. (1984). Uses of the erotic: The erotic as power. In A. Lorde (Ed.), *Sister Outsider: Essays and Speeches*.
- Lu, B., Ott, M., Cardie, C., & Tsou, B. (2011). *Multi-aspect Sentiment Analysis with Topic Models*. 81–88.
- Lucy, L., Demszky, D., Bromley, P., & Jurafsky, D. (2020). Content Analysis of Textbooks via Natural Language Processing: Findings on Gender, Race, and Ethnicity in Texas U.S. History Textbooks. *AERA Open*, 6(3), 2332858420940312.
- Luke, A. (2010). Documenting Reproduction and Inequality: Revisiting Jean Anyon’s “Social Class and School Knowledge.” *Curriculum Inquiry*, 40(1), 167–182.
- Maglalang, D. D., Peregrina, H. N., Yoo, G. J., & Le, M.-N. (2021). Centering Ethnic Studies in Health Education: Lessons From Teaching an Asian American Community Health Course. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 48(3), 371–375.
- Maglalang, D. D., & Rao, S. (2021). “Theory’s Cool, But Theory With No Practice Ain’t Shit....” *Advances in Social Work*, 21(2/3), 672–689.

- Maker Castro, E., Wray-Lake, L., & Cohen, A. K. (2022). Critical Consciousness and Wellbeing in Adolescents and Young Adults: A Systematic Review. *Adolescent Research Review*, 1–24.
- Manalo-Pedro, E., & Allen, W. R. (2023). 8. Doctoral Pathways via Racial Health Equity: Bridging the Apartheid of Knowledge with California State University Alumni. *Philosophy and Theory in Higher Education*, 5(1), 157–186.
- Manalo-Pedro, E., Mackey, A., Banawa, R. A., Apostol, N. J. L., Aguilin, W., Aguilar, A., Oronce, C. I. A., Sabado-Liwag, M. D., Yee, M. D., Taggweg, R., Bacong, A. M., & Ponce, N. A. (2022). Learning to love ourselves again: Organizing Filipinx/a/o scholar-activists as antiracist public health praxis. *Frontiers in Public Health*, 10(958654). <https://doi.org/10.3389/fpubh.2022.958654>
- Manalo-Pedro, E., Walsemann, K. M., & Gee, G. C. (2023). Whose Knowledge Heals? Transforming Teaching in the Struggle for Health Equity. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 50(4), 482–492.
- Manning, C. D., Raghavan, P., & Schütze, H. (2008). *Introduction to Information Retrieval*. Cambridge University Press.
- Mannor, K. M., & Malcoe, L. H. (2022). Uses of theory in racial health disparities research: a scoping review and application of public health critical race praxis. *Annals of Epidemiology*, 66, 56–64.
- Margolis, E., & Romero, M. (1998). “the department is very male, very white, very old, and very conservative”: The functioning of the hidden curriculum in graduate sociology departments. *Harvard Educational Review*, 68(1), 1–33.
- Martinez, R. A. M., Andrabi, N., Goodwin, A. N., Wilbur, R. E., Smith, N. R., & Zivich, P. N. (2022). Conceptualization, Operationalization, and Utilization of Race and Ethnicity in Major Epidemiology Journals, 1995–2018: A Systematic Review. *American Journal of Epidemiology*, 192(3), 483–496.
- Matias, C. E., Viesca, K. M., Garrison-Wade, D. F., Tandon, M., & Galindo, R. (2014). “What is Critical Whiteness Doing in OUR Nice Field like Critical Race Theory?” Applying CRT and CWS to Understand the White Imaginations of White Teacher Candidates. *Equity & Excellence in Education: University of Massachusetts School of Education Journal*, 47(3), 289–304.
- Maxwell, J. A. (2013). *Qualitative Research Design* (3rd ed.). SAGE Publications.
- McSorley, A.-M. M., Manalo-Pedro, E., & Bacong, A. M. (2021). Doctoral Students as Agents for Change: Shaping Our Public Health Training Environment. *Pedagogy in Health Promotion*, 7(4), 299–303.

- McSorley, A.-M. M., Wheatley, A., & Pagán, J. A. (2023). A Call to Increase Health Data Availability in US Territories-Not Too Small to Count. *JAMA Health Forum*, 4(9), e233088.
- Mehra, R., Keene, D. E., Kershaw, T. S., Ickovics, J. R., & Warren, J. L. (2019). Racial and ethnic disparities in adverse birth outcomes: Differences by racial residential segregation. *SSM - Population Health*, 8, 100417.
- Mendez, D. D., Scott, J., Adodoadji, L., Toval, C., McNeil, M., & Sindhu, M. (2021). Racism as Public Health Crisis: Assessment and Review of Municipal Declarations and Resolutions Across the United States. *Frontiers in Public Health*, 9(August), 686807.
- Merino, Y. (2019). What Do Schools of Public Health Have to Say About Diversity and Inclusion? *Pedagogy in Health Promotion*, 5(4), 233–240.
- Michaels, E. K., Board, C., Mujahid, M. S., Riddell, C. A., Chae, D. H., Johnson, R. C., & Allen, A. M. (2022). Area-level racial prejudice and health: A systematic review. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, 41(3), 211–224.
- Michaels, E. K., Lam-Hine, T., Nguyen, T. T., Gee, G. C., & Allen, A. M. (2023). The Water Surrounding the Iceberg: Cultural Racism and Health Inequities. *The Milbank Quarterly*. <https://doi.org/10.1111/1468-0009.12662>
- Mills, C. W. (1997). *The Racial Contract*. Cornell University Press.
- Mills, C. W. (2007). White Ignorance. In S. Sullivan & N. Tuana (Eds.), *Race and Epistemologies of Ignorance* (pp. 13–38). SUNY Press.
- Mitchell, Watson, Silva, & Simpson. (2022). An Interprofessional Antiracist Curriculum Is Paramount to Addressing Racial Health Inequities. *The Journal of Law, Medicine & Ethics: A Journal of the American Society of Law, Medicine & Ethics*, 50, 109–116.
- Molina, N. (2011). Borders, Laborers, and Racialized Medicalization Mexican Immigration and US Public Health Practices in the 20th Century. *American Journal of Public Health*, 101(6), 1024–1031.
- Molina, N. (2018). Understanding Race as a Relational Concept. *Modern American History*, 1(1), 101–105.
- Mullet, D. R. (2018). A general critical discourse analysis framework for educational research. *Journal of Advanced Academics*, 29(2), 116–142.
- Nadal, K. L., Pituc, S. T., Johnston, M. P., & Esparrago, T. (2010). Overcoming the Model Minority Myth: Experiences of Filipino American Graduate Students. *Journal of College Student Development*, 51(6), 694–706.

- Narasimhan, S., & Chandanabhumma, P. P. (2021). A Scoping Review of Decolonization in Indigenous-Focused Health Education and Behavior Research. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 48(3), 306–319.
- National Association of County & City Health Officials. (2018). *Advancing Public Narrative for Health Equity & Social Justice*.
- Neblett, E. W. (2019). Racism and health: Challenges and future directions in behavioral and psychological research. *Cultural Diversity & Ethnic Minority Psychology*, 25(1), 12–20.
- Needham, B. L., Ali, T., Allgood, K. L., Ro, A., Hirschtick, J. L., & Fleischer, N. L. (2022). Institutional Racism and Health: a Framework for Conceptualization, Measurement, and Analysis. *Journal of Racial and Ethnic Health Disparities*. <https://doi.org/10.1007/s40615-022-01381-9>
- Neighbors, H. W., Mattingly, D. T., Johnson, J., & Morse, K. (2022). The contribution of research to racial health equity? Blame and responsibility in navigating the status quo of anti-black systemic racism. *Social Science & Medicine*, 115209.
- Nguemeni Tiako, M. J., Ray, V., & South, E. C. (2022). Medical Schools as Racialized Organizations: How Race-Neutral Structures Sustain Racial Inequality in Medical Education—a Narrative Review. *Journal of General Internal Medicine*, 37(9), 2259–2266.
- Nguyen, D., Liakata, M., DeDeo, S., Eisenstein, J., Mimno, D., Tromble, R., & Winters, J. (2020). How We Do Things With Words: Analyzing Text as Social and Cultural Data. *Frontiers in Artificial Intelligence*, 3, 62.
- Nguyen, M. H., & Ramirez, J. J. (2023). What counts as a minority-serving institution? Toward the utilization of a standardized and uniform definition and typology. *Educational*. <https://journals.sagepub.com/doi/abs/10.3102/0013189X221105861>
- Nguyen, T. T., Criss, S., Kim, M., De La Cruz, M. M., Thai, N., Merchant, J. S., Hswen, Y., Allen, A. M., Gee, G. C., & Nguyen, Q. C. (2023). Racism During Pregnancy and Birthing: Experiences from Asian and Pacific Islander, Black, Latina, and Middle Eastern Women. *Journal of Racial and Ethnic Health Disparities*, 10(6), 3007–3017.
- Nicholls, T., & Culpepper, P. D. (2021). Computational Identification of Media Frames: Strengths, Weaknesses, and Opportunities. *Political Communication*, 38(1–2), 159–181.
- Nuru-Jeter, A. M., Michaels, E. K., Thomas, M. D., Reeves, A. N., Thorpe, R. J., & LaVeist, T. A. (2018). Relative Roles of Race Versus Socioeconomic Position in Studies of Health Inequalities: A Matter of Interpretation. *Annual Review of Public Health*, 39(1), 169–188.
- Otero, G. (2011). Neoliberal Globalization, NAFTA, and Migration: Mexico’s Loss of Food and Labor Sovereignty. *Journal of Poverty*, 15(4), 384–402.

- Øversveen, E. (2023). Structural determination and social practice: towards a new understanding of ‘structure’ in health inequality research. *Social Theory & Health: STH*, 21(1), 1–16.
- Page, G. L., Ventrucci, M., & Franco-Villoria, M. (2023). Informed Bayesian Finite Mixture Models via Asymmetric Dirichlet Priors. In *arXiv [stat.ME]*. arXiv. <http://arxiv.org/abs/2308.00768>
- Paine, L., de la Rocha, P., Eyssalenne, A. P., Andrews, C. A., Loo, L., Jones, C. P., Collins, A. M., & Morse, M. (2021). Declaring Racism a Public Health Crisis in the United States: Cure, Poison, or Both? *Frontiers in Public Health*, 9(June), 1–17.
- Palomar, M., Jones, A., & Tanksley, T. (2022). 7 In the Shadow of Violence: Enacting Hope, Healing, and Futurity during the Attacks on CRT. *Philosophy and Theory in Higher Education*, 4(3), 125–143.
- Paradies, Y., Ben, J., Denson, N., Elias, A., Priest, N., Pieterse, A., Gupta, A., Kelaher, M., & Gee, G. (2015). Racism as a Determinant of Health: A Systematic Review and Meta-Analysis. *PloS One*, 10(9), e0138511.
- Pasick, R. J., Kagawa-Singer, M., Stewart, S. L., Pradhan, A., & Kidd, S. C. (2012). The Minority Training Program in Cancer Control Research: impact and outcome over 12 years. *Journal of Cancer Education: The Official Journal of the American Association for Cancer Education*, 27(3), 443–449.
- Patel, L., & Price, A. (2016). The Origins, Potentials, and Limits of Racial Justice. *Critical Ethnic Studies*, 2(2), 61–61.
- Patton, L. D. (2016). Disrupting Postsecondary Prose: Toward a Critical Race Theory of Higher Education. *Urban Education*, 51(3), 315–342.
- Pelak, C. F. (2019). Teaching and Learning about Settler-colonial Racism: A Case for “Unsettling” Minoritizing and Multicultural Perspectives. *Sociology of Race and Ethnicity*, 5(2), 294–304.
- Pennington, J., Socher, R., & Manning, C. (2014). Glove: Global vectors for word representation. *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP), Doha, Qatar. <https://doi.org/10.3115/v1/d14-1162>
- Pérez Huber, L., Gonzalez, T., Robles, G., & Solórzano, D. G. (2021). Racial microaffirmations as a response to racial microaggressions: Exploring risk and protective factors. *New Ideas in Psychology*, 63(July 2018), 100880–100880.
- Pérez Huber, L., & Solórzano, D. G. (2015). Visualizing Everyday Racism: Critical Race Theory, Visual Microaggressions, and the Historical Image of Mexican Banditry. *Qualitative Inquiry: QI*, 21(3), 223–238.

- Perez, J., Leonard, W. R., Bishop, V., & Neubauer, L. C. (2021). Developing Equity-Focused Education in Academic Public Health: A Multiple-Step Model. *Pedagogy in Health Promotion*, 7(4), 366–371.
- Petteway, R. J. (2021). Dreams Of A Beloved Public Health: Confronting White Supremacy In Our Field. In *Health Affairs Blog*. <https://doi.org/10.1377/forefront.20210204.432267>
- Petteway, R. J. (2022). On epidemiology as racial-capitalist (re)colonization and epistemic violence. *Critical Public Health*, 1–8.
- Petteway, R. J. (2023). PRESENCE//Gifted: On Poetry, Antiracism, and Epistemic Violence in Health Promotion. *Health Promotion Practice*, 24(1), 37–44.
- Petteway, R. J., Mujahid, M., Allen, A., & Morello-Frosch, R. (2019). Towards a People’s Social Epidemiology: Envisioning a More Inclusive and Equitable Future for Social Epi Research and Practice in the 21st Century. *International Journal of Environmental Research and Public Health*, 16(20). <https://doi.org/10.3390/ijerph16203983>
- Phelan, J. C., & Link, B. G. (2015). Is Racism a Fundamental Cause of Inequalities in Health? *Annual Review of Sociology*, 41(1), 311–330.
- Posselt, J. R. (2018). Trust networks: A new perspective on pedigree and the ambiguities of admissions. *The Review of Higher Education*, 41(4), 497–521.
- Posselt, J. R., & Grodsky, E. (2017). Graduate Education and Social Stratification. *Annual Review of Sociology*, 43(1), 353–378.
- Posselt, J. R., Hernandez, T. E., Villarreal, C. D., Rodgers, A. J., & Irwin, L. N. (2020). Evaluation and Decision Making in Higher Education: Toward Equitable Repertoires of Faculty Practice. In L. W. Perna (Ed.), *Higher Education: Handbook of Theory and Research: Volume 35* (pp. 1–63). Springer International Publishing.
- Price, R., Skopec, M., Mackenzie, S., Nijhoff, C., Harrison, R., Seabrook, G., & Harris, M. (2022). A novel data solution to inform curriculum decolonisation: the case of the Imperial College London Masters of Public Health. *Scientometrics*, 127(2), 1021–1037.
- Public Health Accreditation Board. (2022). *Standards and measures for initial accreditation, Version 2022*. Public Health Accreditation Board. <https://phaboard.org/accreditation-recognition/initial-accreditation/>
- Ramirez, A. G., Gallion, K. J., Perez, A., Adeigbe, R. T., Munoz, E., & Pasick, R. J. (2019). Éxito!: Making an Impact in Training Latinos for Doctorates and Cancer Research. *Journal of Cancer Education: The Official Journal of the American Association for Cancer Education*, 34(5), 928–937.
- Ramirez-Valles, J. (2021). Racism Within : Special Journal Issue on Scholars of Color. *Health Education & Behavior: The Official Publication of the Society for Public Health Education*, 48(3), 233–236.

- Ramirez-Valles, J., Neubauer, L. C., & Zambrana, R. E. (2022). Inequity Within: A Call for Inclusion of Latina/o/x Scholars in Faculty and Leadership Ranks in Schools and Programs of Public Health. *Public Health Reports*, 333549221077072.
- Ray, V. (2019). A Theory of Racialized Organizations. *American Sociological Review*, 84(1), 26–53.
- Rimer, B. K., Glanz, K., & National Cancer Institute. (2005). *Theory at a Glance: A Guide for Health Promotion Practice* (2nd ed.). U.S. Dept of Health and Human Services, National Institutes of Health, National Cancer Institute.
- Roberts, D. E., & Rollins, O. (2020). Why Sociology Matters to Race and Biosocial Science. *Annual Review of Sociology*, 46(1), 195–214.
- Roberts, M. E., Stewart, B. M., & Airoidi, E. M. (2016). A Model of Text for Experimentation in the Social Sciences. *Journal of the American Statistical Association*, 111(515), 988–1003.
- Roberts, M. E., Stewart, B. M., & Tingley, D. (2019). stm: An R Package for Structural Topic Models. *Journal of Statistical Software*, 91, 1–40.
- Rodney, R. (2016). Decolonization in health professions education: reflections on teaching through a transgressive pedagogy. *Canadian Medical Education Journal*, 7(3), e10–e18.
- Rodríguez, D. (2012). Racial/colonial genocide and the “neoliberal academy”: In excess of a problematic. *American Quarterly*, 64(4), 809–813.
- Rosario, C., Al Amin, S., & Parker, C. (2022). [Un]Forgetting History: Preparing Public Health Professionals to Address Structural Racism. *Journal of Public Health Management and Practice: JPHMP*, 28(Suppl 1), S74–S81.
- Ruth, A., SturtzSreetharan, C., Brewis, A., & Wutich, A. (2020). Structural Competency of Pre-health Students: Can a Single Course Lead to Meaningful Change? *Medical Science Educator*, 30(1), 331–337.
- Sabado-Liwag, M. D., Manalo-Pedro, E., Taggweg, R., Bacong, A. M., Adia, A., Demanarig, D., Sumibcay, J. R., Valderama-Wallace, C., Oronce, C. I. A., Bonus, R., & Ponce, N. A. (2022). Addressing The Interlocking Impact Of Colonialism And Racism On Filipinx/a/o American Health Inequities. *Health Affairs*, 41(2), 289–295.
- Sabzalian, L. (2018). Curricular standpoints and native feminist theories: Why native feminist theories should matter to curriculum studies. *Curriculum Inquiry*, 48(3), 359–382.
- Samarron Longorio, A. E., Shuman, S. J., Lockmiller, C., & Robertson-James, C. (2023). Rejecting a Narrative of Individual Deficit: A Model for Developing Antiracist Curriculum in the Health Sciences. *Pedagogy in Health Promotion*, 23733799231180616.
- Schram, A., Ruckert, A., VanDuzer, J. A., Friel, S., Gleeson, D., Thow, A.-M., Stuckler, D., & Labonte, R. (2018). A conceptual framework for investigating the impacts of international

- trade and investment agreements on noncommunicable disease risk factors. *Health Policy and Planning*, 33(1), 123–136.
- Seiler, J., Hajat, A., Khosropour, C. M., Guthrie, B. L., & Balkus, J. E. (2022). A Novel Curriculum Review Process to Initiate the Incorporation of Anti-Racist Principles Into Epidemiology Course Work. *American Journal of Epidemiology*. <https://doi.org/10.1093/aje/kwac105>
- Shaff, J., & Hickson, A. (2024). Promoting Health Equity: 5 Key Actions for Public Health Agencies. *Journal of Public Health Management and Practice: JPHMP*, 30(1), 150–151.
- Shaw-Ridley, M., & Ridley, C. R. (2010). The health disparities industry: is it an ethical conundrum? *Health Promotion Practice*, 11(4), 454–464.
- Sherrer, K. J., & Prelip, M. L. (2019). A Multifaceted Approach to Public Health Career and Professional Development Training. *Health Promotion Practice*, 20(6), 932–940.
- Skinner, N. A., & Bromley, P. (2023). Rights, conflict, and removal: depictions of Indigenous groups in Californian and Texan history textbooks, 1836-2019. *Journal of Curriculum Studies*, 55(2), 203–222.
- Small-Rodriguez, D., & Akee, R. (2021). Identifying Disparities in Health Outcomes and Mortality for American Indian and Alaska Native Populations Using Tribally Disaggregated Vital Statistics and Health Survey Data. *American Journal of Public Health*, 111(S2), S126–S132.
- Smedley, B. D., Stith, A. Y., & Nelson, A. R. (2003). *Unequal treatment: Confronting racial and ethnic disparities in health care*. National Academies Press.
- Smith, W. A., Yosso, T. J., & Solórzano, D. G. (2011). Challenging racial battle fatigue on historically white campuses: A critical race examination of race-related stress. *Studies in Critical Social Sciences*, 32, 211–237.
- Solórzano, D. G. (1995). The Doctorate Production and Baccalaureate Origins of African Americans in the Sciences and Engineering. *The Journal of Negro Education*, 64(1), 15–15.
- Solórzano, D. G. (1997). Images and words that wound. *Teacher Education Quarterly*, 24(3), 5–19.
- Solorzano, D. G. (2023). My journey to this place called the RAC: Reflections on a movement in critical race thought and critical race hope in higher education. *International Journal of Qualitative Studies in Education: QSE*, 36(1), 87–98.
- Solórzano, D. G., & Delgado Bernal, D. (2001). Examining transformational resistance through a Critical Race and LatCrit theory framework: Chicana and chicano students in an urban context. *Urban Education*, 36(3), 308–342.

- Solórzano, D. G., Pérez Huber, L., & Huber-Verjan, L. (2020). Theorizing Racial Microaffirmations as a Response to Racial Microaggressions: Counterstories Across Three Generations of Critical Race Scholars. *Seattle Journal for Social Justice*, 18(2), Article 10- Article 10.
- Solórzano, D. G., & Yosso, T. J. (2001). Critical Race and LatCrit theory and method: counter-storytelling Chicana and Chicano graduate school experiences. *International Journal of Qualitative Studies in Education: QSE*, 14(4), 471–495.
- Soon, N. A., Akee, R., Kagawa, M., Morey, B. N., Ong, E., Ong, P., Ponce, N., Samoa, R., & Tanjasiri, S. P. (2020). Counting Race and Ethnicity for Small Populations during the COVID-19 Pandemic. *AAPI Nexus Journal: Asian Americans and Pacific Islanders Policy, Practice*, 17(1).
- Stapley, E., O’Keeffe, S., & Midgley, N. (2022). Developing Typologies in Qualitative Research: The Use of Ideal-type Analysis. *International Journal of Qualitative Methods*, 21, 16094069221100632.
- Suyemoto, K. L., & Liu, C. M. (2018). Asian American Students in Asian American Studies: Experiences of Racism-Related Stress and Relation to Depressive and Anxious Symptoms. *Journal of Asian American Studies*, 21(2), 301–326.
- Sweet, P. L. (2020). Who Knows? Reflexivity in Feminist Standpoint Theory and Bourdieu. *Gender & Society: Official Publication of Sociologists for Women in Society*, 34(6), 922–950.
- Swilley-Martinez, M. E., Coles, S. A., Miller, V. E., Alam, I. Z., Fitch, K. V., Cruz, T. H., Hohl, B., Murray, R., & Ranapurwala, S. I. (2023). “We adjusted for race”: now what? A systematic review of utilization and reporting of race in American Journal of Epidemiology and Epidemiology, 2020–2021. *Epidemiologic Reviews*, 45(1), 15–31.
- Swope, C. B., Hernández, D., & Cushing, L. J. (2022). The Relationship of Historical Redlining with Present-Day Neighborhood Environmental and Health Outcomes: A Scoping Review and Conceptual Model. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 99(6), 959–983.
- Taboada, A. (2011). Privilege, power, and public health programs. *Journal of Public Health Management and Practice: JPHMP*, 17(4), 376–380.
- Taualii, M., Delormier, T., & Maddock, J. (2013). A new and innovative public health specialization founded on traditional knowledge and social justice: Native Hawaiian and Indigenous Health. *Hawai’i Journal of Medicine & Public Health: A Journal of Asia Pacific Medicine & Public Health*, 72(4), 143–145.
- The Futures Initiative. (2020). *The Futures Initiative: the 10 Essential Public Health Services* (Issue September, pp. 1–9). <https://spark.adobe.com/page/Qy1veOhGWyeu5/>

- The Spirit of 1848 Caucus. (n.d.). *Courses & Syllabi*. The Spirit of 1848. Retrieved October 14, 2022, from <http://www.spiritof1848.org/courses.htm>
- Thomas, S. B., Quinn, S. C., Butler, J., Fryer, C. S., & Garza, M. A. (2011). Toward a fourth generation of disparities research to achieve health equity. *Annual Review of Public Health*, 32(1), 399–416.
- Thornberg, R., & Dunne, C. (2019). Literature review in grounded theory. In A. Bryant & K. Charmaz (Eds.), *The SAGE Handbook of Current Developments in Grounded Theory* (pp. 206–221). SAGE Publications Ltd.
- Tsai, J., Lindo, E., & Bridges, K. (2021). Seeing the Window, Finding the Spider: Applying Critical Race Theory to Medical Education to Make Up Where Biomedical Models and Social Determinants of Health Curricula Fall Short. *Frontiers in Public Health*, 9(July), 653643.
- Tuck. (2009). Suspending Damages. *Harvard Educational Review*, 79(3), 409–428.
- Tuck, E., McKenzie, M., & McCoy, K. (2014). Land education: Indigenous, post-colonial, and decolonizing perspectives on place and environmental education research. *Environmental Education Research*, 20(1), 1–23.
- Utt, J. (2018). A case for decentering whiteness in education. *Ethnic Studies Review*, 41(1–2), 19–34.
- Valenzuela, A., & Epstein, E. M. B. (2023). Struggles for/with/through Ethnic Studies in Texas: Third spaces as anchors for collective action. *Teachers College Record*, 125(5), 12–24.
- Wallace, M. E., Green, C., Richardson, L., Theall, K., & Crear-Perry, J. (2017). “Look at the Whole Me”: A Mixed-Methods Examination of Black Infant Mortality in the US through Women’s Lived Experiences and Community Context. *International Journal of Environmental Research and Public Health*, 14(7). <https://doi.org/10.3390/ijerph14070727>
- Wallach, H. M., Mimno, D., & McCallum, A. (2009). Rethinking LDA: why priors matter. *Proceedings of the 22nd International Conference on Neural Information Processing Systems*, 1973–1981.
- Walter, D., & Ophir, Y. (2019). News Frame Analysis: An Inductive Mixed-method Computational Approach. *Communication Methods and Measures*, 13(4), 248–266.
- Walters, K. L., Johnson-Jennings, M., Stroud, S., Rasmus, S., Charles, B., John, S., Allen, J., Kaholokula, J. K., Look, M. A., de Silva, M., Lowe, J., Baldwin, J. A., Lawrence, G., Brooks, J., Noonan, C. W., Belcourt, A., Quintana, E., Semmens, E. O., & Boulaferis, J. (2020). Growing from Our Roots: Strategies for Developing Culturally Grounded Health Promotion Interventions in American Indian, Alaska Native, and Native Hawaiian Communities. *Prevention Science: The Official Journal of the Society for Prevention Research*, 21(Suppl 1), 54–64.

- Walters, K. L., Mohammed, S. A., Evans-Campbell, T., Beltrán, R. E., Chae, D. H., & Duran, B. (2011). BODIES DON'T JUST TELL STORIES, THEY TELL HISTORIES: Embodiment of Historical Trauma among American Indians and Alaska Natives. *Du Bois Review: Social Science Research on Race*, 8(1), 179–189.
- Walters, K. L., & Simoni, J. M. (2009). Decolonizing strategies for mentoring American Indians and Alaska Natives in HIV and mental health research. *Am. J. Public Health*, 99 Suppl 1(Suppl 1), S71-6.
- Ward, L. (2022). 1 The Real Boogeyman: How White Legal Logic Is Used to Create Educational Gag Order Laws in US Higher Education. *Philosophy and Theory in Higher Education*, 4(3), 13–27.
- Watanabe, K. (2018). Newsmap. *Digital Journalism*, 6(3), 294–309.
- Watanabe, K. (2021). Latent Semantic Scaling: A Semisupervised Text Analysis Technique for New Domains and Languages. *Communication Methods and Measures*, 15(2), 81–102.
- Watanabe, K., & Zhou, Y. (2022). Theory-Driven Analysis of Large Corpora: Semisupervised Topic Classification of the UN Speeches. *Social Science Computer Review*, 40(2), 346–366.
- Weil, A. R. (2022). Racism And Health. *Health Affairs* , 41(2), 157.
- Weil, A. R. (2023). Tackling Structural Racism In Health. *Health Affairs* , 42(10), 1317.
- Westbrook, M., & Harvey, M. (2022). Framing health, behavior, and society: a critical content analysis of public health social and behavioral science textbooks. *Critical Public Health*, 00(00), 1–12.
- White, K. (2011). THE SUSTAINING RELEVANCE OF W. E. B. DU BOIS TO HEALTH DISPARITIES RESEARCH1. *Du Bois Review: Social Science Research on Race*, 8(1), 285–293.
- Wiggins, N., & Pérez, A. (2017). Using popular education with health promotion students in the USA. *Health Promotion International*, 32(4), 660–670.
- Wildemuth, B. M. (2009). Existing documents and artifacts as data. In B. M. Wildemuth (Ed.), *Applications of social research methods to questions in information and library science* (pp. 158–165). Libraries Unlimited Westport, CT.
- Wilf, S., Maker Castro, E., Gupta, K. G., & Wray-Lake, L. (2023). Shifting Culture and Minds: Immigrant-Origin Youth Building Critical Consciousness on Social Media. *Youth & Society*, 55(8), 1589–1614.
- Williams, D. R. (1997). Race and health: basic questions, emerging directions. *Annals of Epidemiology*, 7(5), 322–333.

- Williams, D. R., & Griffith, D. M. (2019). 3. “We Just Haven’t Put Our Minds to It”: An Interview With David Williams Describing the Trajectory of His Career Studying Racism. In C. L. Ford, D. M. Griffith, M. A. Bruce, & K. L. Gilbert (Eds.), *Racism: Science & Tools for the Public Health Professional*. American Public Health Association.
- Williams, D. R., Lawrence, J. A., & Davis, B. A. (2019). Racism and Health: Evidence and Needed Research. *Annual Review of Public Health, 40*(1), 105–125.
- Wispelwey, B., Osuagwu, C., Mills, D., Goronga, T., & Morse, M. (2023). Towards a bidirectional decoloniality in academic global health: insights from settler colonialism and racial capitalism. *The Lancet. Global Health, 11*(9), e1469–e1474.
- Yancey, A. K., Kagawa-Singer, M., Ratliff, P., Valdez, A., Jiménez, L., Banks, P., Stewart, S., Roe, K. M., & Pasick, R. J. (2006). Progress in the pipeline: replication of the minority training program in cancer control research. *Journal of Cancer Education: The Official Journal of the American Association for Cancer Education, 21*(4), 230–236.
- Yosso, T. J. (2002). Toward a Critical Race Curriculum. *Equity & Excellence in Education: University of Massachusetts School of Education Journal, 35*(2), 93–107.
- Yosso, T. J. (2005). Whose culture has capital? A Critical Race Theory discussion of community cultural wealth. *Race Ethnicity and Education, 8*(1), 69–91.
- Yusuf, Misra, Singh, Malhotra, Khan, Tankasala, & Mukherjea. (2020). Unmasking an Invisible Community : Unique Influences on and Consequences of COVID-19 among South Asians in the United States. *AAPI Nexus Journal: Asian Americans and Pacific Islanders Policy, Practice, 17*(1).
- Zambrana, R. E., Amaro, G., Butler, C., Dupont-reyes, M., & Parra-medina, D. (2021). Analysis of Latina / o Sociodemographic and Health Data Sets in the United States From 1960 to 2019 : Findings Suggest Improvements to Future Data Collection Efforts. *Health Education & Behavior: The Official Publication of the Society for Public Health Education, 48*(3), 320–331.
- Zambrana, R. E., & Williams, D. R. (2022). The Intellectual Roots Of Current Knowledge On Racism And Health: Relevance To Policy And The National Equity Discourse. *Health Affairs , 41*(2), 163–170.
- Zembylas, M., & Matias, C. E. (2023). White racial ignorance and refusing culpability: how the emotionalities of whiteness ignore race in teacher education. *Race Ethnicity and Education, 26*(4), 456–477.