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Title

Maintaining Long-Distance Mother-Daughter Relationships During College via Technologically Mediated Self-Disclosure and Co-Rumination

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Author

Edwards, America Leigh

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2024

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA

Santa Barbara

Maintaining Long-Distance Mother-Daughter Relationships During College Via
Technologically Mediated Self-Disclosure And Co-Rumination

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Communication

by

America L. Edwards

Committee in Charge:

Professor Tamara Afifi, Chair

Professor Andy Merolla

Professor Jennifer Gibbs

June 2024

The dissertation of America L. Edwards is approved.

Jennifer Gibbs

Andy Merolla

Tamara Afifi, Committee Chair

June 2024

Acknowledgments

Writing the acknowledgments section is overwhelming. So many individuals have played pivotal roles throughout my graduate school journey, and in what follows, I highlight some key (though not all) contributions.

To my advisor, Dr. Tammy Afifi: Thank you. As we discussed what a “confirming communication environment” looks like, I thought of you. When you challenge me, I know that you’re looking to make me better because you know I can be better. A better theorist, a better statistician, a better roommate, a better daughter, a better advocate for the underdogs..., whatever it is, you affirm and you challenge. I am so grateful for your mentorship and the reminders that even when I didn’t think I could make it, I was “born to be a professor.” I hope we have many projects ahead of us.

To my friend and mentor, Dr. Joe Walther: Thank you for helping me carve out my identity as a scholar and as a person. Your influence has been instrumental.

To my best friends and their families – Kayla Seguin and Lauren Barker: Thank you for helping me keep my head above water, loaning me your children when I need a laugh, loving my pup like your own, and letting me rant via Marco Polo (yes, of course, I had to give acknowledgment to an app that has been important in my own relationship maintenance).

To the legacy of Dr. Chad McBride, who we lost in my final weeks of dissertating (Fuck ALS): I have learned so much about life and death from you. Thank you for demonstrating the impact that our work can have, for inspiring a broader definition of what constitutes a family, and for teaching me to look for experiences that spark joy, even in the darkness.

To all of my professors and friends at WMU, UCF, UCSB, and MSU: Thank you for seeing me through. I have especially appreciated continued guidance and mentorship from Drs. Leah Omilion-Hodges, Patric Spence, Tim and Deanna Sellnow, Renee Kaufmann, and Elizabeth Dorrance Hall, as well as friendship and encouragement from Drs. Riley Richards, Austin Beattie, Brooke Wolfe, and Matt Giles, as well as Matthew Craig and Austin Frederick and many others. I am so thankful to be in a profession where our paths will continue to cross. Thank you to my committee members, Drs. Andy Merolla and Jennifer Gibbs.

To my Mom, Dad and my sister: I’m not sure there are words to express my gratitude, but I for being a cycle breaker. I see it.

(Dis)Acknowledgments

I’d be remiss not to mention the few things that made this dissertation more difficult to complete. So, no thanks to COVID-19, developing a gluten intolerance two years into the doc program, Taco Bell for taking potatoes off the menu for a while, my dog Sprout for deciding to tap out at the start of my third year, my dog Biscuit for having absolutely zero

chill while I try to write this section, and again, no thanks to ALS. No thanks to inflation, and perhaps the biggest no thanks of all: no thanks to the genocide occurring in Gaza.

America L. Edwards
Curriculum Vitae

PhD Candidate, University of California Santa Barbara
Research Consultant, Michigan State University
Editorial Assistant, Journal of Communication Pedagogy

americaedwards@ucsb.edu
[ORCID](#) | [ResearchGate](#) | [Google Scholar](#)

Education

Ph.D. in Communication Completed: June 2024

University of California Santa Barbara
Department of Communication
Advisor: Dr. Tamara Afifi
Committee: Drs. Andy Merolla, Jennifer Gibbs
Funding Source: UCSB Academic Senate Faculty Research Grant, \$20,000
Principal Investigator: Dr. Tammy Afifi, UC Santa Barbara

M.A. in Communication Completed: 2020

University of Central Florida
Nicholson School of Communication and Media
Committee: Drs. Timothy L. Sellnow (chair), Deanna D. Sellnow, Adam Parrish, Joel Iverson
Thesis Title: Instructional Communication as a Primary Function of Communities of Practice during Crisis
Funding Source: United States Department of Agriculture, \$7.3 million, 5 years
Grant Title: The Animal Disease Biosecurity Coordinated Agricultural Project
Principal Investigator: Dr. Julie M. Smith, University of Vermont

B.A. in Communication Studies Completed: 2018

Western Michigan University
Lee Honors College
Committee: Dr. Leah M. Omilion-Hodges (chair), Dr. Julie Apker
Thesis Title: Marketing through social media: Reaching Generation Z

Experience

August 2023 - Current	Research Consultant Michigan State University Department of Communication Family Communication and Women in STEM CAREER Grant Funding source: National Science Foundation Principal Investigator: Dr. Elizabeth Dorrance Hall
September 2020 - Dec. 2023	Graduate Teaching Assistant, Associate University of California Santa Barbara

Department of Communication, Summer Sessions
Department

October 2022 - April 2022	Assistant to the Director University of California Santa Barbara Center for Information, Technology, and Society (CITS)
June 2022 - July 2022	Research Mentor University of California Santa Barbara Summer Sessions 1:1 mentoring with 3 high school students
May 2019 - July 2020	Graduate Research Assistant Animal Disease Biosecurity Coordinated Agricultural Project Funding source: United States Department of Agriculture Principal Investigator: Julie M. Smith, University of Vermont
August 2018 – May 2020	Graduate Teaching Assistant, Associate University of Central Florida Nicholson School of Communication and Media
May 2018 - August 2018	Podcast Producer & Communication Intern Office of Development, Western Michigan University
June 2017 - May 2018	Social Media & Communication Associate Southwest Michigan First
November 2015 - 2018	Assistant Forensics Coach Limited Prep Events, Portage Northern High School
January 2017 - August 2017	Web Developer School of Communication, Western Michigan University

Publications

Edwards, A. L., Freihaut, R., Sellnow, T. L., Sellnow, D. D., Getchell, M., Parrish, A. (2023, in press). Engaged learning: Lessons learned by subject-matter experts from COVID-19 in the U.S. swine industry. *Journal of Applied Communication Research*.
<https://doi.org/10.1080/00909882.2023.2178853>

Giles, H., **Edwards, A. L.**, Walther, B. B. (2023, in press). Communication Accommodation Theory at 50: Recent applications and stages. *Language Sciences*.

Giles, H., & **Edwards, A. L.** (2023, in press). Accommodating and nonaccommodating language. In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics* (2nd edition). Wiley.

Walther, J. B., Lew, Z., **Edwards, A. L.**, & Quick, J. (2022, in press). The effect of social approval on perceptions following social media message sharing applied to fake news. *Journal of Communication*. Advance online publication.

Edwards, A. L., & Omilion-Hodges, L. M. (2022). Managing perceptions of credibility and social attraction: Expectations of university presidents on Twitter. *The Journal of Marketing for Higher Education*. Advance online publication. <https://doi.org/10.1080/08841241.2022.2089942>

Islam, K., **Edwards, A. L.**, Seeger, M., Sheppard, R., Liu, B. F., Lim, J. R., Shi, D. (2022). Crisis communication and learning: The US higher education's response to a global pandemic. *The Learning Organization*, 29(4). <https://doi.org/10.1108/TLO-10-2021-0121>

Spence, P. R., Lachlan, K., & **Edwards, A. L.** (2022). We interrupt this program, this is an emergency: Revisiting the role of radio in a crisis. *Journal of Radio and Audio Media*. Advance online publication. <https://doi.org/10.1080/19376529.2021.2023539>

Edwards, A. L., Sellnow, T. L., Deanna, D. D., Iverson, J., Parrish, A., & Dritz, S. (2021). Communities of practice as purveyors of instructional communication during crises. *Communication Education*, 70(1), 49-70. <https://doi.org/10.1080/03634523.2020.1802053>

Liu, B. F., Lim, J. R., Shi, D., **Edwards, A. L.**, Islam, K., Sheppard, R., & Seeger, M. (2021). Evolving best practices in crisis communication: Examining U.S. higher education's responses to the COVID-19 pandemic. *Journal of International Crisis and Risk Communication Research*, 4(3), 451-484. <https://doi.org/10.30658/jicrcr.4.3.1>

Lui, B. F., Shi, D., Lim, J. R., Islam, K., **Edwards, A. L.**, & Seeger, M. (2021). When crises hit home: How U.S. higher education leaders navigate values during uncertain times. *Journal of Business Ethics*, 179, <http://doi.org/10.1007%2Fs10551-021-04820-5>

Omilion-Hodges, L. M., & **Edwards, A. L.** (2021). Students as information responders and creators during a university shooting. *Communication Studies*, 72(4), 701-719. <https://doi.org/10.1080/10510974.2021.1952465>

Edwards, C., Spence P., Gentile, C. J., **Edwards, A. L.**, & Edwards A. P. (2013). How much Klout do you have... A test of system-generated cues on source credibility. *Computers in Human Behavior*, 29(5). <http://doi.org/10.1016/j.chb.2012.12.034>

Conference Presentations

Hall, E. D., Zhang, Y., **Edwards, A. L.**, & Wolfe, B. H. (2024, July 18-20). *The role of parental communication about STEM in gendered educational and career choices: Future directions in theory, research, policy, and practice*. [Paper presentation]. International Network Gender and STEM 7th Annual Meeting. Heidelberg, Germany.

Dorrance Hall, E., Gettings, P.E., Edwards, A.L., Zhang, Y., & Wolfe, B. H. (2024, July 5-9). Testing a process model of workplace marginalizing communication, interpretation, and response among women in traditionally male careers. [Paper presentation]. International Association of Relationship Researchers 32nd Annual Meeting. Boston, MA, United States.

Edwards, A. L., Wolfe, B. H., Kuch, L., Ma, M., Zhang, Y., Cui, X., Hall, E. D. (2024, July 5-9). *“My mother was far more involved”: A mixed-methods examination of parental communication about career choices*. [Paper presentation]. International Association of Relationship Researchers 32nd Annual Meeting. Boston, MA, United States.

Edwards, A. L., Omilion-Hodges, L. M., & Hayes, R. Managing perceptions of credibility, social presence, and interpersonal attractiveness: Expectations of university presidents and their use of ChatGPT. [Paper presentation]. International Communication Association. Gold Coast, Australia.

Wang, T. R., Hall, E. D., Spates, S., Ma, M., Wolfe, B. H., **Edwards, A. L.**, & Zhang, Y. (2024, April 2-7). *Navigating Incoherent systems: Dyadic, family, and community communication opportunities and challenges of first-generation college students during and beyond higher education*. [Panel presentation]. Central States Communication Association 93rd Annual Meeting. Grand Rapids, MI, United States.

Giles, M., & **Edwards, A. L.** (2023, November). CAPSTONE ASSIGNMENT - Freedom to evolve: Improving brand resonance by revamping outdated marketing campaigns. Great Idea for Teaching Students (G.I.F.T.S) presented at the National Communication Association 2023, National Harbor, MA, United States.

Wang, T., Anderson, J., Bryant, L., **Edwards, A. L.**, Jin, X., Lengel, L., Pennington, N., Scharp, K., & Spence, P. (2023, May). CSCA Panel: Reclaiming Authenticity as Communication Scholars and Teachers. Presented at the International Communication Association 2023, Toronto, Canada.

Edwards, A. L., & Walther, J. B. (2023, May). Online self-disclosure and physical attractiveness: An application of expectancy violations theory. Presented at the International Communication Association 2023, Toronto, Canada.

Afifi, T., & **Edwards, A. L.** (2022, November). The effect of face-to-face and online relationship maintenance on dual-earning families. Presented at the National Communication Association 2022, New Orleans, LA.

Walther, J. B., Lew, Z., Quick, J., & **Edwards, A. L.** (2022, May). The effect of social approval on attitudes toward the focus of fake news in social media. Presented at the International Communication Association 2022, Paris, France.

Lachlan, K., Spence, P., Mao, Y., Sellnow, D., Kaufmann, R., & **Edwards, A. L.** (2022, April). Preparing manuscripts for journal submissions: Lessons from former and current editors and editorial administrators for CSCA journals. Presented at the Central States Communication Association 2022, Madison, WI.

Spence, P., Lachlan, K., & **Edwards, A. L.** (2022, April). We interrupt this program, this is an emergency: Understanding the role and necessity of radio stations during a crisis. Presented at the Central States Communication Association 2022, Madison WI.

Edwards, A. L., & Omilion-Hodges, L. M. (2021, November). Who tweeted that? Expectations of university presidents on twitter. Presented at the National Communication Association 2021, Seattle, WA.

Edwards, A. L., Freihaut, R., Sellnow, T. L., Sellnow, D., Getchell, M. C., & Parrish, A. (2021, November). Transforming an industry through engaged learning: Addressing failures in the swine industry's COVID-19 animal culling crisis. Presented at the National Communication Association 2021, Seattle, WA.

***Edwards, A. L.**, Sellnow-Richmond, S., Spates, S. A., & Sellnow-Richmond, D. (2021, March). The Uncertainties of a pandemic crisis: Strategic communication and the unknown following a country's failure to respond. Accepted to the Central States Communication Association 2021.

*CSCA21 was virtual due to COVID-19, synchronous panel.

*Casey, D., Weiland, M., Craig, M. J-A., Kahlow, J., & **Edwards, A. L.** (2021, March). Finding inspiration to publish: Tips for graduate students. Accepted to the Central States Communication Association 2021.

*CSCA21 was virtual due to COVID-19, synchronous panel.

*Kahlow, J., Casey, D., **Edwards, A. L.**, Jones, C., & Dorr, M. M. (**Top Panel**; 2021, March). Things I wish I had known: Advice for new graduate students. Accepted to the Central States Communication Association 2021.

*CSCA21 was virtual due to COVID-19, synchronous panel.

*Liu, B., Shi, D., Islam, K., Lim, J. R., **Edwards, A. L.**, Seeger, M., Sellnow, T., & Sheppard, R. (2021, March). Higher education's crisis management: Challenges and initial lessons learned from the COVID-19 pandemic. Accepted to the International Risk and Crisis Communication Conference 2021.

*ICRCC21 was virtual due to COVID-19, synchronous poster presentation.

*Sheppard, R., Islam, K., Liu, B., **Edwards, A. L.**, Shi, D., Lim, J. K., & Seeger, M. (2021, March). Best practices in crisis communication: Universities and colleagues' responses to COVID-19 Accepted to the International Risk and Crisis Communication Conference 2021.

*ICRCC21 was virtual due to COVID-19, synchronous poster presentation.

***Edwards, A. L.** & Neuberger, L. (2020, November). Will I get bit by a mosquito and die from EEE? Examining the impact of framing on uncertainty and self-efficacy. Accepted to the National Communication Association 2020.

*NCA20 was virtual due to COVID-19, synchronous panel.

***Edwards, A. L.**, Lyn, K., & Sheppard, R. (2020, November). Whose fault is it anyway? Examining student emailing behavior in regards to race, gender, and fault. Accepted to the National Communication Association 2020.

*NCA20 was virtual due to COVID-19, asynchronous participation voluntary.

***Edwards, A. L.**, Gulliford, T., Joseph, C. M., & Santiago, J. (2020, November). Revising Judith H. Katz' 1978 drawbridge exercise for communication courses. Accepted to the National Communication Association 2020.

*NCA20 was virtual due to COVID-19, asynchronous participation voluntary.

***Edwards, A. L.**, Sellnow, T. L., Sellnow, D. D., Iverson, J., Parrish, A., & Dritz, S. (**Top Paper:** 2020, May) Instructional communication as a primary function of communities of practice during crises. Presented at the International Communication Association 2020, Virtual

*ICA20 was virtual due to COVID-19.

***Edwards, A. L.** (panel presenter: 2020, April). Theories for Technology-Mediated Communication. Chaired by Dr. Jihyun Kim, University of Central Florida. Scheduled to be presented at the Central States Communication Association 2020, Chicago, IL.

*CSCA20 was canceled due to COVID-19.

***Edwards, A. L.** (panel chair: 2020, April). Spotlight: Breakthroughs in Peer Reviewing: Finding Balance as a Critic and Coach During Peer Review. Scheduled to be presented at the Central States Communication Association 2020, Chicago, IL.

*CSCA20 was canceled due to COVID-19.

*Sellnow, D. D., Sellnow, T. L., **Edwards, A. L.**, & Sheppard, R. (2020, April). Crisis Communication for Crises that Know No Borders: Combatting Animal Disease Incursions with Educational Narratives
Scheduled to be presented at the Central States Communication Association 2020, Chicago, IL.

*CSCA20 was canceled due to COVID-19.

***Edwards, A. L.** (2020, April). Integrating TikTok as Edutainment into the College Classroom. Scheduled to be presented at the Central States Communication Association 2020, Chicago, IL.

*CSCA20 was canceled due to COVID-19.

***Edwards, A. L.** (panel presenter: 2020, April). Technology Without (Theoretical) Borders. Chaired by Rebecca Johnson, University of Kansas. Scheduled to be presented at the Central States Communication Association 2020, Chicago, IL.

*CSCA20 was canceled due to COVID-19.

Sellnow, T. L., Sellnow, D. D., & **Edwards, A. L.** (2019, November). The transportability of renewal across crisis types: Agricultural Biosecurity, PEDv, and African Swine Fever. Presented at the National Communication Association 2019, Baltimore, MA.

Collins, C., **Edwards, A. L.**, & Merrill, Jr., K. (2019, November). Campfire tales: Public Speaking Exercise. Great Idea for Teaching Students (G.I.F.T.S) presented at the National Communication Association 2019, Baltimore, MA.

Omilion-Hodges, L. M. & **Edwards, A. L.** (2019, November). Nuancing the lifecycle of a crisis: From organizational channel selection to stakeholder perceptions of personal and organizational communicative responsibility. Presented at the National Communication Association 2019, Baltimore, MA.

Merrill, Jr., K., **Edwards, A. L.**, & Collins, C. (2019, October). Fundamentals of Fundraising. Great Idea of Teaching Studies (G.I.F.T.S) presented at the Florida Communication Association 2019, Lake Buena Vista, FL.

Santiago, J., **Edwards, A. L.**, Senter, M., Pursglove, K., & Biu, M. (2019, August). Grab your bags: Exploring destination branding through Instagram. Presented at the Association for Education in Journalism and Mass Communication 2019, Toronto, CA.

Edwards, A. L. & Sellnow, T. (2019, April). SeaWorld Orlando's Organizational Renewal through Responsible Action during the Red Tide Crisis. Presented at the Central States Communication Association 2019, Omaha, NE.

Edwards, A. L. & Omilion-Hodges, L. (2019, April). Team vs individual tweets: Exploring user perceptions of credibility, communication competence, and clout. Presented at the Central Stations Communication Association 2019, Omaha, NE.

Santiago, J. & **Edwards, A. L.** (2019, April). Presentation Roulette. Great Idea for Teaching Students (G.I.F.T.S) presented at the Central Stations Communication Association 2019, Omaha, NE.

Edwards, A. L. (2019, March). [Never gonna let you drown: SeaWorld Orlando's post-crisis organizational redefinition through collaboration.](#) Presented at the International Crisis and Risk Communication Conference, 2019, Orlando, FL.

Edwards, A. L. (2018, November). What the Fake?! Exploring fake news in the media. Great Idea for Teaching Students (G.I.F.T.S) presented at the National Communication Association Conference 2018, Salt Lake City, UT.

Edwards, A. L., Beattie, A., & Johnson, M. (2018, November). Exploring the use of K in text message conversations. Paper presented at the National Communication Association Conference 2018, Salt Lake City, UT.

Beattie, A., & **Edwards, A. L.** (**Top Three Paper:** 2018, April). I'm humble and I know it: Exploring #humblebrag as remedial facework. Paper presented at the Central States Communication Association Conference 2018, Milwaukee, WI.

Edwards, A. L. (**Top Paper:** 2018, April). Marketing through social media: Reaching Generation Z. Paper presented at the Central States Communication Association Undergraduate Honors Research Conference 2018, Milwaukee, WI.

National Coverage

Feb. 2022 [The role of radio during a crisis.](#)
Radio + Television Broadcasting Report

Nov. 2020 [Communicating through a crisis.](#)
Inside Higher Ed

Awards, Grants, & Funding

May 2023 Reviewer of the Year, Communication and Technology Division
International Communication Association

May 2023	Travel Grant, Communication and Technology Division \$300.00, International Communication Association
June 2022	Outstanding Graduate Student Service Award, Department of Communication University of California Santa Barbara
May 2022	White Family Fellowship, Department of Communication \$875.00, University of California Santa Barbara
May 2022	Travel Grant, Communication and Technology Division \$250.00, International Communication Association
April 2022	Research Grant, Department of Communication, \$500.00, University of California Santa Barbara
April 2021	Outstanding Master's Thesis, College of Graduate Studies \$1,500.00, University of Central Florida
Jan. 2021	Outstanding Master's Thesis, College of Sciences \$250.00, University of Central Florida
May 2020	Top Student Paper, Instructional & Developmental Communication Division \$300.00, International Communication Association
May 2020	Meeske Graduate Student of the Year, Department of Communication \$500.00, University of Central Florida
April 2020	Graduate Presentation Fellowship \$500.00, University of Central Florida
Dec. 2019	Order of the Pegasus, School-Level Nominee University of Central Florida
Nov. 2019	Nicholson School of Communication and Media Travel Award \$500.00, University of Central Florida
April 2019	Department of Communication Outstanding Graduate Research Award \$100.00, University of Central Florida
April 2019	Graduate Presentation Fellowship \$500.00, University of Central Florida
April 2019	Nicholson School of Communication and Media Travel Award \$500.00, University of Central Florida
Nov. 2018	Nicholson School of Communication and Media Travel Award \$495.00, University of Central Florida

August 2018	Dean's Fellowship \$5,000.00, University of Central Florida
April 2018	Communication Scholar Award \$250.00, Western Michigan University
April 2018	College of Arts & Sciences Travel Award \$250.00, Western Michigan University
April 2018	Susan M. Dick Endowed Travel Scholarship \$500.00, Western Michigan University
April 2017	Monroe-Brown Foundation Internship Program Award \$4,000.00, Monroe-Brown Foundation and Southwest Michigan First
April 2018	Lambda Pi Eta Inductee Western Michigan University
March 2018	School of Communication Study Abroad Award \$1,000.00, Western Michigan University
April 2017	Peter Northouse Leadership Award \$1,000.00, Western Michigan University
April 2017	Tau Sigma Transfer Honors Society Inductee Western Michigan University
October 2016	Lee Honors College Research Award \$500.00, Western Michigan University

Teaching Experience

- COMM 185 Technology and Relationships (Summer 2023; face-to-face)
Instructor of Record
Developed course schedule, syllabus, and assignments
UC Santa Barbara | Department of Communication
- COMM W 146 Deception (Fall 2022; Spring 2023; Fall 2023; online)
Teaching Assistant, Instructor: Dr. Norah Dunbar
UC Santa Barbara | Department of Communication
- COMM 88 Research Methods (Winter 2023; 2 sections; face-to-face)
Section Leader, Instructor: Dr. Dolly Mullin
UC Santa Barbara | Department of Communication
- COMM 4330 New Media Theory (Fall 2022; online)
Instructor of Record for pre-designed course
University of Houstin Victoria

- COMM 4300 Special Topics in Communication: Media History (Fall 2022; online)
Instructor of Record for pre-designed course
University of Houston Victoria
- COMM W 107 Interpersonal Communication (Summer 2022; online)
Teaching Assistant, Instructor: Dr. Norah Dunbar
UC Santa Barbara | Department of Communication
- COMM 143 Advanced Public Speaking (Spring 2022; 1 section; face-to-face)
Instructor of Record
Developed course schedule, syllabus, and assignments
UC Santa Barbara | Department of Communication
- COM 4313 Communication and Conflict (Spring 2022; online)
Instructor of Record for pre-designed course
University of Houston Victoria
- COMM 185 Technology and Relationships (Winter 2022; 1 section; mixed-mode)
Teaching Assistant, Instructor: Dr. Joseph Walther
UC Santa Barbara | Department of Communication
- COMM 185 Technology and Relationships (Fall 2021; 1 section; face-to-face)
Teaching Assistant, Instructor: Dr. Joseph Walther
UC Santa Barbara | Department of Communication
- COM 1010 Oral Communication (Fall 2021; online)
Instructor of Record
Wayne State University | Department of Communication
- COMM 151 Relational Communication (Summer 2021; 1 section; online)
Instructor of Record
Developed course schedule, syllabus, and assignments
UC Santa Barbara | Department of Communication
- Track 8 Virtual Connections (Summer 2021; 1 section; online)
Instructor of Record
Developed course schedule, syllabus, and assignments
UC Santa Barbara | Summer Sessions
- COMM 124 Family Communication (Spring 2021; 1 section; online)
Teaching Assistant, Instructor: Dr. Tammy Afifi
UC Santa Barbara | Department of Communication
- COMM 107 Interpersonal Communication (Winter 2021 & Summer 2022; 1 section; online)
Teaching Assistant, Instructor: Dr. Walid Afifi; Dr. Norah Dunbar
UC Santa Barbara | Department of Communication
- COMM 1 Introduction to Communication (Fall 2020; 3 sections; online)
Section Leader, Instructor: Dr. Dolly Mullins

UC Santa Barbara | Department of Communication

- SPC 3602 Advanced Public Speaking (Spring 2020; 1 section; mixed-mode)
Instructor of Record
Developed course schedule, syllabus, and assignments
University of Central Florida | Nicholson School of Communication & Media
- SPC 1608 Fundamentals of Oral Communication (Fall 2019; Spring 2020; mixed-mode)
Instructor of Record
Developed course schedule, syllabus, and assignments
University of Central Florida | Nicholson School of Communication & Media
- SPC 1608 Fundamentals of Oral Communication (Fall 2018; Spring 2019)
Instructor of Record on a teaching team
Developed course schedule, syllabus, and assignments
Guest lectured to an auditorium of 200+ students
University of Central Florida | Nicholson School of Communication & Media

Guest Lectures

- M.A. Level Introduction to Theory (October 2023; face-to-face)
Guest Lecture, Instructure: Dr. Elizabeth Dorrance Hall
Michigan State University
- Interpersonal Communication (November 2023; face-to-face)
Guest Lecture, Instructure: Dr. Elizabeth Dorrance Hall
Michigan State University
- Interpersonal Communication (January 2021; online)
Guest Lecture, Instructor: Dr. Walid Afifi
UC Santa Barbara
- Introduction to Research Methods (November 2020; online)
Guest Lecture, Instructor: Dr. Tiffany Wang
University of Montevallo
- Higher Education Administration Program (October 2020; online)
Guest Lecture, Instructor: Dr. Richard Gatteau
Stony Brook University

Editorial Experience

- | | |
|--------------|---|
| 2023-current | Editorial Assistant
<i>Journal of Communication Pedagogy</i>
Editor: Renee Kaufmann, University of Kentucky |
| 2021-22 | Editorial Assistant
<i>Communication Age</i> , Fourth Edition.
Autumn P. Edwards, Chad Edwards, Shawn Wahl, & Scott Myers |

2018-22	Editorial Assistant <i>Communication Studies</i> Editor: Patric R. Spence, University of Central Florida
2019-21	Editorial Assistant <i>Journal of Communication Pedagogy</i> Editor: Deanna D. Sellnow, University of Central Florida Associate Editor: Renee Kaufmann, University of Kentucky
2020	Editorial Assistant <i>Theorizing Crisis</i> , Second Edition. Matthew W. Seeger and Timothy L. Sellnow
2020	ICRCC Proceedings Editorial Assistant <i>Proceedings of the International Crisis & Risk Communication Conference</i> Associate Editor: Patric R. Spence
2019	ICRCC Proceedings Editorial Assistant <i>Proceedings of the International Crisis & Risk Communication Conference</i> Associate Editor: Patric R. Spence
2018	Cengage Test Bank Reviewer <i>Challenges of Effective Speaking in the Digital Age</i> , 16th Edition. Deanna D. Sellnow, Kathleen Verderber, & Rudolph F. Verderber
2018	Editorial Assistant <i>Communication in Times of Trouble: Best Practices for Crisis and Emergency Risk Communication</i> , First Edition. Matthew W. Seeger and Timothy L. Sellnow

Service

Journal Submission Reviewer

2024	Journal of Media Psychology (ad hoc)
2022	Journal of Language and Social Psychology (ad hoc)
2022	Journal of Marketing for Higher Education (ad hoc)

Conference Submission Reviewer

2022-23	ICA Communication and Technology Division Reviewer of the Year
2021-22	NCA Human Communication and Technology Division Student Section (2019)
2019-22	CSCA

Graduate Student Caucus
Undergraduate Research Honors Conference (2019)

2019 ICA
Human-Machine Communication

Conference Panel Respondent

Central States Communication Association, 2024
Undergraduate Research Honors Conference

Central States Communication Association, 2021
Graduate Student Caucus: Top Papers

Conference Panel Chair

Central States Communication Association, 2024
Communication Technology Implications on Personal and Industrial
Communication and Technology Division

International Communication Association, 2023
Persuasive Machines in PR, Advertising, and Health
Human Machine Communication Interest Group

International Communication Association, 2022
Cues and Channels: AuthentiCATing Ourselves and Products,
Communication and Technology Division

Central States Communication Association, 2022
Graduate Student Caucus: Top Papers

National Communication Association, 2019
Social Support, Stigma, and Social Media,
Human Communication and Technology Division

Central States Communication Association, 2019
Discussions of Race and Gender in Music, Academics, and Online Communities,
Graduate Student Caucus

Conference Panel Chair, Central States Communication Association, 2018
Goose-Stepping into the Mainstream: Critiquing Alt-Right Ideology in Fiction,
Popular Culture Interest Group

Institution

Graduate Student Buddy/Mentor, Department of Communication, 2021-2023
University of California Santa Barbara

Teaching Assistant/Associate Liaison, Department of Communication, 2020-2021

University of California Santa Barbara

Graduate Student Representative, Collaborate Advisory Committee, 2020-2021
University of California Santa Barbara

Graduate Student Representative, Student Fee Advisory Committee, 2020-2021
University of California Santa Barbara

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Abstract

Maintaining Long-Distance Mother-Daughter Relationships During College via Technologically Mediated Self-Disclosure and Co-Rumination

by

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The transition to adulthood is particularly stressful for emerging adults, especially those attending college, with young women being more vulnerable to stress, anxiety, and depression. Within the family system, mother-daughter relationships are often characterized by high levels of self-disclosure and interdependence, which can serve as both a source of support and a potential stressor. This dissertation examines the impact of self-disclosure and co-rumination on relational well-being and anxiety in mother-daughter relationships, focusing on various communication channels (video chat, phone call, and text message) as daughters transition to college.

Employing a mixed-methods approach, this dissertation consists of three distinct phases. The first two phases involve quantitative data analyses, and the third phase involves qualitative data analysis. The first two phases utilize the Actor-Partner Interdependence Model (APIM) and the Actor-Partner Interdependence Moderation Model (APIMoM) to analyze quantitative data. Phase One explores the overall impact of self-disclosure across communication channels (to capture overall mediated self-disclosure) on mothers' and daughters' anxiety, closeness, and confirmation. In contrast, Phase Two investigates the differential effects of self-disclosure via specific channels. The findings indicated that daughters' self-disclosure was positively associated with relational well-being (closeness and

confirmation) for both themselves and their mothers, with richer cue channels, like video chat and phone calls, having a greater impact on closeness and confirmation than text messaging. Additionally, high levels of co-rumination exacerbated anxiety for both daughters and mothers, with this effect being more pronounced in daughters. Lower levels of co-rumination mitigated anxiety following conversations.

Phase Three adopts a qualitative approach to analyze how mothers and daughters discuss the role of technology in maintaining their relationships post-transition. Thematic analysis reveals that active mediated maintenance strategies, such as video calls, are crucial for maintaining closeness, while passive strategies, like social media viewership, provide a sense of "daily talk" and sustained emotional connection. Barriers to effective communication include technological incompatibilities and challenges in conveying tone through text.

This study underscores the integral role of technology in maintaining mother-daughter relationships, especially in long-distance contexts. The combination of active strategies such as everyday talk and video calls with passive strategies like location tracking and social media viewership facilitates continuous communication and emotional support. These tools help simulate face-to-face interactions, foster a sense of presence, and sustain connections despite physical separation. Self-disclosure plays a crucial role in fostering relational closeness and confirmation, with open and honest communication leading to stronger bonds and greater satisfaction. However, the impact of self-disclosure on anxiety is nuanced, influenced by the level of co-rumination and the specific communication channel used. Video calls and phone conversations can effectively convey emotional nuances but

may increase anxiety if discussions are overly negative, while texting, although convenient for quick check-ins, lacks emotional depth.

These findings emphasize the importance of balancing self-disclosure and carefully selecting communication channels to promote emotional well-being and reduce anxiety. By understanding the strengths and limitations of different technological tools, mothers and daughters can strategically use them to enhance their connection and support each other's emotional needs. Ultimately, this research provides valuable insights into how technological affordances and communication practices can be optimized to foster stronger, more resilient familial bonds in the face of physical separation.

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Chapter 1. Rationale

The time in which a child transitions into adulthood is particularly stressful (Arnett et al., 2014), especially for the nearly 40% of U.S. emerging adults aged 18 to 24 that attend a two or four-year degree program (U.S. Department of Education, 2021). Nearly half of the 96,000 U.S. college students who participated in the annual Healthy Minds survey indicated having symptoms of depression, and 15% reported having suicidal thoughts in the last year (Healthy Minds Study, 2023). This is in stark contrast to the less than five percent of U.S. adults who report having suicidal ideation (Ivey-Stephenson et al., 2022). Young women, in particular, are more vulnerable to stress, anxiety, and depression during emerging adulthood (and puberty; Whiteford et al., 2013) than their male counterparts (Chaplin et al., 2009), and this is particularly true in light of the COVID-19 pandemic (Centers for Disease Control and Prevention, 2023). Additionally, Carlén et al. (2022) found that while adolescent girls' mental health struggles predict probable mental diagnoses within three years, the relationship was less predictive in adolescent boys, highlighting the need for attention on young women as a particularly vulnerable population.

Further adding to the complexity of the mental health crisis happening among women, whether in college or not, women tend to serve as linchpins of family cohesion and socialization (Kranichfeld, 1987). Within a traditional family system, the closest (Yamagata et al., 2016) and most disclosive (see for review Buhrmester & Prager, 1995; Finkenauer et al., 2004) relationship tends to be between a mother and daughter. These relationships are often characterized by a great deal of interdependence (Belknap, 2018) and can serve as an essential outlet for social support (e.g., Scelza, 2011; especially considering the pandemic, see for review Uzun et al., 2021) and communal coping (e.g., Fisher et al., 2022), but they

also can become enmeshed and negatively impact each other (e.g., Garber, 2011; Jacobvitz & Bush, 1996). Even though mothers being a crucial form of social support for their daughters has been well-documented (e.g., Hutchinson et al., 2003; Kalmijn, 2013; Luepker et al., 1996), the past two decades of research have presented a more reciprocal picture of the mother-daughter relationship by acknowledging that adolescent and young adult daughters can be instrumental in providing their mother support as well (e.g., Aronowitz et al., 2012; Fingerman et al., 2020). Still, more research is needed to understand better how the interconnected relationship between mothers and daughters after the daughter transitions to college affects their personal and relational well-being.

Communication is the primary way mothers and daughters enact their relationship (Izenstark et al., 2021). Self-disclosure is one such behavior that involves sharing intimate and personal information with another (Chu et al., 2022; Jourard, 1971). While the self-disclosure involved in seeking and providing support predicts closer relationships (Forest et al., 2023), it can also foster co-rumination wherein two or more people repeatedly talk about their problems and catastrophize together (Rose & Rudolph, 2006). Co-rumination, like self-disclosure, often predicts relational closeness and feelings of cohesion (Rose, 2021). However, it can simultaneously fuel anxiety and depressive symptoms, especially among girls and women (e.g., Ames-Sikora et al., 2017; Bastin et al., 2021). For instance, parents, in general, are more likely to co-ruminate with daughters than they are sons (Miller-Slough & Dunsmore, 2021), and co-rumination is more likely to occur among mother-daughter dyads than mother-son dyads or other parent-child configurations (Waller & Rose, 2010). Continually talking about one's problems and negative emotions, and the bad things that might happen because of the problems may build closeness for the mother-daughter dyad, but

it has also been shown to predict internalizing symptoms (Miller-Slough & Dunsmore, 2021; Waller & Rose, 2010).

Because mother-daughter relationships in the United States can be codependent, enmeshed, and tumultuous at times, their relationship tends to improve once the daughter leaves home (Wong, 2019) and embarks on a journey of increasing independence. However, the landscape of family communication has been transformed by the advent of digital technology, reshaping how family members interact and maintain their relationships (see for review see Manago et al., 2020; Tong & Walther, 2011). That is, while early research suggests an improvement in parent-child relationships once the child leaves home, computer-mediated communication (CMC) provides a vector for near-constant communication, and its impact on long-distance family relationships is still being understood (e.g., Favotto et al., 2019; Oliinyk & Oliinyk, 2024). Even though technology provides a primary means through which parents and emerging adult children can more actively maintain their relationship when the child leaves home, its various influences on that relationship must be determined.

Previous research has demonstrated the utility of using CMC to create virtual proximity (Barakji et al., 2018), often predicting positive family outcomes (e.g., Gonzales & Katz, 2016; Lindell et al., 2015; Myers & Goodboy, 2010). At the same time, research by Battaglini et al. (2021) and Keshishian et al. (2016) provides evidence that co-rumination can and does occur via CMC. Murdock et al. (2019) found that for U.S. college students, co-rumination via cell phone was associated with greater levels of both anxiety and depression. However, this study did not examine co-rumination with family members; instead, it focused on co-rumination in general. As previous research suggests, at a time when emerging adult women are already under increased stress and poor mental health, understanding how

mothers and daughters self-disclose via technology to maintain their relationship through self-disclosure and potentially dwell on negative emotions (e.g., Miller-Slough & Dunsmore, 2021) via co-rumination is crucial. This understanding is necessary for researchers to be able to help young women and their mothers adjust to the college journey while protecting their mental health. Additionally, given that the previously discussed literature demonstrates that self-disclosure and co-rumination exist in both FtF and mediated environments, it is crucial to understand whether some channels enable these communicative behaviors over others, and whether they produce differential effects on well-being outcomes. This study's contribution is significant in exploring how self-disclosure and co-rumination interact across different communication channels, impacting the closeness of mother-daughter relationship, their feelings of confirmation, and anxiety. Understanding these dynamics can lead to more targeted interventions and support mechanisms that enhance relational well-being and mitigate negative mental health outcomes. Qualitative data also sheds light on exactly how mothers and daughters see technology playing a role in their maintenance. .

The Present Study

The present manuscript examines how mothers and daughters engage in self-disclosure and co-rumination via various technological channels while the daughters are away at college and how their history of these behaviors with each other affects their perceptions of anxiety, closeness, and confirmation (i.e., validation) following a Zoom conversation about their stress. A triangulated mixed-methods study is proposed where it is hypothesized that the daughter's perception of co-rumination with her mother over the past month acts as a moderator between self-disclosure (committed via video chat, call, and text) and their relationship well-being (i.e., closeness, confirmation), as well as their anxiety

following an interaction. In other words, this paper explores how self-disclosure, a behavior known for fostering and nurturing close relationships, can affect the relational climate between mother and daughters and how anxious they report feeling. This effect is likely moderated by co-rumination such that closeness and confirmation are further enhanced when there are high levels of co-rumination, but anxiety is simultaneously worsened. Additionally, an exploratory research question is posed to understand how and through which channels mothers and daughters maintain these long-distance relationships while the daughter is at college.

This dissertation includes three phases of analysis. The first two analysis phases employ a quantitative approach, examining how mothers' and daughters' self-disclosure over the past month interacts with their perceptions of co-rumination during the past month and that interaction's subsequent effects on relational health and anxiety after a Zoom conversation between them about the stress that is affecting their relationship. These phases utilize the Actor Partner Interdependence Model (APIM; Cook & Kenny, 2005; Kashy & Kenny, 1999) to analyze the interdependence between mothers and daughters, assessing how their self-disclosure impacts relational dynamics and anxiety. The APIM accounts for both actor effects (the impact of an individual's own predictor on their own outcomes) and partner effects (the influence of an individual's predictor on a partner's outcomes). Additionally, the analysis will incorporate the Actor Partner Interdependence Moderation Model (APIMoM; Garcia et al., 2015), exploring how co-rumination moderates the association between self-disclosure and relational health and anxiety. The first analysis phase focuses on self-disclosure as being conceptualized as their average self-disclosure across video chat, phone call, and text message over the past month. The second phase hones in on the specific

channel in which self-disclosure is committed to determine if the channels produce differential effects in relation to the effects of self-disclosure and co-rumination on outcomes. The first phase aims to elucidate how a disclosive and co-ruminative environment influences relational health and anxiety in mother-daughter relationships. In contrast, the second analysis phase examines the impact of the channel in which self-disclosure is communicated.

The third, qualitative phase adopts thematic analysis (Braun & Clarke, 2006) to examine the conversations between the mothers and daughters about their technology use, providing a more in-depth understanding about how and why they use certain mediated channels to maintain their relationships while the daughter is at college. This analysis explored how mothers and daughters talk about using technology to stay in touch now that they are long-distance relational partners. The quantitative analysis focuses on how relational maintenance behaviors, such as self-disclosure and co-rumination, affect the mother-daughter relationships. In contrast, the qualitative analysis relies on the communication between the mothers and daughters to inductively unearth how they use technology to maintain their long-distant relationship. Taken together, this triangulated approach provides valuable insight into the ways in which mother-daughter dyads maintain their relationships via technology and how this affects their relational health, feelings of validation, and anxiety.

This dissertation fills several significant gaps in the literature on mother-daughter relationships during the transition to college. It extends researchers' understanding of how self-disclosure and co-rumination through various communication channels (video chat, phone calls, and text messages) impact relational well-being and anxiety in mother-daughter relationships. It also highlights the role of co-rumination, revealing that while it can enhance closeness and confirmation, it can also increase anxiety, especially in highly ruminative

environments (Ames-Sikora et al., 2017; Rose, 2021). In addition, almost all of the research on co-rumination assumes and occurs in FtF environments. Given that families are increasingly mobile and are geographically separated (see for example Abel et al., 2021; Levitan, 2019), examining co-rumination through mediated channels in long-distance family relationships and its impact on personal and relational well-being is essential. Finally, this study is relevant to the mental health challenges faced by young adult women and their mothers, emphasizing the need for balanced self-disclosure and mindful use of communication channels to promote emotional well-being (Carlén et al., 2022; Centers for Disease Control and Prevention, 2023).

This study not only addresses these contemporary issues but also contributes to theoretical understandings of relational maintenance by integrating communication channel specificity and psychological processes like co-rumination into the broader framework of family communication dynamics. By addressing these gaps, the paper provides valuable insights into maintaining mother-daughter relationships across distances and offers practical implications for supporting mental health during this critical period.

Chapter 2. Phase One: Modeling Mother-Daughter Maintenance

Preview

This chapter proposes a quantitative model of mother-daughter maintenance via self-disclosure and co-rumination, in which the behaviors and perceptions of mothers and their emerging adult daughters are interdependent. In this chapter, I provide an overview of relevant literature and propose a series of APIMs and APIMoMs (see Figure 1). Specifically, I contend that mothers and emerging adult daughters who report greater levels of self-disclosure over the past month will also have greater perceptions of closeness, confirmation,

and anxiety after an interaction. Furthermore, the effects will be magnified when daughters report greater levels of co-rumination during the past month. In essence, I hypothesize that based on previous literature showing that self-disclosure and co-rumination are important maintenance behaviors that predict close and confirmed interpersonal relationships, too much of these behaviors over the past can also predict greater levels of anxiety following a conversation together about their stress. Finally, this chapter describes data collection for the present study and details the first phase of analysis before turning to the second phase of quantitative analyses, which explores the role of communicative channels more explicitly.

A Disclosive and Ruminative Relationship

Emerging Adulthood

Emerging adulthood is a developmental stage characterized by the shift from dependence on parents to increased independence. In the United States, up to 40% of individuals aged 18-24 are enrolled in degree programs (Irwin et al., 2021), and nearly half of those between 18 and 29 live independently from their parents (Fry et al., 2020). Despite the excitement of this phase of emerging adulthood, it is often accompanied by significant stress, mental health deterioration, and instability (Arnett et al., 2014; Pilar Matud et al., 2020). A notable study by Fruehwirth et al. (2023) involving 885 first-year students at a large public university in North Carolina highlighted concerning trends: 19% of the students reported symptoms of eating disorders, 42% suffered from insufficient sleep, and 43% engaged in insufficient vigorous physical activity.

Certain populations, such as first-generation students, sexual minorities, and women, may face heightened mental health challenges during this transition (Kroshus et al., 2021). Adolescent and young adult women, whether transitioning to college or not, already tend to

experience more mental health issues than their male counterparts (e.g., Paula da Silva Ramos et al., 2023). Over the past decade, the percentage of U.S. girls who report feeling persistently sad or hopeless has increased by over 60% (Centers for Disease Control and Prevention, 2023). The median onset age for mental health disorders, across 156,000 people and 29 countries, is 20 years old for women (McGrath et al., 2023), which is when many U.S. American women are attending college. Thus, understanding and addressing the specific mental health needs of emerging adults, particularly vulnerable populations, is crucial as they navigate this pivotal stage of life.

Given the percentage of college-aged emerging adult women who experience mental health challenges, it is essential to consider how their most proximal relationships can help or hurt this transition. There is ample evidence that the family often serves as an important source of support during the transition from high school to college and that talking about one's experience may be beneficial. For instance, Kahn (2019) found that among a sample of first-year students during their first two weeks of college, the relationship between their transition-related stress and perceived depression was strongest when attachment anxiety was high, when students did not talk about their problems, and when family support was low. This is important to consider, given that during the transition to college, emotional suppression, or inhibiting the overt expression of emotion, is especially harmful (Srivastava et al., 2009; Vally & Ashmet, 2020). Srivastava et al. (2009) found that emotion suppression predicted lower social support, less closeness to others, and lower social satisfaction among emerging adults transitioning to college. Thus, fostering open communication and family support is crucial for mitigating mental health challenges and enhancing the well-being of college-aged women during critical transitional periods.

In essence, talking about one's problems and seeking support from family members may help these emerging adult women better embark on adulthood. Sy et al. (2011) found that first-generation students who perceived more significant levels of emotional support from their parents reported less stress than those receiving less support. Especially after a significant life transition, these individuals must be able to communicate their experiences (and emotions) to their relational partners. Therefore, attention is turned toward an exceptionally close family relationship between a daughter and her mother. At the same time, research also shows that disclosing should not be equated with healthy relationships. In fact, disclosing too much information, especially if it involves ruminating about negative and depressive information, can be harmful (Rose, 2021). A primary goal of this study is to better understand the effects of disclosure and rumination in the mother-daughter relationship, which is a relationship that already tends to be very close and that experiences a significant transition when the daughter leaves the home, and the role of technology in those communication processes.

Motherhood and Mother-Daughter Relationships

In traditional family systems in the United States, the relationship between a mother and her daughter is often the closest and most open, as highlighted in numerous studies (Buhrmester & Prager, 1995; Finkenauer et al., 2004; Yamagata et al., 2016). Motherhood, however, like emerging adulthood, is frequently accompanied by heightened levels of anxiety and depression (Stambaugh et al., 2017; Weinberger et al., 2018). Women, serving as the primary "kin keepers" within the family, face an increased burden in managing household and child-rearing tasks, often surpassing the workload of their male counterparts (Aggeli et al., 2022; Lee et al., 1990). This expectation extends to their roles as primary caregivers,

where even those with careers outside the home are expected to prioritize their children's emotional, social, cognitive, and physical development—a concept known as intensive mothering (Lamar et al., 2019; Vincent et al., 2004). The disproportionate expectations placed on mothers likely contribute to their significantly higher rates of moderate to severe anxiety compared to fathers (Haley et al., 2023). The challenges of the pandemic further exacerbated mothers' mental health challenges and increased their domestic labor (Patrick et al., 2020; Wade et al., 2021). Given the pivotal role that women play in ensuring family and relationship cohesion and socialization, whether in college or beyond (Fingerman et al., 2020; Kranichfeld, 1987), it is vital to address the ongoing mental health crisis among young adult women and their mothers.

Mothers often serve as a primary source of social support for their young adult daughters, which is crucial for the quality of life (e.g., Seyed Nematollah Roshan et al., 2020) and the daughter's future relationships (e.g., Bengston & Silverstein, 2018). Given the mental health challenges experienced by both young adult women and their mothers, it is important to note that a great deal of interdependence characterizes these relationships in that what affects one often affects the other (e.g., Arroyo et al., 2020; Colaner & Rittenour, 2015). There is nearly a century of research demonstrating that parents play a significant role in their child's socialization (e.g., Freud, 1933) and paired with the hierarchical nature of families (Cox & Paley, 1997), influence tends to be intergenerational (e.g., Arroyo et al., 2017; Bengston & Silverstein, 2018). Due to the emotional attachment between an observer (daughter) and model (mother), the enactment of modeled behaviors and beliefs (Bandura, 1986) likely means that mothers are incredibly influential in their daughter's socialization, health, and well-being (e.g., Goslin & Koons-Beauchamp, 2023). For instance, Fithriyah et

al. (2020) found that higher connectedness and interdependency between mothers and daughters, at least among Indonesian women, correlates to higher self-esteem among daughters. Additionally, prior research suggests that parents play a role in the transmission of relationship quality to young children (e.g., Donley & Likins, 2010), emerging adult children (e.g., Goldberg et al., 2019), and even their adult children (e.g., Hou et al., 2023), across a wide variety of relationship types. Therefore, the closeness between a mother and her daughter potentially has life-long implications for the daughter's future relationships.

Research indicates that positive communication between mothers and daughters can significantly mitigate the impact of mental health issues for both mothers and daughters. Manczak et al. (2018) found, for instance, that among African-American mothers who suffer from depressive symptoms but engage in high-quality communication with their daughters, their daughters are more likely to be buffered from the risk of those depressive symptoms. This relationship, mainly when characterized by positive maternal affective behavior (i.e., supportive/validating behavior, communication skills, autonomy-promoting behavior, and positive affect) and positive dyadic affective behaviors (i.e., satisfaction and positive escalation), has even been associated with decreases in young girls' borderline personality disorder (BPD) severity scores over time (Whalen et al., 2014). These studies illustrate how mothers can positively influence their daughter's mental health via validating communication.

While mothers providing social support and confirming communication to their daughters has been well-documented (e.g., Hutchinson et al., 2003; Luepker et al., 1996), the past two decades of research have started to present a more reciprocal picture of the mother-daughter relationship, acknowledging that adolescent women can be instrumental in

providing their mother support as well (e.g., Aronowitz et al., 2012; Pinquart & Silberstein, 2004). This is especially important to consider, given that girls tend to show more interpersonal and relational concern for their mothers than boys. For instance, Butler and Shalit-Nagger (2008) found that mother-daughter narratives described mutual concerned responsiveness. In contrast, many mother-son narratives described a non-reciprocal pattern of maternal mutual concerned responsiveness, where the mother expressed concern for the son but not vice versa. To further illustrate the reciprocal nature of mother-daughter relationships, Martini & Busseri (2010) found that daughters' proactive emotion regulation strategies predicted lower negative affect for their mothers. These insights underscore the importance of recognizing and nurturing the mutual support dynamics within mother-daughter relationships, which can significantly enhance emotional well-being for both parties.

This interdependence, however, especially considering the propensity for women to suffer from mental health challenges, may not always produce positive outcomes. Although these relationships can serve as an important source of social support (e.g., Scelza, 2011), communal coping (e.g., Fisher et al., 2022), and confirmation (i.e., validation; e.g., Dailey, 2009), they can also become enmeshed and negatively affect one's mental health (e.g., Jacobvitz & Bush, 1996). For instance, in a study of recently divorced mothers and their daughters, Koerner et al. (2002) found that mother-to-daughter disclosures relating to financial concerns, negativity toward their ex-husband, job ups and downs, and personal concerns were significantly associated with the daughter experiencing more physiological stress. As such, it is essential to consider the challenges that both mothers and their young adult daughters face and how their interdependent relationship may foster a close relationship and feelings of validation but simultaneously increase their anxiety.

Relationship Maintenance

The ways in which a mother and a daughter maintain their relationship play a crucial role in how well they fare socially and emotionally. Relationship maintenance is the set of nonverbal and verbal behaviors and actions exhibited by relational partners to keep the relationship either (a) in existence, (b) in a specified state or condition, (c) in a satisfactory condition, or (d) in repair (Afifi et al., 2021; Dew & Jackson, 2018; Dindia & Canary, 1993; Stafford & Canary, 1991). Mendez Murillo et al. (2023) argue that families communicatively construct the "ongoingness" of their relationships, even in light of geographical separation (see also Merolla, 2012). Although not all maintenance behaviors are positive, those that help build emotional reserves protect the individuals and the relationship against adversity, promoting resilience (Afifi et al., 2020; Afifi et al., 2016).

According to the theory of resilience and relational load (TRRL; Afifi et al., 2016), the enactment of positive maintenance behaviors on an ongoing basis can prevent relational load (i.e., the wear and tear that chronic stress and conflict have on one's personal and relational health) and foster resilience and possible thriving (see also Canary et al., 2002). Prolonged, positive relationship maintenance can also preserve, repair, and even enhance relationships while building emotional capital (Feeney & Lamay, 2012), preventing stress, and helping partners manage it when it occurs (Afifi et al., 2016). Given the stress that college-aged daughters and their mothers face, this transitional period highlights the importance of their relationship maintenance (Myers & Glover, 2007). Specifically for emerging adults, Burke et al. (2016) found that their communication with their parents was a salient factor in their well-being as they moved away from home to college. Students' daily communication (openness and assurances) with one of their parents moderated the

association between their daily stress and daily loneliness, highlighting the importance of maintenance enacted through disclosure.

Geographical distance, while introducing opportunities for the improvement of the mother-daughter relationship, also presents significant challenges. It can act as a stressor, promoting attachment threat, relational uncertainty, and psychological distress (Cameron & Ross, 2007; Guldner, 1996). For instance, Pisotole et al. (2010) demonstrated how relational maintenance in long-distance relationships can influence perceived stress levels. Recent studies have also explored how geographical distance serves as a stressor in contexts like caregiving (Li et al., 2019; Starr et al., 2023) and families of refugees (Löbel, 2020; Mendez Murillo et al., 2023). However, when family members and partners engage in positive maintenance behaviors, they are better equipped to communicate effectively during stressful times. This communication, in turn, may help reduce feelings of anxiety, fostering a sense of closeness and confirmation within the relationship.

Self-Disclosure

Maintaining relationships effectively involve many communicative strategies, among which self-disclosure is particularly notable. Defined as the act of revealing personal information to another (Derlega et al., 1993; Jourard & Lasakow, 1958), self-disclosure plays a crucial role in building and maintaining close relationships. Research indicates that self-disclosure significantly impacts interpersonal attraction in digital (Jiang et al., 2011; Ruppel et al., 2017) and face-to-face settings (Sprecher et al., 2012). The maintenance behavior also fosters closeness, intimacy, and likability within relationships (Collins & Miller, 1994; Forest et al., 2023; Sprecher & Hendrick, 2004).

As previously stated, mothers and daughters tend to be the most disclosive partners within a family system (Finkenauer et al., 2004), although the optimal levels of self-disclosure between a mother and daughter are not yet fully understood. Some research suggests that low-disclosure relationships between a mother and her child are considered harmful and even maladaptive (e.g., Reidler & Swenson, 2012). In a latent profile analysis of 449 emerging adults (65% of whom were college students), large groups of emerging adults reported engaging in moderate levels of routine disclosure to both mothers (79%) and fathers (36%). Notably, these young adults disclosed to their mothers at a rate more than double that of disclosure to their fathers (Son & Padilla-Walker, 2021).

As children and parents transition from living together to living apart, self-disclosure about one's daily life via mediated channels likely becomes a primary means to maintain their relationship while geographically separated, instead of through FtF communication. Like FtF self-disclosure, online self-disclosure presents mixed effects and has limitations. Altman and Taylor's social penetration theory (1973), which distinguishes between the breadth (range of topics) and depth (intimacy level) of self-disclosure, provides a foundational framework for understanding these dynamics (see Collins and Miller, 1994, for a review of depth versus breadth). For example, Baruh and Cemalcilar (2018) discovered that online self-disclosure involving a greater breadth of information was generally correlated with higher interpersonal attraction ratings, while greater disclosure depth online was associated with lower attraction ratings. It may be that too much self-disclosure is associated with more negative relational attributes. Their methodology, though, was limited as participants only viewed manipulated social media profiles and did not engage in direct human-to-human interaction, potentially affecting the generalizability of these findings.

Much of the research regarding self-disclosure, particularly in mediated contexts, also focuses on interactions between unacquainted strangers (e.g., Joinson, 2001; Schouten et al., 2009; Tidwell & Walther, 2002). This raises questions about the applicability of these findings to long-standing relationships, particularly long-distance relationships, such as between mothers and their emerging adult daughters. This gap underscores the necessity for further research into how online self-disclosure impacts established relational dynamics, where existing emotional connections might influence disclosure outcomes differently than in interactions among strangers.

Taken out of the context of mother-daughter relationships, when considering self-disclosure committed via social media, Luo and Hancock (2020) suggest that self-disclosure fulfills the particular needs of individuals with different well-being characteristics, highlighting differential effects. For instance, on the one hand, exceeding optimal levels of self-disclosure can predict adverse outcomes, particularly when it surpasses what is normatively expected. This has long been true of FtF self-disclosure as well. For instance, Cozby (1972) discovered a curvilinear relationship where moderate self-disclosure depth was most favorable, while extremes were less well-received. Rubin (1975) further noted that while deep self-disclosures could be perceived as threatening, overly superficial disclosures might be seen as avoidance or withdrawal tactics. These foundational findings highlight a preference for a balanced degree of intimacy in self-disclosure, suggesting that too much or too little self-disclosure can strain relationships, potentially elevating anxiety and stress levels while positively contributing to feelings of intimacy or closeness.

On the other hand, a recent meta-analysis of self-disclosure via social media found that even though the quality of the self-disclosure (intent, valence, and honesty) was

moderately and positively associated with psychological well-being, the quantity of self-disclosure was not (Chu et al., 2022). This suggests that, in some cases, it might be about what is being disclosed instead of how much. Therefore, more research is needed to understand the optimal quantity and quality of self-disclosure across various channels between mothers and daughters and the type of communication that occurs while disclosing (i.e., co-rumination or talking excessively about problems; Rose & Rudolph, 2006).

It is also important to note that the impact of self-disclosure extends beyond individual effects, influencing the entire relationship, and is closely linked to the nature of communication between partners. Supportive communication, a pivotal aspect of relational maintenance, is essential for fostering positive outcomes in close relationships (Holmstrom et al., 2021; MacGeorge et al., 2011) and plays a critical role in creating an environment of confirmation and validation (Dailey, 2023). Self-disclosure may provide an opportunity to facilitate supportive communication, given that it has been associated with healthy relational outcomes (e.g., Sprecher & Hendrick, 2005). Specifically, in mother-daughter relationships, the pattern of self-disclosure when discussing challenges or stressors may prompt feelings of validation if mothers and daughters feel supported after disclosing the information. Thus, self-disclosure may strengthen the relationship and reinforce the emotional support necessary when managing stressful situations. While self-disclosure sets the stage for intimate and supportive exchanges, the negative and repetitive nature of these disclosures can significantly alter their impact. Attention is now turned toward the concept of co-rumination.

Co-rumination

Rose first articulated the concept of co-rumination in the early 2000s, defining it as the phenomenon where close friends or relatives, especially adolescents, engage in extensive

discussions about personal problems, often dwelling on negative emotions and experiences (Rose, 2002). Initially, Rose identified co-rumination as a double-edged sword—it deepened emotional bonds and intimacy but also risked heightening feelings of anxiety and depression among those involved. Over time, research on co-rumination has broadened to encompass various relational contexts, including parent-child interactions and digital communication (e.g., Battaglini et al., 2021). This expansion reflects a shift toward understanding the nuances of how co-rumination manifests across different media and relationships. The adaptability of co-rumination theorizing in response to evolving communication landscapes highlights its relevance and potential for informing contemporary psychological strategies. This progression from its original conceptualization to exploring its implications in digital spaces is particularly noteworthy.

As researchers' understanding of co-rumination has expanded, so has the investigation into its implications across diverse contexts and relationships. This broader inquiry aligns with current trends in communication technology, recognizing the role of digital platforms in facilitating or exacerbating emotional exchanges between individuals. For instance, Van Zalk and Tillfors (2017) found that among teenage girls, co-rumination with online friends had a positive influence on interpersonal relationships, as it buffered the link between social anxiety and depressive symptoms for adolescents with high levels of social anxiety. It is important to note, though, that there is still limited research on the effects of co-rumination in the digital space, which this dissertation helps to shed light on.

Rose (2021) keenly observed that while co-rumination is often positively related to well-being, it could become problematic if taken to an extreme. According to Rose and Rudolph (2006), self-disclosure can lead to supportive communication, which can sometimes

act as a double-edged sword through the process of co-rumination. Co-rumination involves partners excessively discussing their problems, such as repeatedly discussing the same issues, speculating about potential problems, and focusing on negative feelings and possible negative future events (Seyed Nematollah Roshan et al., 2020). Like self-disclosure, some levels of co-rumination can positively benefit a relationship and are shared among mothers and their children (Wallter & Rose, 2014). For instance, co-rumination is related to having cohesive, intimate relationships (e.g., Felton et al., 2019; Rose et al., 2007). For already anxious teenage girls, co-rumination has been shown to buffer the effect of social anxiety on depressive symptoms over time.

Building upon the existing literature on the effects of co-rumination, it is evident that while it can strengthen interpersonal relationships through shared emotional expressions, it can also result in adjustment trade-offs. These trade-offs, as highlighted by Rose et al. (2007) and Tudder et al. (2023), indicate that while co-rumination contributes positively to social adjustments, it can simultaneously cause problematic emotional adjustments. For example, Ames-Sikora et al. (2017) and Calmes & Roberts (2008) have shown that co-rumination between same-sex friends is associated positively with friendship quality but is also associated with higher rates of depression. Furthermore, Rose et al. (2007) demonstrated that co-rumination is positively associated with relationship quality while concurrently being linked with increased depression and anxiety symptoms and poorer physical health outcomes, such as disordered eating practices.

Recent research by Tudder and colleagues (2023) underscores the importance of examining co-rumination's gender-specific effects. It shows that in laboratory-induced co-rumination scenarios, female participants exhibited greater physiological responses to

psychological threats compared to males. This emphasizes the need to consider co-rumination in the context of female relationships, such as those between mothers and daughters. Moreover, Rose (2002) found that girls engage in co-rumination more frequently than boys, largely due to socialization processes that encourage emotional sharing and relational maintenance through in-depth discussion. Girls are often socialized to value and engage in these extensive, emotionally-charged conversations, which can simultaneously strengthen their friendships and heighten emotional distress. Studies by Hankin et al. (2010) and Stone et al. (2011) also support this finding, showing that while boys do engage in co-rumination, it is less frequent and often less intense than that observed among girls. This gender disparity underscores the importance of focusing research on girls and women, as they are more likely to experience the nuanced effects of co-rumination, both positive and negative. Therefore, examining co-rumination in female relationships, especially between mothers and daughters, is crucial for understanding its full impact on emotional and relational well-being.

The communicative behaviors of mothers and daughters, such as self-disclosure and co-rumination, not only forge unique relational climates but also influence how each of them feels validated and confirmed. According to Dailey (2023), a confirming climate—rooted in confirmation theory by Ellis (2002)—is characterized by communicative messages that accept and validate the individual, fostering a sense of warmth, responsiveness, and care that encourages further communication. Linked initially to parental confirmation, a form of what MacGeorge et al. (2011) describe as emotional support, this concept is crucial in understanding how self-disclosure and co-rumination might be used to foster feelings of

validation in mother-daughter relationships to help maintain their strong bonds when they become geographically separated.

The dynamics of self-disclosure and co-rumination between mothers and daughters are complex. High levels of self-disclosure likely predict greater closeness and feelings of confirmation or validation. At the same time, these behaviors can also contribute to increased anxiety, particularly when mothers extensively ruminate about negative thoughts and problems with their daughters (Koerner et al., 2002). When combined with high levels of self-disclosure, co-rumination may amplify the closeness within the mother-daughter dyad but also predict heightened internalizing symptoms (Miller-Slough & Dunsmore, 2021; Waller & Rose, 2010), significantly affecting the child. This manuscript further explores these dynamics by examining how levels of self-disclosure and co-rumination between a mother and daughter influence their feelings of confirmation, anxiety, and closeness following interactions about their stress.

This understanding is crucial as it informs how communicative behaviors can influence relational dynamics within mother-daughter dyads. At high levels of co-rumination, self-disclosure between the mother and daughter might further amplify feelings of closeness and confirmation, yet they also pose risks of increased anxiety and internalizing symptoms for the child. This manuscript aims to delve deeper into these dynamics by exploring how these communicative behaviors, particularly through the child's perception of their co-rumination with the parent, impact the confirmation and emotional health following stress-related interactions. Given these considerations, the next section of this dissertation will present a series of hypotheses focusing on the effects of self-disclosure and co-rumination on relational well-being (i.e., closeness and confirmation) and anxiety. These hypotheses will

pave the way for a discussion on maintaining relationships over long distances during the second analysis phase, providing a broader context for understanding the implications of these communicative behaviors across different relational settings.

Hypothesized Models and Hypotheses

Models will be tested for the current analysis (see Figure 1 for a condensed visualization of the models). The outcomes of closeness, confirmation, and anxiety will be tested in separate models due to the number of parameters to be estimated and the relatively small sample size, which can limit the power to find statistically significant differences and the ability to fit the models properly. Separate models will also be run for each communication channel to investigate whether self-disclosure across different channels reveals varying effects. Additionally, due to sample size constraints and recommendations made by Garcia et al. (2014), I am only using the daughter's perceptions of co-rumination with her mother as the moderating variable, as opposed to including two moderators (which would increase the interaction terms from four to eight, thereby reducing power). Given that the central concern is the child's perceptions and well-being, this decision also made sense theoretically. These analyses will also use manifest composite variables following confirmatory factor analyses (CFAs) to further preserve power, per Ledermann et al. (2022).

As shown in Figure 1, daughters' and mothers' perceptions of self-disclosure should be positively associated with their and the other's perceptions of closeness, confirmation, and anxiety following a conversation about relational stressors and their technology use. These associations should be magnified when daughters perceive greater amounts of co-rumination over the past month. Additionally, because of the interdependent nature of close relationships, such as that between a mother and a daughter, it is hypothesized that their

predictor variables (self-disclosure via various channels) should be correlated to one another, as well as their outcome variables (i.e., closeness, confirmation, anxiety). These relationships (H1-H7b as laid out below) will be tested using the APIM to capture the simplest paths first (e.g., Mosley & Parker, 2023). Then, the moderating effect of the daughter's co-rumination will be examined utilizing the APIMoM. Co-rumination should serve to intensify the effects on relational health and anxiety. The specific hypotheses in the models are provided below.

Given the prior research on these unique family relationships and their interdependence with each other, it is hypothesized that:

H1: Daughters' and mothers' self-disclosure over the last month will be positively associated with one another.

H2: Daughters' and mothers' relational well-being outcomes (i.e., closeness, confirmation) will be positively associated with one another.

H3: Daughters' and mothers' anxiety will be positively associated with one another.

Previous research also demonstrates that behavior from one individual can affect their relational partner. As such, the following actor-partner hypotheses are forwarded:

H4a: Daughters' perceptions of their own self-disclosure (to their mother) over the last month will be positively associated with their own perceptions of relational well-being (i.e., closeness and confirmation) following an interaction.

H4b: Daughters' perceptions of their own self-disclosure (to their mother) over the last month will be positively associated with their mother's perceptions of relational well-being (i.e., closeness and confirmation) following an interaction.

H5a: Mothers' perceptions of their own self-disclosure (to their daughter) over the last month will be positively associated with their own perceptions of relational well-being (i.e., closeness and confirmation) following an interaction.

H5b: Mothers' perceptions of their own self-disclosure (to their daughter) over the last month will be positively associated with their daughter's perceptions of their relational well-being (i.e., closeness and confirmation) following an interaction.

H6a: Daughters' perceptions of their own self-disclosure (to their mother) over the last month will be positively associated with their own anxiety following an interaction.

H6b: Daughters' perceptions of their own self-disclosure (to their mother) over the last month will be positively associated with their mother's anxiety following an interaction.

H7a: Mothers' perceptions of their own self-disclosure (to their daughter) over the last month will be positively associated with their own anxiety following an interaction.

H7b: Mothers' perceptions of their own self-disclosure (to their daughter) over the last month will be positively associated with their daughter's anxiety following an interaction.

Finally, the degree to which the daughters' perception of co-rumination moderates the association between the mothers' and daughters' self-disclosure and their relational well-being outcomes and anxiety is examined:

H8: Daughters' perception of co-rumination with their mother over the past month will moderate the actor effects of the association between self-disclosure over the last month and relational well-being (i.e., closeness, confirmation) after the interaction.

H9: Daughters' perception of co-rumination with their mother over the past month will moderate the partner effects of the association between self-disclosure over the last month and relational well-being (i.e., closeness, confirmation) after the interaction.

H10: Daughters' perception of co-rumination with their mother over the past month will moderate the actor effects of the association between self-disclosure over the last month and anxiety after the interaction.

H11: Daughters' perception of co-rumination with their mother over the past month will moderate the partner effects of the association between self-disclosure over the last month and anxiety after the interaction.

Methods

Participants

One hundred seventy-five mothers (ages 37-66; $M = 52$) and one of their daughters (ages 18-25; $M = 20$) currently enrolled at a large U.S. Western university participated in this study (total $N = 350$). Of the 239 daughters that expressed interest in the study, 175 dyads were recruited and completed the study (three additional dyads dropped out after partially completing the study and were compensated accordingly). A total of 17 dyads were eliminated from the sample due to significant missing data from one or both dyad members or participant error (such as using an incorrect participant ID). One dyad asked that their data be removed from the analysis. The final sample included 157 mother-daughter dyads. For the

present analyses, however, an additional 31 dyads were removed, resulting in a sample of 126 dyads (to be discussed in the multimedia frequency variable section). Demographic information will be provided on these 126 dyads only, given their representation in the hypothesized models.

Present Sample

Of the 126 dyads, the daughters were aged 18 to 25 years old (M age = 20.1; SD = 1.44) and the mothers ranged in age from 35-66 (M age = 52.33; SD = 5.84). Among the daughters, 55.6% (n = 70) held at least part-time employment, working between two and 40 hours per week (M = 7.78, SD = 7.51). The majority of the mothers (84.9%; n = 107) reported holding at least part-time employment, working between 10 and 60 hours per week (M hours = 33.41, SD = 15.17).

Each dyad member was invited to select several ethnicities. Among daughters, 68.3% (n = 86) identified as white; 20.6% identified as Hispanic (n = 26); 16.7% as Asian (n = 21); 12.7% as Mixed/Bi-racial (n = 16), 2.5% as American Indian/Alaskan Native (n = 3); 4% as Black (n = 5). Finally, one daughter identified as Arab (.8%) and two daughters indicated that their ethnicity was not listed (1.6%). These patterns were similar for mothers. A little less than three-fourths of mothers identified as being White (n = 85, 67.5%). Additionally, 16.7% of mothers identified as being Asian (n = 21); 14.3% as Hispanic (n = 18); 3.2% as Black (n = 4), and 3.2% as Mixed (n = 4). One mother identified as being American Indian/Alaskan native (.8%) and a final three mothers indicated that their ethnicity was not listed (2.4%).

Regarding sexual orientation, the daughters represented more of the spectrum than mothers. That is, 96% (n = 121) of mothers indicated being heterosexual, 3.2% (n = 4) as Asexual, and one mother indicated their sexual orientation was not listed (.8%). In contrast,

72.2% of daughters reported identified as heterosexual ($n = 91$), while an additional 19% of daughters identified as Bisexual ($n = 24$). Three daughters (2.4%) identified as being Gay/Lesbian, one as Asexual (.8%), one as pansexual (.8%), and the final six daughters indicated that their sexual orientation was not listed (4.8%).

Procedure

Recruitment

After receiving approval from the University of California Santa Barbara's Institutional Review Board (protocol number: 45-23-0007), daughters were recruited via emails, flyers, in-class announcements, and the Department of Communication SONA research pool. All eligible daughters were sent information about the study to share with their mothers and the links to schedule their 40-minute Zoom and 10-minute hair collection sessions to test for hair cortisol (to be discussed in another manuscript). The mothers and daughters were informed that they both would need to spend approximately 30 minutes completing a survey on the day prior to the Zoom session and another survey immediately following the Zoom session.

To participate, the daughter was required to be aged 18 years or older, currently enrolled at the university, and no longer living at home during the academic year. Both daughter and mother were required to speak fluent English. The study consisted of up to four components: (1) a baseline survey to be completed by 5 pm the day before the Zoom session, (2) a Zoom session of up to 40 minutes (involving one 20-minute discussion task and one 10-minute discussion task), (3) a post-conversation survey that was completed immediately following the Zoom session, and (4) a 10-minute hair collection session in the Department of Communication laboratory for daughters who were in their first 12 months of living away

from their mother (for analysis in a different manuscript). For each component that was completed, daughters received \$25. Mothers did not receive compensation, but were sent a thank you for their time. Dyads were given a unique family code (e.g., 8MD), in which the daughters attached a D to the end of their code (e.g., 8D) and the mothers an M (e.g., 8M) so that their responses could be distinguished from one another.

Baseline Survey

At 7 am on the day before the scheduled Zoom sessions, both mothers and daughters were emailed links to a consent form and an initial survey, administered via Qualtrics. After reading the consent document and indicating that they would like to proceed with the study, participants were asked several demographic items, followed by measures important to the larger project (not discussed here), co-rumination, and several items to be measured again on the next day, immediately following the Zoom interaction (e.g., anxiety, closeness, confirmation).

Zoom Conversation

As long as both members of the dyad completed their initial survey, on the next day, they joined a trained undergraduate research assistant (RA) for a Zoom session. After introductions, the RA asked both the mother and daughter to identify things that the other person did or aspects of the relationship that created stress and spend up to 20 minutes discussing those topics. The RA recorded the conversation, but turned off their camera from the view of the participants to allow for a sense of privacy. The RA also asked the mother and daughter to stay in the frame of the camera from the waist up and to keep their cameras on at all times. Even though their camera was turned off, the RA was monitoring the dyad visually and if either of them had exited the frame or turned off the camera, the RA politely

asked them to return or to turn their camera back on. After 20 minutes elapsed, the RA re-entered the room and asked the dyad to spend a final 10 minutes discussing how they use technology to stay in touch with each other and how that has changed since the daughter moved away to college. If they finished the conversations early, they were instructed to text the RA, who would re-enter the room and help them complete the study. Then, the RA thanked them for participating and verified that they had each received the follow-up survey. They were then instructed to take the post-conversation survey at that time. Although not relevant to the current study, see Table 1 for a list of stressful topics discussed by mothers and daughters in the first 20 minutes of the 30-minute conversation.

Post-Conversation Survey

During the Zoom session, each dyad member was emailed a unique link to the post-conversation survey wherein they were asked to complete several additional measures used in the present study (i.e., media usage and mediated self-disclosure, perceptions of confirmation, anxiety, and closeness) in addition to other measures related to the larger project.

Compensation

Following the hair samples (collected for another manuscript), the daughters were compensated \$25 per component (\$100 if all four components were completed). Several daughters ($n = 6$) opted to earn research credits to be applied to one of their communication classes via SONA instead of financial compensation.

Measures

Multimedia Frequency

Adapted from Haythornthwaite (2001) and Taylor and Bazarova (2018), the measure of multimedia frequency accounts for both the number of media and total communication across media (i.e., face-to-face, voice telephone, mobile text or instant messaging, email, public social networking sites [e.g., Facebook, Twitter, Instagram], video chat, Snapchat, and other forms of online communication [e.g., gaming]) at the same time. Participants indicated their frequency of use over the past month for each of the eight media listed above, on a 7-point Likert scale (0 = never; 6 = daily). This variable was used to determine which media to focus on regarding the dyad's self-disclosure. If participants indicated having never used a medium or channel in the last month, they did not answer the associated self-disclosure subscale (see below).

After analyzing the frequency results (see Table 2), a subsample of the original sample of dyads was formed ($n = 126$), which includes dyads that reported using video chat, phone call, and text message to communicate with each other at least once during the last month. Email, public social networking sites, Snapchat, and other forms of online communication were removed from analysis given the infrequency in which mother-daughter dyads used these forms to maintain their relationship within the last month.

Variables in the Hypothesized Models

Confirmatory factor analyses (CFAs) were conducted on all variables used in the present analyses. Indicators of acceptable model fit included comparative fit index (CFI) and Tucker-Lewis Index (TLI) values at or above .90, root mean square error of approximation (RMSEA) below .08, and standardized root mean square residual (SRMR) below .05 (Kline, 2016). The CFA results for the predictor variables (i.e., mediated self-disclosure [i.e., the sum of video, telephone, and text message self-disclosure] video chat self-disclosure,

telephone call self-disclosure, text message self-disclosure, FtF self-disclosure), moderator (i.e., daughter's co-rumination), and the outcome variables (i.e., closeness, confirmation, anxiety) are provided in Table 3.

Multimedia Disclosure. Taylor and Bazarova (2018) extended Valkenburg and Peter's (2009) measure of instant message self-disclosure as a means to operationalize the frequency of self-disclosure across the media (described above) that participants use to communicate with their partner. During the post-conversation survey, mothers and daughters were asked four items for each of the media they used with each other in the previous month (e.g., "When you were using video chat to communicate with your mother/daughter in the past week, how much did you tell about ... your personal feelings?") measured on a 5-point scale (1 = I tell nothing about this; 5 = I tell everything about this). For the present study, only voice telephone ($\omega = .85$ for daughters; $\omega = .87$ for mothers), mobile text or instant messaging ($\omega = .88$ for daughters; $\omega = .86$ for mothers), and video chat ($\omega = .88$ for daughters; $\omega = .90$ for mothers) were used in the analyses. In the first phase of analysis, the predictor variable is operationalized as the average of their reported self-disclosure via the three channels. In the second phase of analysis, the predictor variable is operationalized as the average of their reported self-disclosure via a given channel (resulting in 3 predictor variables, each to be tested in separate models). CFAs was run on the average mediated self-disclosure variable, as well as each of the three forms of media, each indicating excellent fit. Items in each scale were averaged together to create a total of four composite variables (i.e., video chat self-disclosure, telephone call self-disclosure, text message self-disclosure, and overall self-disclosure).

Co-rumination. Nine items were adapted from Rose's (2002) co-rumination questionnaire to measure the daughters' perspectives at baseline of how much they and their mothers typically verbally ruminated during interactions with each other over the past month (e.g., "We spend most of our time together talking about problems that my mother or I have"; "When one of us has a problem, we talk to each other about it for a long time"; "We talk a lot about parts of the problem that don't make sense to us"). Items were measured on a 1 to 5 Likert-type scale (1 = Not at all true; 5 = Really true). The scale demonstrated excellent reliability ($\omega = .93$) and the CFA demonstrated excellent fit. Therefore, the items were averaged to create one score, with larger numbers indicating greater co-rumination, in general, in the month leading up to the Zoom conversation.

Perceived State Anxiety. Daughters' and mothers' state anxiety was measured in the post-conversation survey using Spielberger et al.'s (1983) state anxiety scale on a 4-point Likert-type scale (1 = Not at all; 4 = Very much so). The scale consisted of 4 items, measuring the extent to which participants felt upset, frightened, nervous, and confused (e.g., "I feel upset"). The scale demonstrated acceptable reliability (Daughters: $\omega = .76$, Mothers: $\omega = .78$). The CFA revealed an excellent fit to the data. Consequently, the four items were averaged to create a composite score, with larger numbers indicating greater anxiety.

Perceived Closeness. Daughters' and mothers' closeness with one another was assessed in the post-conversation survey using a modified version of Buchanan and colleagues (1991) closeness scale. Four items (e.g., "How interested is your mother/daughter when you talk to each other?"; "How often does your mother express affection towards you?"; "How close do you feel to your mother?") were measured on a Likert-type scale (1 = Not at all; 7 = Very). The scale demonstrated very good reliability (Daughter: $\omega = .84$,

Mother: $\omega = .83$) and excellent fit for the CFA. Items were averaged together to create a composite score, with greater numbers indicating greater closeness.

Confirmation. Mothers' and daughters' reports of confirming communication during the Zoom conversation were measured using an adapted version of Ellis's (2002) parent confirmation behavior indicator in the post-conversation survey. Daughters were asked about their mother's confirmation (e.g., "My mother genuinely listened to me", "My mother gave appropriate facial responses such as smiling, nodding, or other indicators that she is paying attention during our conversation"); mothers were asked about their daughter's confirmation (e.g., "My daughter genuinely listened to me..."; "My daughter gave appropriate..."). The scale consisted of 4 Likert-type items assessing the extent to which participants felt their partner confirmed or validated them, measured on a 1 (strongly disagree) to 5 (strongly agree) scale. For the present study, the scale indicated good reliability for daughters ($\omega = .83$) and acceptable reliability for mothers ($\omega = .72$). The CFA results showed excellent fit. As a result, the items were averaged to create one score, with greater scores indicating greater confirmation.

Phase One Results

Preliminary Analysis and Testing H1-H3

To conduct the preliminary quantitative analysis, SPSSv29 and SPSS AMOS were used. A small amount of missing data (less than 1%) was imputed using the expectation-maximization (EM) algorithm in SPSS. In accordance with Little's (2013) MCAR test, the data were missing completely at random and did not violate the assumptions of missing data imputation (Baraldi & Enders, 2010). See Tables 4 and 5 for descriptive statistics and correlations between daughters' variables and mothers' variables, respectively. Daughters

had relatively high perceptions of self-disclosure to their mothers, while mothers had lower perceptions of how much they disclosed to their daughters. Daughters reported moderate levels of co-rumination over the past month with their mother. Daughters and mothers also had relatively high perceptions of closeness, confirmation, and low perceptions of anxiety, on average. Attention is now turned toward the dyadic nature of the data.

Preparing the Dyadic Data

Kenny et al. (2006) argues that one defining feature of dyadic data is that it challenges the assumption of independence; partners inevitably impact each other. That is, partners' scores on independent and dependent variables (particularly dependent variables) should be associated with one another because the partners are in a relationship. Therefore, it is crucial to test for interdependence using bivariate correlations between the partners' scores before running more complex analyses. As such, the data were prepared by placing dyadic partners' scores on the same row as the actors' scores, labeling identifying data as daughter's variables and mother's variables. This allows for treating the dyad as the level of analysis and examining both actor effects and partner effects (Kenny et al., 2006). Significant correlations between members' scores on outcome variables indicate nonindependence per Kenny et al. (2006). Given that mothers' and daughters' outcomes were significantly correlated, it is appropriate to analyze daughter-mother dyads as the unit of analysis.

The correlations in Table 4 show that all of the daughter's variables positively correlated with each other, except for anxiety. In addition, Table 5 shows that all of the mother's predictor variables (mediated self-disclosure; self-disclosure via video chat, and call) were correlated with one another. Among the mother's outcomes, closeness and confirmation were positively correlated with each other. Different from the daughters,

however, mothers' reports of closeness and confirmation were inversely and significantly correlated with their own anxiety. The associations between other types of self-disclosure and these outcomes were non-significant.

The data presented in Table 6 illustrate the correlations between various variables of daughters and their mothers. Daughters' text self-disclosure was positively correlated with their mothers' video and phone call self-disclosures, though not with text self-disclosure or her overall mediated self-disclosure score. H1 received only partial support, as not all forms of self-disclosure between daughters and mothers were correlated. In contrast, most of daughters' self-disclosures (i.e., overall mediated self-disclosure; video chat, call, each tested separately) consistently showed positive associations with their mothers' perceptions of closeness and confirmation (with the exception of self-disclosure via text and confirmation). Reports of closeness and confirmation between daughters and mothers were also significantly and positively correlated, thus supporting H2. Interestingly, daughters' reports of anxiety did not show significant correlations with any of the mothers' outcome variables, leading to a lack of support for H3. Next, the hypothesized models will be discussed and analyzed.

Actor-Partner Interdependence Model (APIM)

The hypotheses were tested using the actor-partner interdependence moderation model (APIMoM; Garcia et al., 2014). The actor-partner interdependence models (APIMs; Kenny et al., 2006; Cook & Kenny, 2005) were first analyzed to estimate the path coefficients of the dyadic path models without the interaction effects (H4-H7). This allows researchers to interpret the simplest model first to better understand the relationships among the proposed variables (see also Mosley & Parker, 2023).

Structural equation modeling (SEM) within APIM was used to correct for attenuation (Schmidt & Hunter, 2015), otherwise known as controlling measurement error (Bollen, 1989b, 1989a). APIM is a structural equation modeling technique that allows the estimation of a number of effects while also controlling for the non-independence of the dyad (Kenny et al., 2005). To reiterate, actor effects refer to how much an individual's outcomes are influenced by their own actions or characteristics, and partner effects describe how much one person's outcomes are affected by their partner's characteristics or actions (Ledermann et al., 2011; 2022).

Each model in the current study contains one type of observed variable (i.e., a composite measure of scale items averaged together) as opposed to latent constructs (Byrne, 2022), given the relatively small sample size and following Kenny and colleagues' (2006) recommendations for testing APIMs. Path analysis like this has been utilized in other dyadic data studies (e.g., Kranstuber Horstman & Holman, 2018; Guerrero, 2014; Mosley & Parker, 2023). As such, there are separate models for each of the outcome variables of perceived state anxiety, confirmation, and closeness (resulting in a total of 12 hypothesized models, given the four separate predictor variables of overall mediated self-disclosure, video chat, call, and text self-disclosure).

Although some exogenous variables were not correlated in the preliminary analysis, Kline (2016) and Hair et al. (2010) point out that model specification should be driven by theory and model completeness rather than solely by empirical correlations. It is possible that correlations were non-significant given low power, which can result in Type II errors in which true effects are not detected. Maxwell & Delaney (2004) contend that this is justification for including non-significant correlations. Therefore, in all cases, the exogenous

variables (e.g., daughter average disclosure and mother average disclosure) and the error terms of the endogenous variables (e.g., daughter closeness and mother closeness) were allowed to correlate, producing just identified models (Kenny & Ledermann, 2010). Physical distance (between daughter and mother, in miles) was originally included as a potential control variable, but it did not significantly influence the results. Therefore, it was not included in the final analyses.

Actor-Partner Interdependence Moderation Model (APIMoM)

Once the associations between daughter and mother self-disclosure (averaged across three channels) and their outcomes (i.e., closeness, anxiety, confirmation) were examined via APIMs, the hypothesized APIMoM models (H8-H11) were tested to determine whether the daughter's co-rumination moderated those associations. To test the APIMoMs, the predictor variables for both daughter and mother, as well as the daughter's co-rumination score were first mean-centered. Then, to create the two interaction terms, mother's self-disclosure score was multiplied by daughter's co-rumination score and daughter's self-disclosure score was multiplied by the daughter's co-rumination score. This was done following guidance by Garcia et al. (2015). When significant moderations were found, effects were interpreted using simple slopes analysis in which interactions were plotted at low (1 SD below the mean) and high (1 SD above the mean) levels of the moderator. Given the small sample size, looking two levels of the moderator instead of three tends to be a more appropriate follow-up method to preserve power (Ozkok et al., 2021; see also Haughton & Afifi, 2022).

Actor Partner Interdependence Models (APIMs) without Moderation

In what follows, results are first presented for relational well-being (i.e., closeness and confirmation) and then anxiety (see Table 7 for full APIM results).

APIM Results

Closeness and Confirmation

In the APIM examining self-disclosure averaged across video chat, phone call, and text message, and its association with closeness, significant dyadic interactions were identified. The daughter's self-disclosure over the past month was significantly positively associated with both her own closeness and that of her mother. The mother's self-disclosure, however, was not significantly associated with her own closeness or that of her daughter. In terms of confirmation, patterns were similar: the daughter's self-disclosure was significantly and positively associated with both her and her mother's sense of confirmation; the mother's self-disclosure was not significantly associated with the confirmation of either person.

Anxiety

When state anxiety was the outcome modeled in the APIM, no significant correlations were present. Neither daughter's self-disclosure nor her mother's self-disclosure were significantly associated with how anxious either of them reported feeling after their interaction.

Summarizing the APIMs

The results of the APIMs provide essential insights into the dynamics of overall self-disclosure (averaged across channels) in mother-daughter relationships. H4a was supported, which suggested that the daughter's perceptions of her own overall self-disclosure over the past month would be positively associated with her perceptions of her own closeness and confirmation. This indicates that when daughters share more personal information with their mothers, they feel closer and more confirmed after a conversation with their mother about something stressful in their relationship. Similarly, H4b, which predicted that the daughter's

overall self-disclosure would be positively associated with her mother's perceptions of closeness and confirmation, was also supported. This finding suggests that daughters' sharing of personal information was associated with their mother's increased sense of closeness and confirmation after the conversation.

In contrast, hypotheses H5a and H5b, which focused on the association between the mother's overall self-disclosure and her own perceptions of her relational well-being and her daughter's relational well-being, were not supported. This lack of support indicates that, at least within the present sample, mothers' self-disclosure does not significantly affect either their own or their daughters' perceptions of closeness and confirmation after discussing their stress with each other.

These findings could be due to generational differences in communication styles or the possibility that both mothers and daughters place more importance on the daughter's self-disclosure rather than the mother's self-disclosure. These findings may also be related to the nature of the relationship between an emerging adult daughter and her mother. As parent-child relationships become more balanced (Kins et al., 2011) and children develop more realistic perceptions of their parents as individuals (Smollar & Youniss, 1989) during emerging adulthood, some children may feel more comfortable sharing their intimate thoughts and feelings with their parents. This increased openness is due to the diminished hierarchy in the parent-child relationship, which previously hindered disclosure (Bakken & Brown, 2010). Many adult children continue to communicate frequently with their parents even after leaving home (Schon, 2014). This disclosive environment likely helps mothers feel more bonded to their daughters, especially when they are discussing something stressful in their relationship and they are not physically there to support them. The disclosures also

might help the mothers still feel “needed” by their daughters, if the daughters are confiding in them about their stress. Therefore, it makes sense that in the context of the role of mothers and their emerging adult daughters who are geographically separated, mothers would feel closer and more confirmed when their daughters engage in highly disclosive interactions.

Finally, H6a and H6b were not supported as overall self-disclosure was not significantly associated with either mothers’ or daughters’ anxiety following an interaction about their stress. The finding that self-disclosure was not associated with anxiety levels for either daughters or mothers adds a nuanced layer to researchers’ understanding of the emotional impacts of disclosure. While previous studies have linked self-disclosure to both positive and negative emotional outcomes (e.g., Bazarova, 2012; Utz, 2015), these results suggest that in the context of mother-daughter relationships, the act of disclosing information alone does not necessarily influence anxiety. This might indicate that other factors, such as the quality of the responses received or the existing relational dynamics (Laurenceau et al., 2004), or in this case, co-rumination, play a more crucial role in predicting mental health outcomes like anxiety. It is also possible that the very topic of what is being disclosed matters, especially considering if it is negatively or positively valenced. In the next section, the moderation of co-rumination is discussed.

Actor-Partner Interdependence Moderation Models (APIMoM)

Given that the direct effects have already been examined, the next analysis focuses only on the interaction between self-disclosure (averaged across the three channels) and the daughter’s co-rumination. This phase assessed the moderating role of self-disclosure over the past month on the association between co-rumination over the past month and closeness, confirmation, and anxiety following the interaction between mother and daughter about their

stress (see Table 8). Only the model including anxiety produced significant moderations (see Figure 2). The results revealed a significant moderating effect for co-rumination for the association between the daughter's self-disclosure and her own anxiety ($b = .151, t = -4.056, p < .005$), as well as on her mother's anxiety ($b = .060, t = -2.315, p = .021$). Results of the simple slope analysis conducted to understand better the nature of the moderating effects are shown in Figure 3 (daughter's anxiety) and Figure 4 (mother's anxiety). As seen in Figure 3, the line is much steeper for low co-rumination, suggesting that at the low level of co-rumination, the impact of the daughter's self-disclosure on her own anxiety is much stronger than compared to at the high level of co-rumination (the reduction of anxiety is greater). That is, low levels of co-rumination over the past month serve to dampen the negative association between the daughter's average self-disclosure over the past month and her own anxiety following an interaction about her stress with her mother. Higher levels of co-rumination, however, show a slight increase in anxiety, suggesting that there is an optimal level of co-rumination for anxiety to be decreased. As shown in Figure 4, this was also true of the mother's anxiety. However, the line representing high and low co-rumination was less steep than that of the association for the daughter's anxiety.

Summarizing APIMoMs

These findings suggest that the daughter's perception of their co-rumination over the past month plays a critical role in moderating the impact of her overall self-disclosure (regardless of the channel) over the past month on anxiety for both daughters and mothers following an interaction about their stress, but not their closeness or confirmation. Consequently, H8 and H9 were not supported and H10 and H11 were partially supported. The effects of co-rumination varied depending on the level. Specifically, lower levels of co-

rumination appeared to mitigate the anxiety associated with self-disclosure for both daughters and mothers, indicating that some co-rumination may be beneficial for anxiety in the mother-daughter relationship while too much co-rumination can increase their anxiety. This effect was stronger for daughters than mothers, highlighting the complex interplay between self-disclosure and co-rumination in predicting mental health.

Phase One Discussion

These results contribute to the existing literature by examining these interactions across multiple mediated communication channels, adding depth to researchers' understanding of mother-emerging adult daughter interactions in the digital age. The positive association between daughters' self-disclosure and relational well-being is consistent with previous research highlighting the importance of open communication in strengthening familial bonds (Koerner & Fitzpatrick, 2006). This finding underscores the critical role that daughters' perceptions of their own self-disclosure play in fostering a sense of closeness and validation with their mothers. The lack of a significant association between mothers' self-disclosure and relational well-being and anxiety may suggest that mothers and daughters place more value on the daughter's disclosure of her life experiences than the mothers'. The emphasis on daughters' disclosures may reflect the relational expectations within family dynamics, where daughters' active participation in communication is perceived as more impactful on the relationship quality in mother-daughter relationships. This is corroborated by research suggesting that in parent-child relationships, children's communicative behaviors are often seen as indicators of relational health (Van Roy et al., 2010). For example, Koenig Kellas et al. (2013) indicate that children's narrative contributions in family storytelling are pivotal for relational quality and emotional closeness.

The moderating effect of co-rumination on the association between self-disclosure and anxiety highlights the dual nature of this behavior. The findings revealed that low levels of co-rumination were beneficial in reducing anxiety after a conversation with their mother about their stress when the daughter's overall self-disclosure the month prior was high. That is, self-disclosure is beneficial in reducing anxiety at low levels of co-rumination. This suggests that engaging in self-disclosure and discussing problems to an extent, without dwelling excessively on them, can promote mental health (i.e., reduce anxiety) after conversations between mothers and daughters. Conversely, high levels of co-rumination can slightly increase anxiety, supporting the idea that excessive focus on problems, negative emotions, and catastrophizing can exacerbate anxiety (Rose et al., 2007). Finally, the more pronounced effects of self-disclosure and co-rumination on daughters compared to mothers may highlight generational differences in communication and emotional processing, or even role expectations and power dynamics in mother-daughter relationships. Younger individuals, particularly adolescents and young adults, may be more susceptible to the emotional impacts of their communicative behaviors due to developmental and psychological factors (Collins & Steinberg, 2006). This finding emphasizes the need for tailored communication strategies considering these developmental differences to enhance emotional support within mother-daughter relationships.

Finally, this phase's focus on the average mediated self-disclosure over the past month might dilute the specific effects that self-disclosure through different types of channels has on anxiety. The aggregation of self-disclosure instances across different channels may mask the nuances of individual channels on mediated relationship maintenance that may more directly predict relational well-being. As such, I move into the second phase of analysis

to investigate whether the specific channel through which self-disclosure occurs (video chat, phone call, or text message) predicts relational well-being (i.e., closeness, confirmation) and anxiety, potentially offering more tailored strategies for enhancing mother-daughter communication.

Chapter 3. Analysis Phase Two: Self-Disclosure by Channel

Phase Two Rationale

In this chapter, the rationale and results for phase two are presented and discussed. As discussed in the first phase of analysis, relationship maintenance refers to the set of behaviors and actions used by relational partners to keep their relationship in their preferred state (Afifi et al., 2021; Dew & Jackson, 2018; Dindia & Canary, 1993; Stafford & Canary, 1991).

Although initially studied in face-to-face (FtF) contexts, these behaviors are also conducted via computer-mediated communication (CMC). This is important as one of the most prominent markers of the transition from adolescence to emerging adulthood in the U.S. is children moving out of their parent's homes, often for college or other opportunities.

According to a study commissioned by the American Council on Education (2022), most incoming first-year students in the U.S. attend public four-year colleges and universities within 50 miles of their home and tend to relocate to be closer to their campus. This distance means many students live on campus, away from their childhood homes, and must rely on non-FtF communication. Nearly 48% of U.S. emerging adults aged 18 to 29 live away from their parents (Fry et al., 2020).

Given the tremendous changes that are transpiring and stress that is likely surfacing in young women's lives as they transition to adulthood, examining the ways in which mothers and daughters use technology to maintain their relationship when the daughter is away at college is paramount, especially considering the mental health challenges both daughters and mothers face. Technology becomes an essential relationship maintenance tool when two relational partners add geographical distance between them. Technology allows partners to maintain a sense of presence despite physical separation, facilitating emotional connection

and physical propinquity (see for review Tong & Walther, 2011). Computer-mediated communication can create virtual proximity (Barakji et al., 2018), often promoting positive family outcomes (e.g., Christensen, 2009; Gonzales & Katz, 2016; Lindell et al., 2015; Myers & Goodboy, 2010). Carvalho and colleagues (2015) found that technology can help families communicate effectively while facilitating social support.

The first analysis phase focused on the use of self-disclosure and co-rumination, and their complex interplay, as ways of maintaining mother-daughter relationships from a distance. Although prior research confirms communicative behaviors like self-disclosure (e.g., Goby, 2011) and co-rumination (e.g., Ranney & Troop-Gordon, 2015) occur via CMC, significant questions remain regarding the impact of different communication channels on these behaviors. Specifically, the research has yet to fully explore whether asynchronous, less rich channels such as text messaging affect relational dynamics similarly to synchronous, richer channels like video chat. Substantial evidence suggests that richer communication channels enhance social presence and foster greater relational closeness, particularly among female users (Jung et al., 2017; Gooch & Watts, 2015). However, contrary findings from researchers like Arsenault (2022) indicate that increased social presence through richer channels does not necessarily improve well-being outcomes. These mixed results highlight the need for further exploration into how the specific medium of self-disclosure predicts mother-daughter relationships, particularly in long-distance interactions when the daughter is away at college.

Understanding channel-specific dynamics is essential because different communication channels facilitate or hinder self-disclosure in distinct ways. For instance, video chat enhances emotional expression through visual cues such as facial expressions and

body language, which are critical for conveying empathy and understanding (e.g., Saffaryazdi et al., 2022). People's brains are wired to read these nonverbal signals, which play a significant role in social interactions and the development of empathy (Varrier & Finn, 2022). These visual elements could also strengthen the emotional connection between mothers and daughters while the daughters are at college, fostering relational and psychological well-being. In contrast, text messaging, being asynchronous, might encourage more candid disclosures as individuals may feel less immediate pressure and more time to formulate their thoughts (see social information processing theory; Walther, 1992; Walther, 2011). This could result in a greater amount of self-disclosure, though it may lack the emotional richness of video chat. Research shows video communication can enhance feelings of closeness and presence (Sherman et al., 2013), making it a powerful tool for strengthening mother-daughter relationships.

Studies indicate that different modes of communication can have varying impacts on emotional outcomes (Oh & LaRose, 2016; Valkenburg & Peter, 2011). For example, encouraging video chats might be particularly beneficial for enhancing closeness due to the richness of visual and auditory cues that help convey empathy and support. Conversely, text messaging is associated with higher anxiety due to its lack of nonverbal cues and potential for misinterpretation (Nesi et al., 2018). Strategies can be developed to mitigate this effect, such as incorporating regular face-to-face or video interactions to complement text communication. Research by Morey et al. (2013) suggests that multimodal communication strategies can balance the advantages and disadvantages of different channels, resulting in more effective and supportive interactions. Interventions can be designed more precisely by

identifying which channels are most effective for promoting relational well-being and which may contribute to increased anxiety.

In conclusion, the Phase One results underscore the complexity of self-disclosure and co-rumination in mother-daughter relationships and set the stage for a more nuanced exploration of these dynamics by communication channel in Phase Two. This approach will provide a richer understanding of fostering healthy and supportive interactions in these relationships.

Phase Two Results

The goal of this second phase is to extend beyond examining the effects of self-disclosure and co-rumination on closeness, confirmation, and anxiety by examining whether different channels differentially predict these outcomes. The APIM results are presented first, followed by the APIMoM results. Then, Phase One and Phase Two results are compared and contrasted.

Phase Two Actor Partner Interdependence Models (APIMs) without Moderation

See Table 7 for APIM results.

Video Chat

In the APIM focusing on video chat self-disclosure and closeness, significant dyadic interactions were identified. The daughter's self-disclosure via video chat over the past month was significantly and positively associated with both her own closeness and that of her mother after the conversation about their stress. Furthermore, the mother's self-disclosure was significantly and positively associated with her daughter's closeness after the conversation, although it did not predict her own closeness. In terms of confirmation, all four pathways were significant: self-disclosure by both the daughter and the mother over the past

month were significantly and positively associated with confirmation each felt following their conversation. There no significant findings for anxiety.

Telephone Calls

When examining the associations between self-disclosure via telephone calls, there were significant partner and actor effects for both mothers and daughters on confirmation and closeness, but not anxiety. Daughter's self-disclosure was significantly and positively associated with both her own closeness and her mother's closeness. The mother's self-disclosure was significantly and positively associated with her daughter's closeness, but not her own. In addition, the daughter's self-disclosure was significantly and positively associated with both her own feelings of confirmation and her mother's feelings of confirmation. The mother's self-disclosure was not significantly associated with her own feelings of confirmation or her daughter's feelings of confirmation.

Text Message

When examining the APIM that operationalized self-disclosure as occurring via text or instant messaging, there were fewer significant paths. Only daughter's self-disclosure was significantly and positively associated with her own closeness and her confirmation. None of the other paths were significant.

Summarizing the Phase Two APIMs

Several hypotheses were supported when examining the APIMs between self-disclosure and relational well-being (i.e., closeness, confirmation) and anxiety. H4a posited that the daughter's perceptions of her own self-disclosure to her mother over the past month would be positively associated with her perceptions of her own relational well-being. This hypothesis was consistently supported across all communication media. However, H4b,

which predicted that the daughter's self-disclosure would be positively associated with her mother's relational well-being, was only partially supported. Specifically, significant associations emerged in video chat and telephone calls, but not in texting. H5a, which concerned the association between the mother's self-disclosure and her perceptions of relational well-being, was partially supported in the video and telephone call models but not in the text models.

In contrast, H5b, which suggested that the mother's self-disclosure would predict her daughter's perceptions of relational well-being, was not supported in any model. Regarding anxiety, H6a and H6b, which predicted that the daughter's self-disclosure would be positively associated with both her own and her mother's anxiety, did not receive support in any of the models. Similarly, H7a and H7b, predicting that the mother's self-disclosure would be positively associated with both her own and her daughter's anxiety, also failed to find empirical support across any model.

Phase One APIMs versus Phase Two APIMs

When comparing the results from Phase One and Phase Two quantitative results, distinct patterns emerge. In Phase One, hypothesis H4a, which posited that the daughter's self-disclosure would be positively associated with her perceptions of relational well-being, was supported, aligning with the findings in Phase Two, where this hypothesis was consistently supported across all communication media. However, Phase One supported H4b, indicating a positive association between the daughter's self-disclosure and her mother's relational well-being. In contrast, Phase Two only found partial support, with significant associations emerging in video chat and telephone calls but not in texting. Hypothesis H5a, concerning the mother's self-disclosure and her own perceptions of relational well-being, was

not supported in Phase One but found partial support in Phase Two, specifically in the video and call models. H5b, which suggested that the mother's self-disclosure would predict her daughter's perceptions of relational well-being, was not supported in either phase. Regarding anxiety, neither phase found significant associations between self-disclosure and anxiety, leading to the rejection of H6a, H6b, H7a, and H7b in both phases.

The findings from both phases indicate a consistent, positive association between the daughter's and mother's self-disclosure and their own perceptions of relational well-being (closeness and confirmation). Phase Two highlights that the associations between both the daughter's and mother's self-disclosure and closeness and confirmation varies by communication channel. Neither phase found significant associations between self-disclosure and anxiety for either dyad member.

Phase Two Actor-Partner Interdependence Moderation Models (APIMoM)

Next, the interactions between self-disclosure by channel and the daughter's perception of co-rumination with her mother over the past month on their closeness, confirmation, and anxiety after the conversation are explored. The results are presented by channel (see Tables 9, 10, and 11).

Video Chat

Similar to that of the daughter's average self-disclosure across three channels over the past month, the results revealed a positive and significant moderating impact of co-rumination on the association between the daughter's self-disclosure via video calls and her own anxiety ($b = .093, t = 2.989, p = .003$), as well as on her mother's anxiety ($b = .043, t = 2.071, p = .038$). See Figure 5 for the APIMoM results. Results of the simple slope analysis conducted to better understand the nature of the moderating effects are shown in Figure 6

(daughter's anxiety) and Figure 7 (mother's anxiety). As seen in Figure 6, the line is steeper for low co-rumination, suggesting that at the low level of co-rumination, the impact of the daughter's self-disclosure via video chat on her own anxiety is much stronger than compared to at the high level of co-rumination. That is, self-disclosure has a stronger effect in reducing anxiety at the low level of co-rumination compared to at high levels.

As shown in Figure 7, this was also true of the mother's anxiety, though the line representing high and low co-rumination was less steep than that of the association for the daughter's anxiety. These findings suggest that the daughter's perception of their co-rumination over the past month plays a critical role in modulating the impact of her self-disclosure over the past month via video channel on anxiety for both daughters and mothers following a conversation about their stress. The effects of co-rumination, however, vary depending on the level. Specifically, lower levels of co-rumination appear to mitigate the anxiety associated with self-disclosure for both daughters and mothers, indicating that some co-rumination may be beneficial for reducing anxiety in the mother-daughter relationship, while too much co-rumination can increase their anxiety. Like the Phase One models, this effect was stronger for daughters than mothers.

Telephone Call

When examining self-disclosure via phone calls, significant moderating effects emerged for anxiety (see Figure 8) and closeness (see Figure 9) but not confirmation. In the model measuring mother and daughter perceptions of closeness, the mother's perception of closeness was significantly moderated by the daughter's perception of co-rumination and the average self-disclosure via phone calls over the past month ($b = .134, t = 2.042, p = .041$). Based on the simple slope analysis in Figure 10, when co-rumination is low, there is a slight

increase in the mother's closeness. When co-rumination is at a high level, however, self-disclosure causes a much steeper increase in the mother's closeness. That is, the daughter's perception of their co-rumination in the past month strengthens the positive relationship between the daughter's self-disclosure via phone calls over the past month and her mother's perception of closeness following an interaction, but more so at higher levels of co-rumination. These findings suggest that co-rumination has some benefit for mothers in terms of making them feel closer to their daughters and reducing anxiety.

In terms of anxiety, patterns again followed the previous models in which there exists a positive and significant moderating impact of co-rumination on the relationship between the daughter's self-disclosure via phone call and her own anxiety ($b = .144, t = 3.761, p < .005$) (see Figure 11) and her mother's anxiety ($b = .067, t = 2.549, p = .011$) (see Figure 12). Patterns were as expected: low levels of co-rumination tend to dampen the negative relationship between self-disclosure and the daughter's own anxiety, even at high levels of self-disclosure. Unlike the other channels, though, the mother's self-disclosure via phone call also interacted with the daughter's perception of co-rumination to predict the mother's anxiety ($b = -.058, t = -2.282, p = .022$). Based on the simple slope analysis (see Figure 13), at low levels of co-rumination, the daughter's perception of her own self-disclosure was associated with a slight increase in her mother's anxiety. In contrast, high co-rumination shows a slight decrease in her mother's anxiety.

Text Message

Finally, self-disclosure via text message produced a significant moderation on only the daughter's anxiety (see Figure 14). Like all other models, there was a significant and positive moderating impact of co-rumination on the relationship between the daughter's self-

disclosure via text messages and her own anxiety ($b = .149, t = 4.489, p < .005$). Simple slope analysis revealed patterns similar to that of the average self-disclosure and video chat models (see Figure 15).

Summarizing Phase Two APIMoMs

Several hypotheses were supported when operationalizing mother and daughter self-disclose (on average) over the past month via a particular channel. H8, which focused on the daughter's perception of co-rumination moderating the relationship between her self-disclosure and relational well-being (closeness and confirmation), had mixed support. In the phone call model, H8 was partially supported as co-rumination moderated the relationship between the daughter's self-disclosure and her mother's perception of closeness. However, no significant effects were found for confirmation, and H8 was not supported in the video chat or text message models. H9, which focused on the partner effects of co-rumination on relational well-being, did not receive support across any of the three communication channels.

H10 was consistently supported across channels. The daughter's perception of co-rumination moderated the association between her self-disclosure and her own anxiety for video chat, phone calls, and text messages. H11 was also supported: co-rumination moderated the association between the daughter's self-disclosure via video chat and her mother's anxiety. Additionally, the mother's self-disclosure via phone call interacted with the daughter's perception of co-rumination to predict the mother's anxiety. For text messages, co-rumination significantly moderated the association between the daughter's self-disclosure and her own anxiety.

Phase One APIMoM versus Phase Two APIMoMs

Comparing Phase One and Phase Two findings reveals both similarities and differences in how self-disclosure and co-rumination affect relational well-being (i.e., closeness, confirmation) and anxiety in mother-daughter relationships. In Phase One, the daughter's perception of co-rumination primarily interacted with self-disclosure to predict anxiety after the conversation between the mothers and daughters, with lower levels of co-rumination mitigating anxiety for both daughters and mothers; this effect was stronger for daughters, and neither closeness nor confirmation was significantly affected. In contrast, Phase Two results showed a more nuanced picture across different communication channels. Phase One did not provide support for H8 (the moderation of the actor effects of self-disclosure on relational well-being by daughters' perception of co-rumination) or H9 (the moderation of the partner effects of self-disclosure on relational well-being by daughters' perception of co-rumination). Phase Two, however, revealed partial support for H8 in the phone call model but not in video chat or text message models. H9 remained unsupported across all channels.

H10 and H11 received consistent support in Phase Two across video chat and phone call channels, with co-rumination moderating the relationship between self-disclosure and anxiety for both daughters and mothers. This suggests that while the overall patterns of the effect of co-rumination on anxiety remained consistent, Phase Two highlighted channel-specific nuances, underscoring the importance of considering the communication medium in analyzing these dynamics. Particularly, Phase Two reveals that co-rumination moderates the impact of self-disclosure on anxiety in mother-daughter relationships, with stronger effects in self-disclosure made via phone calls and video chats than in text message self-disclosure. In contrast, its effect on closeness is significant only in self-disclosure made via phone calls.

Summarizing Phase One and Phase Two Results in Tandem

The findings of this research highlight the complex interplay between self-disclosure, co-rumination, and the use of various communication channels on relational well-being and anxiety in mother-daughter relationships. In Phase One, the daughter's self-disclosure averaged across video chat, phone calls, and text messages positively impacted her and her mother's sense of relational well-being (closeness and confirmation). However, the mother's self-disclosure did not show a significant effect on these outcomes, and neither the mother's nor the daughter's self-disclosure was significantly associated with anxiety levels. Additionally, when examining the moderating role of co-rumination, both of their perceptions of closeness and confirmation remained unaffected when examining their overall self-disclosure during the past month. This implies that the daughter's average mediated self-disclosure is crucial for fostering their relational well-being (i.e., closeness and confirmation), regardless of whether the conversations are co-ruminative.

Across all cases, the daughter's perception of their co-rumination did not moderate the association between self-disclosure and confirmation. Confirmation, which involves validating and affirming each other's feelings and experiences, might be more directly influenced by the quality and content of communication rather than the frequency or intensity of co-rumination. Since confirmation relies on mutual respect and understanding (Dailey, 2023), co-rumination alone may not enhance or diminish these aspects. Furthermore, co-rumination often involves dwelling on negative topics (Rose, 2021), which might not contribute positively to feeling understood and validated. Confirmation might be more closely tied to positive, supportive interactions rather than repetitive negative discussions. Another factor to consider is emotional regulation, in which the dynamics of each emotion

are influenced to produce adaptive responses to the environment (Aldao, 2013). While co-rumination can increase emotional intensity, it might not necessarily improve the quality of interactions that foster feelings of confirmation. If co-rumination predicts heightened anxiety or stress, it could hinder the ability to provide the kind of supportive, affirming feedback that constitutes confirmation. Additionally, individual differences play a role; the impact of co-rumination on confirmation might vary greatly between individuals. For some people, co-rumination might create a sense of closeness that fosters confirmation and for others, it might beget frustration or negative feelings that reduce confirmation.

The daughter's perception of their co-rumination over the past month did moderate the association between her self-disclosure and both her and her mother's anxiety following an interaction about their stress. Self-disclosure reduced anxiety at low levels of co-rumination, for both mother and daughter after the discussion, while it increased anxiety at higher levels of co-rumination.. This effect was particularly pronounced for daughters. When the daughter perceived the relationship as highly disclosive and co-ruminative, both mother and daughter experienced heightened anxiety following the conversation. However, when the daughter's perception of their co-rumination was lower, even with high self-disclosure across the three channels, anxiety was reduced for both. This effect was stronger for daughters than mothers. Therefore, to help maintain low anxiety after discussing stressful topics, it is beneficial if, over the past month, the daughter has been highly disclosive, but they have not engaged in excessive problem discussion without seeking solutions.

Phase Two moved beyond examining overall mediated self-disclosive and co-ruminative behaviors to analyze the effects of self-disclosure via specific mediated communication channels. Video chats and phone calls enhanced relational well-being more

effectively than text messages, likely due to their richer communicative cues. Importantly, co-rumination moderated the association between self-disclosure and anxiety. Self-disclosure had a positive effect in reducing anxiety, so long as it did not involve co-rumination. These results suggest that while self-disclosure might enhance relational closeness and confirmation, its impact on anxiety is more nuanced and depends on the level of co-rumination and self-disclosure over the past month and the communication channel used. These insights are crucial for developing strategies to support mother-daughter relationships, emphasizing the importance of balanced self-disclosure and careful selection of communication channels to promote emotional well-being and reduce anxiety. In what follows, these results are discussed in tandem before turning to Phase Three.

Building on Insights from Phase One and Two Results

The differential impacts of communication channels on relational outcomes can be understood through the lens of media richness theory (Daft & Lengel, 1986), which posits that communication channels vary in their capacity to convey information. Richer media, such as phone calls and video chats, provide more immediate feedback, multiple cues (e.g., vocal tone, facial expressions), and a greater capacity for personal focus, which can enhance emotional connection and reduce misunderstandings (see for instance Derks et al., 2008, Kock, 2005). These characteristics likely contribute to the more robust associations between self-disclosure via these channels and relational outcomes like anxiety and closeness.

For example, phone calls allow for immediate, real-time interaction, enabling participants to respond promptly to each other's verbal cues. This immediacy could help mitigate anxiety by providing instant reassurance and emotional support. Moreover, the personal nature of vocal interactions can foster a sense of closeness, as hearing a loved one's

voice may be comforting and affirming. Video chats, on the other hand, combine the auditory benefits of phone calls with visual cues, making them even richer in terms of communication. The ability to see facial expressions and body language can enhance understanding and emotional connection, which is crucial for managing anxiety and building closeness. In contrast, text messaging lacks the immediacy and richness of phone calls and video chats. The absence of vocal tone and visual cues could result in greater misinterpretations and a lack of emotional depth in interactions. The findings from this study align with research by Derks et al. (2008), emphasizing the importance of visual and auditory cues in computer-mediated communication.

These results have practical implications for interventions to improve mother-daughter relationships, particularly in long-distance contexts. Encouraging richer communication channels like video chat and phone calls, particularly when it involves a stressful conversation, could enhance relational well-being, and reduce anxiety. Additionally, understanding the potential drawbacks of text messaging can inform strategies to complement it with richer media to foster a more supportive and emotionally balanced interaction.

In conclusion, Phase Two of this analysis highlights the significant role of communication channels in shaping the outcomes of self-disclosure and co-rumination in mother-daughter relationships. These nuanced findings underscore the importance of considering the communication channel in relational maintenance, providing a deeper understanding of fostering healthy and supportive interactions through appropriate channel selection. Future research should continue to explore these dynamics to develop more effective communication strategies that leverage the strengths of each medium while

mitigating their potential drawbacks. Additionally, exploring in greater depth how mothers and daughters talk about the role of technology in their relationship maintenance is essential.

Chapter 4. Phase Three - Thematic Analysis

Preview

This chapter reviews literature for Phase Three, shifting focus from general and channel-specific models of self-disclosure and co-rumination to exploring how mothers and daughters talk about the role of technology in maintaining their relationships while the daughter is at college. By integrating qualitative data, this dissertation offers a deeper understanding of their experiences and how their communication has evolved since the daughters moved away for college.

Proposing Phase Three of Analysis

The third phase of this analysis involves a thematic exploration of mother-daughter conversations about the role of technology in maintaining their relationship. This qualitative approach is essential to address the limitations of quantitative methods, which often fail to capture the rich, contextualized experiences and meanings individuals ascribe to their interactions (Braun & Clarke, 2006). While previous phases highlighted the differential impacts of communication channels on relational well-being and anxiety, they did not fully explain the underlying processes and perceptions driving these outcomes. A thematic analysis allows a deeper understanding of how mothers and daughters perceive and navigate technology in their relationships, providing insights that quantitative data alone cannot offer (Creswell & Poth, 2017). As van der Wal et al. (2024) noted, research on technology use and well-being often presents varied results due to the aggregated nature of quantitative studies. Phase Three delves into the nuanced, personal narratives of mothers and daughters to

uncover themes that elucidate their use of technology to maintain emotional closeness and manage anxiety, offering more holistic and context-specific insights into relational maintenance.

It is important to note that the mother and daughter dyads who participated in the present study reported feeling highly close to each other, both in the past month (daughter $M = 5.99$, $SD = .98$; mother $M = 5.75$, $SD = 1.02$) and immediately following their interactions (daughter $M = 6.19$, $SD = .82$; mother $M = 6.34$, $SD = .74$). These levels of closeness indicate that these particular mothers and daughters are at least somewhat adept at maintaining their relationships through mediated means, at least such that they report feeling close to one another. While not universally applicable to all mother-daughter dynamics, this closeness is particularly relevant for relationships characterized by existing solid bonds.

In Their Own Words

While self-disclosure and co-rumination appear to play an important role in maintaining these close relationships between mothers and daughters, they are not the only factors to consider. The final part of this analysis relies on discussions between mothers and daughters regarding how technology has played a role in their relationship maintenance and how their technology use has changed since the daughter moved out of the home they once shared. A systematic review of quantitative, qualitative, and mixed-method empirical studies published between 1997 and 2019 uncovered four domains regarding long-distance family relationship maintenance: (a) doing family in a social media environment, (b) performing family through stories and rituals, (c) the nature of online communication practices, and finally, (d) privacy, conflict, and the quality of family relationships (Abel et al., 2021). These domains point toward the utility of CMC for maintaining relationships that can no longer

exist on a primarily FtF basis, such as that of a mother and young adult daughter who moves away to college.

As van der Wal et al. (2024) astutely observed, most research dissecting the association between technology use and well-being tends to be quantitative, cross-sectional, and based on aggregated results. These results tend to vary widely, with different studies showing a range of small positive, negative, or no associations with well-being (Odgers & Jensen, 2020; Orben, 2020; Parry et al., 2022). Phase One and Two of this analysis contribute to this body of research by providing a nuanced, channel-specific examination of how self-disclosure and co-rumination via different communication media uniquely affect relational well-being and anxiety in mother-daughter relationships. This approach allows for a nuanced understanding of the specific dynamics at play in each communication channel and how they influence emotional and relational outcomes. However, it only tells part of the story. Van der Wal and colleagues (2024) further suggest that studying these relationships through participants' narratives provides deeper insights into their experiences, capturing the complexity and context that quantitative methods might miss.

Valkenburg et al. (2022), for instance, conducted a qualitative study in which they found that adolescents discussed a duality of social media experiences (Weinstein, 2018), wherein individuals mentioned both positive and negative insights about the impact of social media on their lives. This has been labeled as within-person duality, or the existence of both positive and negative effects of social media use on the individual (van der Wal et al., 2024). While much of this work has focused on adolescents and social media, emerging adults are still undergoing cognitive and emotional development (Arnett, 2000; Dahl et al., 2018) and must rely on various communication technologies to maintain their close relationships.

Therefore, the present analysis focuses on how mothers and daughters talk about the role of technology, more generally than social media, in their relationships. With this information in mind, the final research question is posed:

RQ1: From the perspective of mothers and daughters, what role does technology play in maintaining their relationship with each other and how it has changed since the daughter left for college?

Phase Three Method

This project's third and final phase of analysis explores the nuance of communication technology and how mother-daughter pairs discuss its role in maintaining their now long-distance relationship. The Zoom conversations, described earlier within the context of the larger study, took place from January 2023 to May 2023. All conversations were recorded and transcribed verbatim, according to predefined transcription rules, and anonymized to protect patient privacy (Dressing et al., 2015). Recordings were transcribed with speech-to-text transcription software (i.e., Otter.ai) before trained RAs ensured the transcription was accurate.

Analysis was conducted by the principal investigator and trained research assistants, who represent diversity in sex, gender, and race. The data were analyzed using thematic analysis (Braun & Clarke, 2006). No qualitative data analysis software was used.

Thematic Analysis

First, the researchers familiarized themselves with the data, independently reading a set of transcripts and taking notes on the emerging patterns related to the use of technology to maintain the mother-daughter relationship. Each transcript was divided into two separate documents: one representing the first 20 minutes of the conversation (these data will be used

in another manuscript and involve the dyad talking about their stressors) and another representing the last 10 minutes, where the dyad was directed to discuss how they used technology to maintain their relationships while the daughter was away at college. The researchers first looked at the whole transcript because for some participants, technology emerged as a source of stress reported during the first discussion task. Then, attention was turned to the abbreviated transcript that included only the second discussion task. Free-flowing ideas driven by the data were encouraged (see also Glaser, 1992). The team then met to discuss their notes and began narrowing the focus of analysis before studying literature on mother-daughter relationships and coding another set of transcripts. The team was encouraged to keep an open mind as they were also informed by research and theory.

At this point, the team began creating initial codes. We met again to discuss observations and examine how the preliminary codes interacted and could be grouped into theoretical themes and sub-themes (Glaser, 1978; Strauss & Corbin, 1990). Larger themes relevant to the research question are identified, and codes are related to one another (see also Corbin & Strauss, 1990). I then categorized these themes into a comprehensive codebook, focusing on the types of stress/conflict in mother-daughter relationships and how technology aids in their relationship maintenance. Next, the RAs and I reread transcripts, wrote analytic memos about if and how the themes reflected the data (Tracy, 2018), and identified standout quotes for each theme. The team then came together again to refine themes based on patterns, new insights, and discrepant cases. Themes and sub-themes were continually compared and contrasted to fit the data as precisely as possible (Glaser, 1978; Strauss & Corbin, 1990), and the codebook was updated as necessary. The process was complete once all transcripts were coded and themes appropriately refined. Then, I focused on the larger overarching narrative

or story that connects the data (Glaser, 1978). Finally, I randomly selected 15% of the sample to engage in member checking in order to allow participants themselves to verify the accuracy of the findings (Lincoln & Gruba, 1985). Participants were asked to read through the codebook to determine if (a) at least a portion of the themes captured their lived experiences and (b) any themes appeared incorrect or otherwise misleading. Selected participants responded in a timely fashion and indicated that no corrections were needed. Finally, pseudonyms were assigned to each participant.

Phase Three Results

The present thematic analysis revealed that mothers and daughters use a variety of active and passive mediated maintenance strategies, including everyday talk and social presence, to sustain their relationships while separated by distance. Barriers such as device/app incompatibility and finding time to connect were highlighted, but many dyads adapted effectively. The interaction also gave the mothers and daughters a chance to appraise their relationships, attributing their closeness to technology, the natural evolution of a parent-child relationship, and finally, within their appraisal, some dyads discussed ways that technology could further improve their relationship. Overall, technology facilitated the maintenance of closer relationships, allowing for continuous communication and support, while the natural evolution of their relationship also contributed to their sense of connection.

Active Mediated Maintenance Strategies

Active mediated maintenance strategies describe how mothers and daughters communicate through technology while the daughter is away at college. As active strategies, these strategies include direct interaction between the mother and daughter and revolve around everyday talk and social presence. "Everyday talk" involves regular check-ins, such

as texting or exchanging memes, to maintain a regular connection and share daily experiences. "Social presence" pertains to the preference for using richer communication media, like video calls, that enhance the feeling of being together despite physical distance. The use of technology by mothers and daughters while the daughter is away at college was crucial to maintaining regular interaction and emotional closeness, especially in light of the physical distance. These strategies fall broadly into maintaining everyday talk and social presence, each vital in sustaining the relationship through continuous and meaningful communication.

Everyday Talk

Maintaining regular communication through technology is encapsulated in the practice of everyday talk, which includes regular check-ins and updates shared through various applications. This sub-theme highlights how mundane yet personal updates keep the relational threads active between mothers and daughters. Chloe (daughter #120) shared her daily experiences via text: "I would say, like, I text you probably every day. Just like little silly updates. Like... I have a cat, and he did this silly little thing. My mom loves cats." This example underscores the importance of continuous communication in maintaining a sense of connection. Expanding on the idea of regular check-ins, Sydney (daughter #209) mentioned, "I text a lot. And sometimes, it'll be random little updates that I just want you to know about. Like, my news or a grade I got, like social troubles, or whatever..." Her mother, Carol, (mother # 209) confirmed, "Texting has been good, actually great." These statements reflect the continuous nature and varied topics of updates that help sustain their relationship. The practice of everyday talk ensures that even when not physically present, the dyads can share their lives' small but meaningful details. The texting about mundane, every day events also

illustrates how it was not the content of the topics that often mattered. Rather, it was that their closeness was sustained through the continual “hits” of communication about their lives that the easy stream of technology provided (See Ellison et al.’s 2011 work on social media as a social lubricant)

Within the context of maintaining regular connections, Snapchat was mentioned as a platform utilized for its immediacy and minimal data footprint, facilitating casual updates. Brianna (daughter #117) described using Snapchat to share immediate visual updates, which can provide real-time support: "I love Snapchatting you because I like providing visuals of what I'm doing. Like, today, I snapped you my bloody nose... What do I do?" Her mother Lori (mother #117) responded, "You poor thing. You looked so scared." The daughter confirms, "I was scared." The mother continues, "Well, was I comforting? When I was telling you 'It'll be okay. It will stop.'" The daughter confirmed that she was comforted, highlighting the real-time support interaction they could have because of the technology at their disposal. In this instance, the daughter sent her mother a photo of a bloody nose, and her mother was then able to talk her through a treatment plan as if they were together at home. The visual image of the daughter’s injury provided a sense of richness regarding what the daughter was experiencing, allowing the mother to provide a more effective level of support.

Family group chats, in which the mother and daughter are included in a group with other family members, also seem to play a role in facilitating everyday talk. Julia (daughter #96) mentioned that the family group chat containing her parents and siblings had been much more active since she left home. She noted, "We've been texting as a family a lot more, like silly, lighthearted, just random stuff that has happened in our day.... It's like random little things throughout the day because these are things before I went to college that we would just

like, tell each other. But now, our family group chat has been much more active." This increased activity in the family group chat illustrates how technology facilitates ongoing communication, allowing an entire family to share their daily lives and foster cohesion and inclusion, despite the physical distance. Amber (daughter #184) even created a group chat that included her mom so she would feel more included, stating, "I actually created the girlies group chat, because I was like, Mom feels left out, and you guys need to send her pictures." Her mom Pamela responded, "That was outstanding. I greatly appreciate that."

In summary, everyday talk through various technological platforms like dyadic texting, family group texts, and Snapchat were crucial for maintaining the connection between mothers and daughters. Though seemingly mundane, these interactions were vital for sustaining the emotional bond and ensuring continuous support. Humor also played a significant role in these family group chats, helping to facilitate cohesion and create fond memories. The lighthearted, playful exchanges kept the conversations engaging and enjoyable. For example, sharing humorous anecdotes or small updates appeared to lighten the mood and strengthen family bonds. Humor was subtly woven into everyday talk, contributing to a positive and supportive communication environment. This regular, casual communication replicated the natural, everyday interactions that would likely occur if they were living together, thereby lessening any negative effects of physical separation. By maintaining this continuous thread of communication, families can share the small but meaningful details of their lives, fostering a sense of closeness and inclusion despite the distance.

Social Presence

Another active mediated maintenance strategy that emerged in their conversations was the search for and preference for increased social presence. This often resulted in mother-daughter dyads expressing a preference for video chat over other channels they use to interact. For instance, Tania (mother #19) mentioned that she loves Zoom "because it brings us physically together." Olivia (mother #200) stated, "Technology for me has created a sense of feeling your aura, feeling your energy, even though you're not there with me. I can look at your expressions. I can kind of see that I'm part of your world." This preference highlighted the significant role that video chat played in enhancing the sense of connection and presence in the mother-daughter relationships, making it a favored communication channel for fostering emotional closeness and understanding.

In addition to expressing a sense of closeness provided by video chat, several dyads used the opportunity to discuss the best channel for simulating face-to-face interaction. Olivia (daughter #200) and Judy (mother #200) continued their conversation with Olivia asserting, "It's like we're just hanging out," referring to their video chat interactions. Judy responded, "I know, it's like the best. It's the only next thing we can do." Dyad #177 also discussed this:

Alexis (daughter #177): It's [FaceTime], which is the best way to simulate face-to-face, right? Because I feel like if we just, like having you, being able to still talk to each other face to face, in a way, is more meaningful than just texting. Like every day, just being able to...I feel like texting, there's just a barrier like you just can't, you don't know....Texting is so limited. You can only express so much through texting, and also, like through text, there can be miscommunication. Right? So, it is essential to try to replicate, as much as you can, a real face-to-face interaction.

Cheryl (mother #177): Yeah, I think voice is better than text because if you text, people say [using a serious voice] I'm fine. You can be [using a serious voice]. I'm fine. [Now, using a bright voice and smiling] I'm fine. You can have a totally different meaning, right? [Nodding]. So, the more information we can get from technology, the better. So, FaceTime is better than voice, and voice is better than text, right? And, of course, ultimately, in person is the best. Right?

These two interactions highlight video chat as the next best face-to-face interaction, at least within the context of mother-daughter relationships. This preference seemed to stem from the richness of nonverbal and verbal cues available in video chats, which can convey emotions and intentions more clearly than voice or text alone. The concept of social presence, which refers to the sense of being with another person, is significantly enhanced through video interactions (e.g., Della Longa et al., 2022). Video chats provided a greater sense of immediacy and emotional connection, replicating many aspects of in-person communication, thereby fostering deeper understanding and relational closeness.

In other instances, however, video chat seemed to fulfill the role of face-to-face interaction. Morgan (mother #115) recounted when someone asked her if she missed her daughter now that she was out of the house, and her response was, "We FaceTime. She's there." Having this rich medium at an anxious emerging adult's disposal may not be universally positive. Jenna (daughter #193) experienced homesickness, exacerbated by video calls, yet acknowledges their importance. Her mother Ruth reflected, "I think it just makes you homesick more, to FaceTime.... It's what it seems like to me... is that true?" Jenna agreed, "Mhm," but eventually expresses, "I think it would be even harder to do college without it [FaceTime]." This highlights the duality of communication technologies. While

video chat provided a sense of presence and closeness, it might have also intensified feelings of sadness and homesickness at times because it served as a constant reminder of the physical separation. The inability to engage in shared activities, which would be possible in person, reinforced the emotional distance, making the absence more palpable. As van der Wal et al. (2024) pointed out, the benefits of the increased presence provided by video chat come with emotional costs that merit further exploration.

Passive Mediated Maintenance Strategies

Passive-mediated maintenance strategies outline how mothers and daughters perceive technology's role in sustaining their relationships without direct interaction. Key passive strategies identified include location tracking and social media viewership. Location tracking typically involves mothers using apps like Find My or Life360 to monitor their daughter's whereabouts. Social media viewership generally includes mothers observing their daughters' online activities, providing a window into aspects of their lives that are not shared through self-disclosure from one dyad member to another but are shared publicly.

Location Tracking

A passive-mediated strategy critical to maintaining the mother-daughter relationship was the ability to track each other's location through apps like Find My, Life360, etc. This practice seems to provide mothers with a sense of peace regarding their daughters' safety and offers a sense of connection without direct communication. Janet (mother #166) mentioned, "I know I get frustrated that I can't track you when you're traveling... I just want to know that you're safe." Similarly, Anna (mother #196) shared, "I love the location thing, because that way, like if you do go out and I fall asleep, and I wake up at midnight, I see you're home. Oh, she's home. Okay, all's good. I don't have to worry anymore." This quote underscores the

comfort and reduced anxiety mothers experience knowing their daughters have returned home safely.

Savannah's (daughter #123) mother, Teresa, provided a similar perspective on location tracking, saying, "Sometimes, if I wake up in the middle of the night, and I just want to make sure that you're safe and like... back in your dorm, I check. It's all about safety. It's not me caring where you are." This response emphasized that the primary concern for mothers is their daughters' safety rather than monitoring their every move. Elizabeth (mother #3) further echoed this sentiment, confessing, "I don't do this often. But I will occasionally... sometimes look at that location thing. And just feeling like, 'Oh, they're back. They're back home.' I've never called you and been like, 'I'm worried. Where are you?'" In all of these examples, the daughters expressed a sense of understanding and willingness to continue the practice instead of pushing back or asking for increased privacy. Location tracking serves as a means for mothers to feel connected and assured of their daughters' safety without needing constant direct communication. This passive strategy allowed mothers to maintain a sense of involvement and oversight while respecting their daughters' independence.

Social Media Viewership

Passive-mediated maintenance strategies outline how mothers and daughters perceive technology's role in sustaining relationships without direct interaction. Another key passive strategy identified is social media viewership. This strategy involves mothers and daughters observing each other's online activities, providing a window into aspects of their lives that are not shared through direct interactions. Simply observing the other also serves as a form of maintenance, allowing them to keep up with one another without directly communicating with each other. Mary (mother #12) admitted that she sometimes looks at her daughter's

Instagram, "It's a nice way for me to just see your life, sort of, from a different view." This highlighted how social media can offer mothers insight into their daughters' daily lives, fostering a sense of connection. Daughters also used social media to stay updated on their mothers' activities. For instance, Jenna (daughter #193) said, "I see your posts of the daycare. I'll be like, 'Oh she did a birthday party for another kid today.'" This reciprocal viewing allows both parties to feel involved in each other's lives without needing direct communication. These quotes underscored the significance of social media viewership as a passive strategy for maintaining relationships. By observing each other's online activities, mothers and daughters can stay connected and involved in each other's lives, even when they are not directly interacting. This method of maintenance supports the emotional bond and contributes to a continuous awareness of each other's well-being, complementing the direct interactions facilitated by active strategies.

In cases where mothers do not use social media, they are forced to rely on other technological maintenance strategies. Cynthia (mother #33), for instance, pointed out that because she did not have social media, she did not "have a way of just logging in and saying, 'Hey, let me see what she's up to...'" She added, "I think that texting is definitely really important.... I think for me, just hearing from you, at least once a day. Like I said, good morning you know, it just lets me know that you're doing good. Maybe I don't know the details of your day, but I at least have the comfort of knowing you're good." In this instance, not only did the mother recognize the consequence of not having social media, but she also pointed out other ways to compensate and maintain their connection, including through the active maintenance strategy of everyday talk through texting.

Barriers to Mediated Maintenance

Barriers to mediated maintenance emerged as a significant theme in discussions about the role of technology in mother-daughter relationships. These barriers primarily involve device/app incompatibility, conveying tone, and challenges in finding time to connect. These issues can significantly impact the ability of these dyads to maintain their relationship effectively through technology.

Device and app incompatibility refers to the difficulties of choosing communication methods that align with both parties' devices, apps, or personal preferences. For example, Carol (mother #209) preferred audio over video calls due to her eyesight challenges: "FaceTime and stuff on the phone stresses me out. Because of my eyesight, it's really hard to have the phone at the right place. And it's really hard to see... I love those conversations, but the actual technology of it, I find stressful... I would rather [it] just be audio." This highlighted how personal preferences and physical limitations can shape communication choices. In contrast, some family members, like Denise (mother #103), made specific adjustments to address these incompatibilities. Denise explained, "I specifically got an iPhone so I could FaceTime with you because I didn't have that capability. And I wanted to be able to FaceTime with you." This indicated that Denise sought greater access to the richer nonverbal cues provided by video calls, demonstrating a desire for deeper, more connected communication with her daughter.

Similarly, Madison (daughter #2) mentioned using Snapchat with her mom because she could not use iMessage or FaceTime. This situation highlighted a common problem within dyads where one person has an iPhone, and the other does not: they must make deliberate communication choices instead of relying on the default apps integrated into the device, such as iMessage and FaceTime. When family members used different devices, it

created barriers to seamless communication, as they could not utilize these built-in features and needed seek alternative applications that were compatible with both devices. Rachel (daughter #21) even remarked that she felt her family had an easier time maintaining their relationship because everyone in their immediate family had iPhones, which simplified their communication process. This ease of communication through uniform technology use underscored the potential challenges faced by those using different devices.

Another barrier discussed by mother-daughter dyads is the difficulty of interpreting tone in text messages, making it a complex channel to enact productive maintenance. Katie (mother #10) expressed that text is not a great means for conveying tone: "We know that it is really bad at conveying tone. And tone is, is like, especially if you have a tendency to assume you know where the other person is coming from. You can assume tone when it's not there." This was illustrated by a misunderstanding with a friend over text, where the mother misinterpreted the tone. Dyad 32 also talked about the barriers of texting: Donna (mother #32) said, "Texting is like, sometimes you make assumptions about what somebody's like, or how they're saying something. Right?" Her daughter, Nathalie, agreed, adding, "Yeah, I agree. I feel like I was reading your text with a tone that you probably don't mean to send." Her mother confirmed, "And there's not usually a tone." Text messages can be more prone to misunderstandings due to the lack of nonverbal cues (Edwards et al., 2017), and this can lead to misunderstandings and strain the relationship. In these instances, mother-daughter dyads recognized that there is a barrier between them when texting and often, they would then mention the benefit of using richer-cue media that are less prone to misunderstandings, such as video chatting.

Another significant barrier to mediated maintenance is finding time and space to connect, given the busy schedules of both mothers and daughters. When immediate communication was needed, calling was often the preferred method because it allowed for enhanced immediacy and understanding, especially in urgent situations. For example, Margaret (mother #182) told her daughter that if she ever really needs her, she should call. This preference for calling in urgent situations is based on the immediacy and directness of a phone call, which enables both parties to convey and interpret emotions and nuances in real-time. Courtney (daughter #182) understood that if she was texting her mom instead of using an alternative channel, "it probably wasn't too urgent anyway," recognizing that text messages lack the same level of immediate engagement and clarity. Similarly, Pamela (mother #184) emphasized that for major concerns, a call is most appropriate. This finding reinforced the idea that the auditory cues and synchronous nature of phone calls make them more effective for handling urgent and complex issues compared to text messages.

Some dyads recognized that while calling is better for immediate issues, they can utilize the asynchronous nature of texting despite its barriers. Texting allows the other person to respond at their own pace, preserving privacy and respecting their obligations without interruption. For instance, Karen (mother #1) stated, "I think we text because I don't ever pay attention to what time it is. So I don't pay attention to if you're in class or not. It's easier just to text. And when you have time to get to it, or if you're at the gym or whatever, like, you'll have time to get to it. You'll text me back. If it's urgent, I'll call you." This approach demonstrated a balance between the need for immediate communication and the importance of respecting one another's time and commitments, addressing the tension between maintaining a sense of urgency when necessary and respecting each other's personal space

and schedules. By leveraging the asynchronous nature of texting, the mothers and daughters could stay connected without imposing on each other's obligations, ensuring that communication remains effective and considerate.

Samantha (daughter #27) highlighted the challenges of busy schedules, saying, "I feel like I've tried to FaceTime you every week at minimum, or like, maybe a week and a half or something. I don't put it on my calendar, but I kind of just am like, 'I feel like I need to FaceTime mom... It's hard because we're both really busy. It's hard to like... try to keep you guys updated and stuff.'" Her mother Patricia confirmed, "I know. Texting is good. Plus... not only do we text each other, but we're doing the group chats with the rest of the family. So that's also good. And sharing pictures. Knowing what you're up to and what we're all up to is good." This particular conversation highlighted the different affordances of synchronous and asynchronous communication technologies. Video chatting, being synchronous, requires both parties to be available at the same time, which can be challenging with busy schedules. It demands more coordination and consideration of each other's availability, thus respecting the other's obligations. In contrast, text messaging is asynchronous, allowing individuals to respond at their own pace without the need for immediate availability. This flexibility made texting a practical solution for these mothers and daughters, helping them maintain communication despite hectic schedules. By utilizing asynchronous channels like texting, dyads can effectively keep each other updated while accommodating their individual time constraints.

Relationship Appraisal

The final theme, relationship appraisal, focuses on mother-daughter dyads' assessments of their closeness and connection. This appraisal was overwhelmingly positive,

with many participants discussing how they felt closer to one another since transitioning to a long-distance relationship. Dyads commonly attributed this enhancement to one of two factors: (1) the facilitative role of technology and (2) the natural evolution of parent-child relationships, including the daughter maturing. Some dyads also attributed their relationship to a combination of both.

Facilitative Role of Technology

Technology plays a significant role in enhancing the closeness between mothers and daughters for several reasons. First, navigating conflict via technology can provide important and necessary distance between mothers and daughters. This distance can serve as a buffer, allowing both parties to cool down before re-engaging in conversation. For example, Victoria (daughter #118) explained to her mother that technology helps them avoid negative situations, as they can be more intentional about when and what they talk about. She mentioned that if they start arguing on the phone, "I'll just like, okay, bye, we need to talk later. Instead of continuing to argue or whatever if like, we were in person." This ability to pause a conversation and resume it later may prevent escalation and reduce the emotional intensity of conflicts. Other participants echoed this ability to manage conflict better due to technological mediation. This strategic use of technology appeared to not only help de-escalate potential arguments but foster a sense of control and thoughtfulness in their interactions, ultimately strengthening their relationship.

For some mothers and daughters, technology provided a crucial means to heal and strengthen their relationship. Brianna (daughter #117) highlighted that technology played a significant role in mending her relationship with her mother, particularly after the loss of her father. Through the use of technology, she was able to share photos and maintain regular

communication, which facilitated a deeper connection. Similarly, Brenda (mother #54) noted that their communication has increased due to their reliance on technology, especially given her daughter's physical absence. This underscores how technology can serve as a vital tool in not only sustaining but also enhancing the bonds between mothers and daughters, allowing them to stay connected and support each other despite geographical distances.

Some dyads discussed ways to improve their use of technology to maintain their relationship. Pamela (mother #184) mentioned that she would like her daughter to acknowledge her text messages with a thumbs up or something. Furthermore, Julie (mother #18) expressed a desire to call and FaceTime more, saying, "I'd like to call more, and I mean, I would like to FaceTime you more too because I feel like, you know, we are seeing each other I think helps to just seeing that we're both okay, you know?" Jessica (daughter #18) agreed, adding, "Yeah I think that'd be good, because right now, I feel like we call every once in a while, but usually it's like... like a big catch-up time. So I thought it would be nice if like, you can call me if like, you know, something happens with [name redacted] you can call me, and I can call you like, in between classes or whatever." These suggestions illustrated a desire to enhance the immediacy and frequency of their interactions, whether through quick acknowledgments in texts or more regular video calls. By refining their use of communication technologies, these dyads wanted to strengthen their connection and ensure they remain an active part of each other's lives despite their busy schedules.

Natural Evolution of Parent-Child Relationships

Other dyads recognized that their relationship was likely improving due to the natural life course of their relationship and the increasing independence of the daughter. The natural evolution of parent-child relationships, influenced by both age and distance, contributed to

the enhanced closeness between mothers and daughters. Gail (mother #195) discussed how she has naturally backed off to allow her daughter to mature, recognizing the intergenerational influence: "I guess I'm behaving like my mom a lot. She backed off when I was an adult." Barbara (mother #34) reflected, "Like my dad always says, 'I don't want to call you because I don't want to bother you. You call me.' And he loves to hear from me. But he knows that sometimes when he calls, I'll be like, I have a car full of kids or something, you know? And that's not a good time to talk. So I feel the same way about you. I don't want to bother you." This backing off, even of mediated communication, was seen as part of the natural process of maturing and allowing the daughter to navigate the world independently while still letting the daughter know they are there.

Similarly, Kathy (mother #167) reflected on their improved relationship since the daughter went to college, saying, "I feel like we got closer when you went away to college, in terms of a real, not that we didn't have a real relationship before, but just that... here's what I think. I think that you were navigating the world independently." This sentiment underscored the role of increased independence in fostering a deeper, more mature relationship. Additionally, the physical distance created by the daughter moving away for college may have contributed to this improved relationship by necessitating more intentional and meaningful communication, thereby enhancing their connection, especially in light of technological advancements (see for review Hofer & Moore, 2011).

This natural evolution of the relationship, paired with the acknowledgment that the daughter was going through a period of increased independence, also contributed to mother-daughter dyads' decisions regarding how to use technology to improve their relationship. For instance, when Rachel (daughter #21) asked if her mom wished she called more, her mother

responded, "We love to talk to you whenever you call, but at the same time, we're so happy that you're making new friends and doing things. And of course, you're busy with your classes and work, but yeah, we love it anytime you call. At the same time, we don't want you to feel obligated." Striking a balance between using technology to maintain connection and allowing space for independence was crucial for fostering a healthy, supportive relationship between a parent and their emerging adult child (see also Kloep & Hendry, 2010).

Combination of Both Factors

Some dyads attributed their closeness to both technology and personal growth/relationship evolution. In one discussion, Sarah (daughter #12) shared,

What we talk about on the phone and what we talk about in general over technology is so much different [post high school] because now, it's all the good, juicy stuff. I would never text you or call you about anything real when I was at home. Not real, but just like, 'I'm having this trouble. I feel super anxious.' I wouldn't text you that in high school."

Mary (mother #12): Do you think you tell me more now? I don't think it's an issue of technology. I think it's an issue of maturity.

Sarah: Definitely.

Mary: Is that partly because there's more space?

Sarah: Maybe, honestly. Like you're not afraid I'm gonna get all up in it.

Mary: We're both getting better as we get older.

Sarah reflected on the impact of physical and emotional distance: "I feel like it [technology] just really makes it less emotional, somehow.

Mary: Yeah, that's true.

Sarah: It's a lot of factors, maybe. But maybe a reason that we're getting better at it is because separation gives you the opportunity to do that and reflect more. You know, instead of being there and so reactive. Like, it's a physical space. You know, Eckhart Tolle always talks about that, like, the making of space.... It's like, there's physical space. There's, like, emotional space." Mary concluded with a light laugh, "Yeah. Yeah. That seems developmentally appropriate."

This dialogue highlighted how distance, facilitated by technology, has allowed them to engage more deeply and less reactively, pointing to a maturation in their relationship that encompasses both personal growth and the benefits of mediated communication.

Linda (mother #61) summarized how these passive and active strategies work together to alleviate her worry while her daughter is away at school, contributing to their closeness. She said, "If I didn't know where you were, I didn't hear from you, I would probably worry. But I think technology relieves my worry. I feel like I get to know where you are with GPS. I could just see what you're doing because of Instagram and pics that you share with me. I get to see your face if we FaceTime. We get to, you know, text all the time. So we have conversations even if we don't have time to get on the phone or FaceTime... I think technology keeps us really close." This quote encapsulated the dual role of technology in alleviating worry and maintaining closeness, highlighting its integral role in the modern dynamics of mother-daughter relationships.

Thematic Analysis Discussion

The thematic analysis explored how mothers and daughters utilize mediated maintenance strategies to sustain their relationships despite physical separation. This discussion section contextualizes the findings within existing literature and addresses the

implications of these strategies. RQ1 inquired about how mothers and daughters discuss the role of technology in maintaining their relationship with each other and how it has changed since the daughter began college. Mothers and daughters often talked about active mediated strategies, such as finding ways to simulate everyday talk, while often looking for social presence. They also talked about passive-mediated strategies, typically requiring observing others' social media profiles, or tracking their location through GPS-based location apps. In addition, they discussed the barriers to maintaining their mediated relationships, such as navigating various app or technology preferences or incompatibilities, understanding tone in text-based channels, and finding the space and time to connect. Mother-daughter dyads also noted switching back and forth between different technologies based upon their synchronous or asynchronous nature and their affordances. Finally, many dyads mentioned their relationship's overall strength or nature considering the recent changes, often citing either the facilitative nature of technology, the natural evolution of parent-child relationships and maturation, or a combination of both.

First, the findings underscore a series of active mediated maintenance strategies that mothers and their daughters discussed using. Most notably, they found ways to replicate everyday talk and search for social presence. Consistent with prior research (Harper, 2017), regular check-ins through text messages and sharing daily experiences foster continuous interaction and emotional closeness. Richer communication media like video calls enhance social presence, creating a sense of togetherness despite physical distance (Walther, 1992). This supports the media richness theory (Daft & Lengel, 1986), which posits that richer media, such as video calls, are more effective in conveying social presence and emotional nuances (Hall et al., 2021). The analysis reveals that everyday talk through text messages and

social media platforms like Snapchat provide immediate, visual updates replicating daily interactions' natural flow. This aligns with the findings by Coyne et al. (2011), who noted that frequent, low-stakes communication fosters relational maintenance. Moreover, family group chats play a crucial role in sustaining familial bonds, enabling members to share their lives and maintain a collective sense of closeness in their family as a whole (Mesch, 2006).

There was an underlying theme that dyads were trying to simulate aspects of face-to-face (FtF) interaction, such as seeing each other's faces or sharing quick content.

Interestingly, some dyads felt closer now when the daughter was away at college than when they lived together, suggesting they are strategically attempting to replicate the best aspects of FtF interaction in their technology. This "less is more" approach might enhance the quality of their interactions by focusing on meaningful communication rather than quantity, especially when mothers and daughters feel their partner is responsive to everyday communication. Merolla et al. (2024) found that responsive everyday communication was crucial for fostering social connection across different types of relationships. These interactions provide essential social and emotional nourishment, supporting the theory that consistent, meaningful communication is foundational for personal and relational health (Afifi et al., 2016). Furthermore, the use of texting to maintain a steady stream of everyday talk, coupled with calling and video chat to convey more richness and nonverbal cues, highlights the importance of switching communication modes based on the function and need of the interaction. This strategic mode-switching can add a nuanced understanding to the literature on how different communication channels fulfill distinct relational functions.

The findings also present a series of passive-mediated maintenance behaviors in which mothers and daughters use technology to maintain their relationship, but not through

direct interaction. Location tracking and social media viewership provide mothers peace of mind and a sense of connection without direct interaction. This finding is consistent with past research indicating that passive strategies can reduce anxiety and enhance perceived relational closeness (Mesch & Talmud, 2010). Location-tracking apps like Find My and Life360 offer mothers reassurance about their daughters' safety, which is a significant aspect of relational maintenance (Smith et al., 2016). Furthermore, the prevalence of mothers tracking their daughter's physical location highlights that despite their daughters being legal adults, many mothers still feel significant concern over their daughters' location and general safety. This supports Arnett's (2000; 2020) idea of emerging adulthood, in which 18- to 25-year-olds are still in the process of gaining complete independence. Social media viewership allows mothers and daughters an additional mechanism to stay updated on each other's lives, fostering a sense of involvement and connection (Pempek et al., 2009). This passive observation complements active communication strategies, contributing to a continuous awareness of each other's well-being.

These passive strategies often account for the mother's relatively low levels of anxiety. A study by Dubas and Petersen (1996) found that parents' anxiety increased after their child added geographical distance by moving out. They attributed this to a decrease in daily interactions and the inability of parents to oversee their children's safety directly. With the emergence of advanced communicative technologies, parents can facilitate everyday interaction via active maintenance strategies and observe what their children are doing on social media and where they are through location-tracking applications. Not only may this benefit the mother's well-being, but Padilla-Walker et al. (2008) found that when parents are

more informed about their emerging adults' behavior, their children are less likely to engage in risk.

Despite the benefits of communication technologies, barriers such as device/app incompatibility and difficulties in conveying tone through text messages were identified. These issues can hinder effective communication and relational maintenance (Thurlow et al., 2004). Device and app incompatibility often require dyads to make adjustments or choose alternative communication methods, which can be inconvenient (Gonzales et al., 2014). Dyads frequently made decisions to overcome these barriers, such as choosing different apps to bridge the iPhone/Android gap or taking advantage of asynchronous technology's affordances. Text messaging, while convenient, often fails to convey emotional nuances, leading to misunderstandings (Kato et al., 2017). This finding highlights the importance of selecting appropriate communication channels to minimize misinterpretations and enhance relational quality.

Finding time to connect amidst busy schedules was another significant barrier. This finding aligns with existing literature on the difficulties of maintaining long-distance relationships, which often require strategic planning and intentional efforts to stay connected (Johnson et al., 2008). The ability to use asynchronous communication methods like texting helps accommodate varying schedules, ensuring continuous interaction without requiring real-time engagement (Kraut et al., 2002). Several dyads discussed ways to optimize their use of technology to improve their relationships, including mere acknowledgment of messages to scheduling regular calls or video chats. These proactive strategies align with findings by Vangelisti (2009), emphasizing the importance of intentionality in relational maintenance.

The analysis revealed that both the facilitative role of technology and the natural evolution of parent-child relationships contribute to the enhanced closeness between mothers and daughters. Technology provides the necessary distance for conflict management and offers continuous support, corresponding with findings by Stafford (2005). The natural evolution of relationships, marked by increased independence and maturity, enhances relational quality (Baxter & Montgomery, 1996). Some dyads attributed their improved relationship to both factors, highlighting how physical and emotional distance, facilitated by technology, allows for deeper and less reactive interactions (Tolle, 2005). This dual influence underscores the complex interplay between technology and personal growth in maintaining long-distance relationships.

Overall, technology appears to play a crucial role in alleviating worry and maintaining closeness between mothers and daughters, especially as they navigate the challenges of physical separation. Mothers, as the parental figures examined in this dissertation, often worked with their daughters to make deliberate choices to switch between synchronous and asynchronous communication methods. This flexibility allowed them to adapt to different contexts and needs, ensuring continuous emotional support and relational maintenance. For instance, mothers may opt for synchronous methods like video calls to provide real-time emotional reassurance and to simulate face-to-face interactions, which are vital for sustaining a sense of togetherness. Conversely, asynchronous methods, such as text messages or social media updates, offer convenience and a way to stay connected despite busy schedules or time zone differences.

The choice of communication medium also reflects considerations of richness. Video calls, with their visual and auditory cues, facilitated a deeper emotional connection and more

effective communication, making them particularly valuable in addressing immediate emotional needs. This strategic use of varied communication technologies underscores the importance of adaptability in mediated maintenance strategies, highlighting how mothers, and their daughters, may leverage these tools to bridge the gap created by physical distance. This work is significant as it sheds light on the nuanced ways in which technology supports relational well-being, emphasizing the proactive roles mothers play in maintaining strong, emotionally fulfilling relationships with their daughters. Understanding these dynamics can inform the development of more effective communication tools and strategies to support long-distance familial relationships.

Chapter 6. Integrative Conclusion, Limitations, and Future Directions

Syntheses of the Three Phase Analysis

The mixed-methods study explored the dynamics of self-disclosure and co-rumination and how they intersect to shape relational well-being and anxiety in mother-daughter relationships when the daughter moves away to college. The quantitative portion of this dissertation, conducted in two phases, employed Actor-Partner Interdependence Models (APIMs) and Actor-Partner Interdependence Moderation Models (APIMoMs) to examine these dynamics across different communication channels. In Phase One, findings indicated that daughters' self-disclosure, averaged across video chat, phone calls, and text messages, was positively associated with their own and their mothers' perceptions of closeness and confirmation after conversations about stress. Mothers' self-disclosure did not significantly impact these outcomes. Additionally, no significant association between self-disclosure and anxiety levels was found for either daughters or mothers. Notably, co-rumination moderated the association between self-disclosure and anxiety, with lower levels of co-rumination

mitigating anxiety for both parties, a trend more pronounced in daughters. Higher levels of co-rumination, when paired with high self-disclosure, however, were associated with a slight increase in anxiety (again, more pronounced for daughters). This suggests that co-rumination, at certain levels, can help buffer against anxiety and at other levels, can increase anxiety.

Phase Two extended these findings by examining the effects of self-disclosure through specific communication channels. Video chats and phone calls were found to enhance relational well-being more than text messages, due to their richer communicative cues. Texting showed fewer significant positive associations. Co-rumination continued to moderate the relationship between self-disclosure and anxiety across all channels, with self-disclosure reducing anxiety at low levels of co-rumination.. The daughter's self-disclosure via video chat and phone calls had a more significant positive impact on relational well-being than texting. Additionally, the mother's self-disclosure via phone calls had significant moderating effects on both the daughter's and the mother's anxiety. Self-disclosure was associated with reduced anxiety at low levels of co-rumination, whereas it was associated with increased anxiety at high levels of co-rumination.

These results, comparing both phases, revealed consistent positive relationships between daughters' self-disclosure and their own perceptions of relational well-being, highlighting the robust role of self-disclosure in enhancing relational quality. While Phase One found a general positive association between the daughter's self-disclosure and her mother's well-being, Phase Two provided more nuance to this understanding by showing that this relationship varies by communication channel, thus contributing to the literature on the differential impacts of various communication media. Neither phase found significant associations between self-disclosure and anxiety for either mothers or daughters, challenging

assumptions about the straightforward impact of self-disclosure on emotional distress. However, co-rumination's moderating effects on anxiety were consistent across both phases, emphasizing the importance of the communication medium in these dynamics. This comprehensive analysis underscores the need for considering both the mode of communication and the context of interactions in understanding relational and emotional outcomes, thereby offering nuanced insights into the interplay between technology-mediated communication and family relationships.

Phase Three, a thematic analysis, explored how mothers and daughters used technology to maintain their relationship after the daughters moved away to college. The findings highlighted the importance of active mediated maintenance strategies, such as everyday talk and video calls, which were crucial for maintaining closeness by simulating face-to-face interaction and fostering emotional connection. Passive strategies, like location tracking and social media viewership, provided mothers with peace of mind and a sense of connection without direct interaction. However, barriers such as device and app incompatibility, difficulties in conveying tone through text messages, and challenges in finding time to connect were significant impediments. These insights underscore the importance of a balanced approach that incorporates both active and passive strategies while addressing technological and practical challenges, contributing to the literature on long-distance relational maintenance and the evolving role of technology in these dynamics.

The study underscores the integral role of technology in maintaining mother-daughter relationships, especially in long-distance contexts. By combining active strategies such as everyday talk and video calls with passive strategies like location tracking and social media viewership, mothers and daughters can maintain continuous communication and emotional

support. These tools help simulate face-to-face interactions, foster a sense of presence, and sustain connections despite physical separation, especially when used in combination with occasional face-to-face maintenance (Sharabi & Dorrance Hall, 2021). Self-disclosure plays a crucial role in fostering relational closeness and confirmation. However, the impact of self-disclosure on anxiety is more nuanced, being influenced by the level of co-rumination and the specific communication channel used. For instance, while video calls and phone conversations can effectively convey emotional nuances, they may increase anxiety if discussions are overly negative, whereas texting, although convenient for quick check-ins, lacks the same emotional depth that they might find in richer mediums. These findings emphasize the importance of balancing self-disclosure and carefully selecting communication channels to promote emotional well-being and reduce anxiety.

Most research on co-rumination focuses on face-to-face contexts, highlighting its role in relational dynamics and emotional outcomes (Rose, 2021). However, as families become increasingly mobile and children move away to college (Levitan, 2019), co-rumination also occurs through mediated channels. This shift necessitates a closer examination of how mediated co-rumination affects relational well-being and anxiety. The findings of this study suggest that self-disclosure can impact anxiety, when co-rumination is involved (and higher levels exacerbate the impact). Future research should explore whether mediated environments might intensify co-rumination's effects, given their potential to enhance selective self-presentation and emotional intensity.

This dissertation makes significant contributions to the literature by providing a comprehensive approach for understanding how technology-mediated communication can be optimized to maintain and strengthen familial bonds, particularly within the context of

mother-daughter relationships. By integrating quantitative and qualitative approaches, the research highlights the differential impacts of various communication media on relational well-being and anxiety. The findings reveal that richer communication channels like video chats and phone calls enhance perceptions of closeness and confirmation more effectively than text messages, aligning with media richness theory (Daft & Lengel, 1986). Additionally, the study identifies the complexities of co-rumination, showing that while it can strengthen emotional bonds, excessive co-rumination may increase anxiety, underscoring the need for balanced communication (Rose, 2021).

This study also contributes to the body of literature on the affordances of various communication channels by elucidating how different technologies uniquely impact relational well-being and anxiety in mother-daughter relationships. By employing a mixed-methods approach and analyzing data from mother-daughter dyads who reported using video chat, phone calls, and text messages at least once in the past month to communicate with each other, the research provides a more in-depth understanding of how these channels each offer distinct benefits and limitations. This comprehensive analysis of channel-specific affordances underscores the need for strategic use of communication technologies to optimize emotional support and relational maintenance, providing valuable insights for future research and practical applications in long-distance familial relationships (Hatzir & Segev, 2023). The results also highlight that, at least in the present sample, mother-daughter dyads use multiple channels of mediated communication to stay in touch over the course of a month.

Practically, the results reassure mothers that technology provides a reliable way to maintain frequent contact with their daughters, even enhancing their relationship by fostering

new dimensions of connection. High school and college counselors can offer targeted guidance, advising parents to adapt their use of communication channels based on the context and needs of their interactions. Encouraging flexibility and strategic use of these channels can help sustain and strengthen mother-daughter relationships during periods of physical separation, supporting continuous, meaningful engagement and relational health.

Limitations, and Future Directions

The limitations of this study highlight several critical areas for improvement and consideration for future research. First, the sample size was insufficient for robust APIMoM analysis using latent constructs, indicating a need for larger participant pools in subsequent studies. Even though using manifest composites is acceptable and commonplace in relationship research (e.g., Jones et al., 2017), it does increase the chance of measurement error (Maslowsky et al., 2014). Additionally, the study's design limits its ability to definitively ascertain the impact of maintenance via technology on relationships. Longitudinal methods, particularly diary methods, could provide more conclusive insights into the long-term impact of these communication processes on mother-daughter relational and psychological well-being.

The present study mainly attracted very close mother-daughter pairs, perhaps because the mothers' involvement was voluntary, and the study required up to two hours of participation. Although the results provide insights into how these close pairs use technology to maintain their relationships, future studies should aim to involve a more diverse range of mother-daughter relationships by possibly reducing the time commitment and altering the compensation structure. Semi-structured interviews would have allowed for more probing on how self-disclosure and co-rumination affect their relationship and their mental health.

Additionally, the study's demographic constraints—requiring participants to be fluent in English and enrolled in a university—may not adequately represent the broader population of emerging adults, who may face unique stressors and use technology differently in their familial interactions. This limitation is compounded by the essentially WEIRD (White, Educated, Industrialized, Rich, Democratic) sample, which is not reflective of global demographic realities. Future research should strive for more diverse sampling and include cross-cultural comparisons to understand better how cultural contexts influence technology's role in familial relationships.

The findings from this study open several avenues for future research. One area that merits exploration is the impact of monitoring and surveillance on family dynamics, particularly as qualitative data from this study suggest a potential conflict between autonomy and transparency in these relationships, as many dyads discussed whether the mother was able to access her daughter's location in real-time. Understanding how young adults balance privacy with parental expectations in an increasingly digital environment is crucial. Additionally, future studies should examine how the influence of technology and behaviors like self-disclosure and co-rumination evolve as children transition into adulthood. It would also be valuable to explore whether co-rumination produces differential effects when the daughters are in high school and when they transition to college. There are also likely important individual differences that come into play in the results. For instance, are there daughters who are more likely to benefit from, or who are more harmed by, co-rumination with their mothers than others? How might these effects change over time as the daughters transition to college? This exploration could shed light on the nuanced roles that such types of interactions play in personal and relational health.

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Appendix

Figure 1

Hypothesized Dyadic Model of Mediated Self-Disclosure, Co-Rumination, & Outcomes

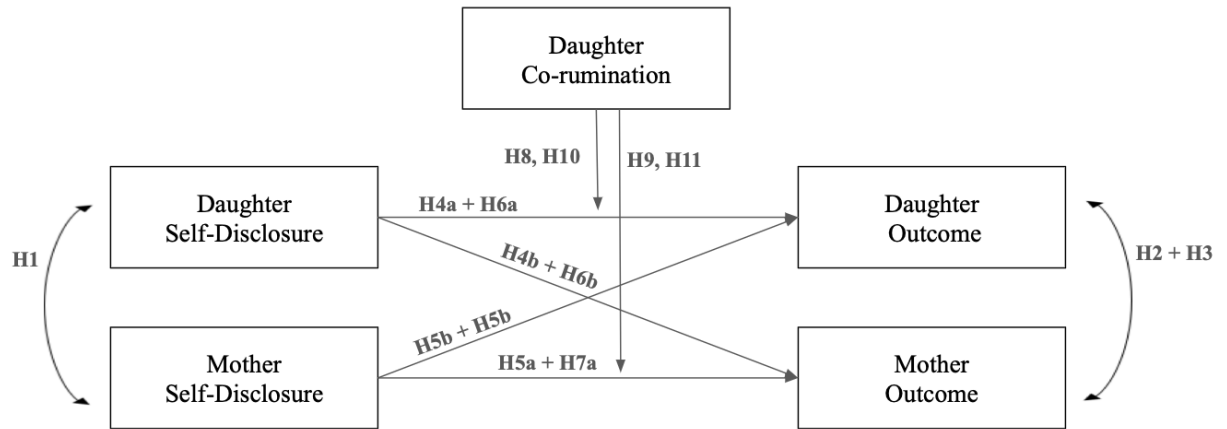
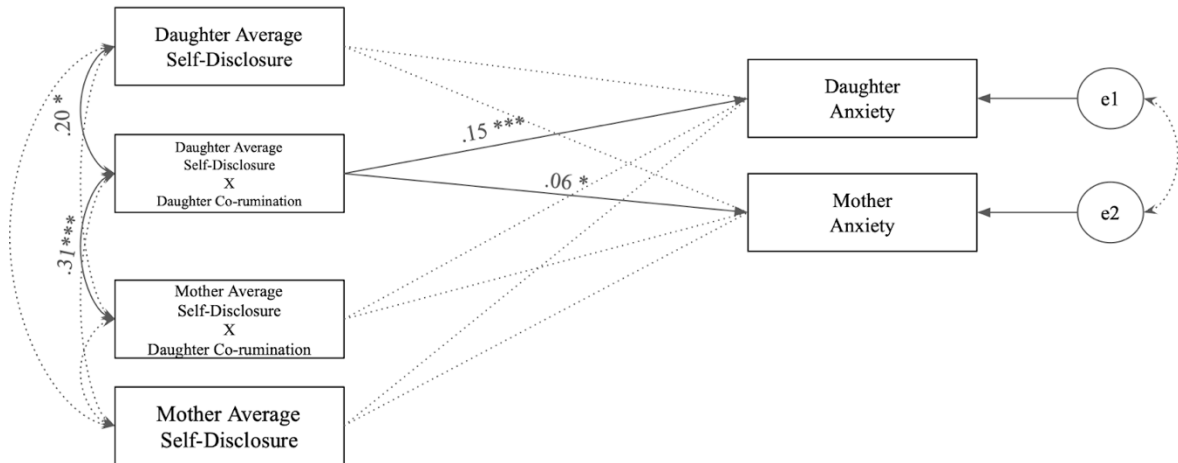


Figure 2

APIMoM: Average Self-Disclosure - Anxiety



Note. To improve readability, only significant path coefficients are displayed in the figure. For full results, please see the appropriate table.

Figure 3

Daughter average self-disclosure and co-rumination on her own anxiety

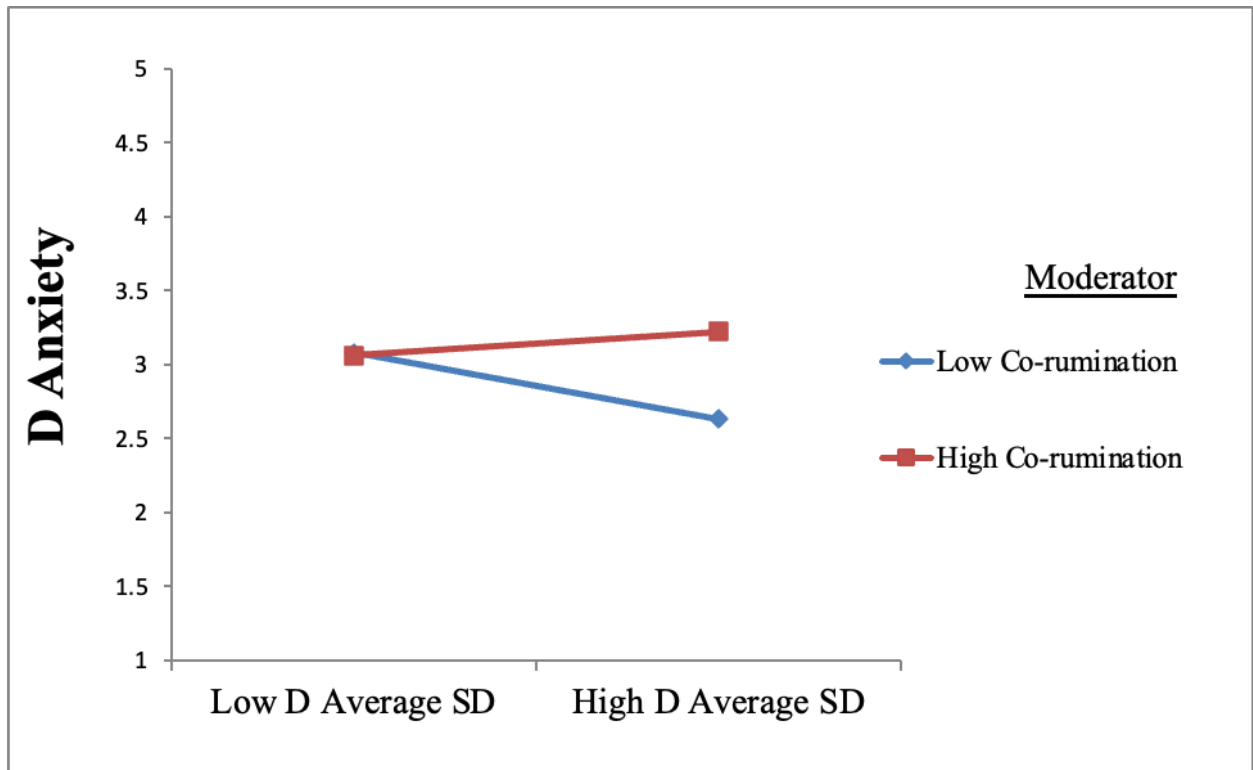


Figure 4

Daughter average self-disclosure and co-rumination on mother anxiety

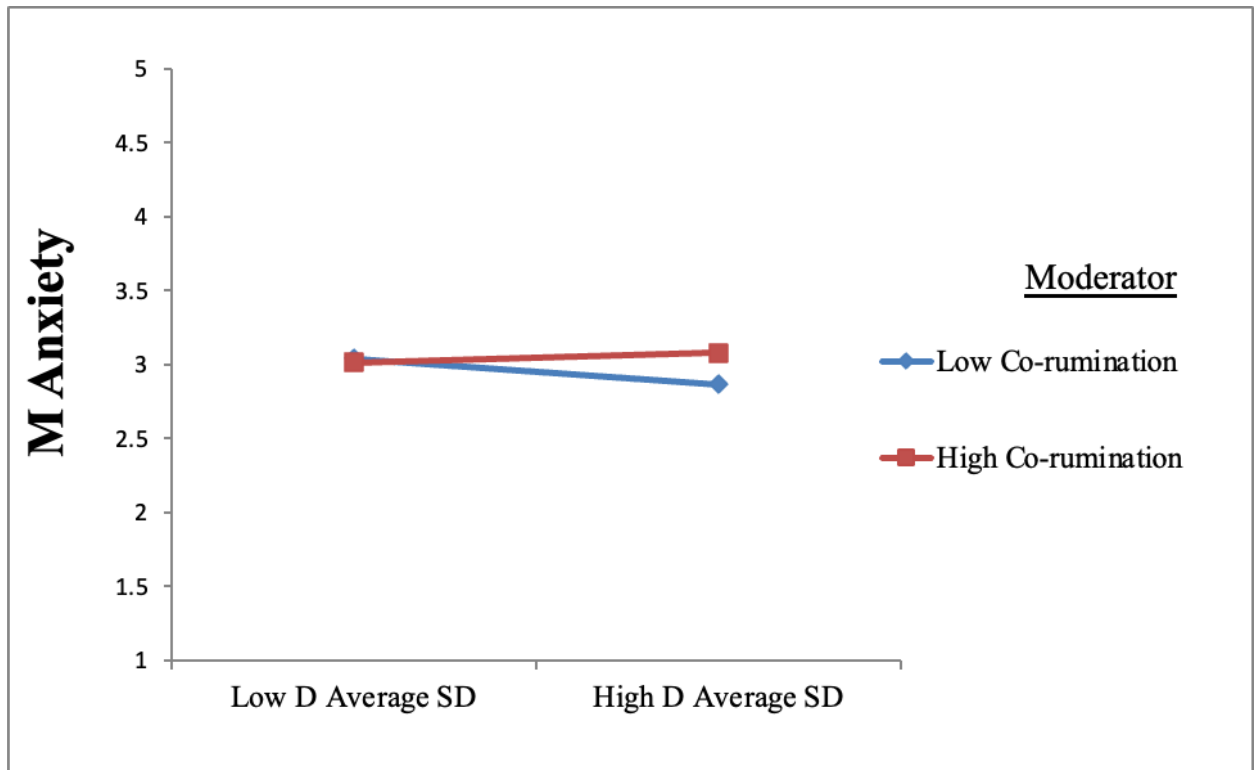
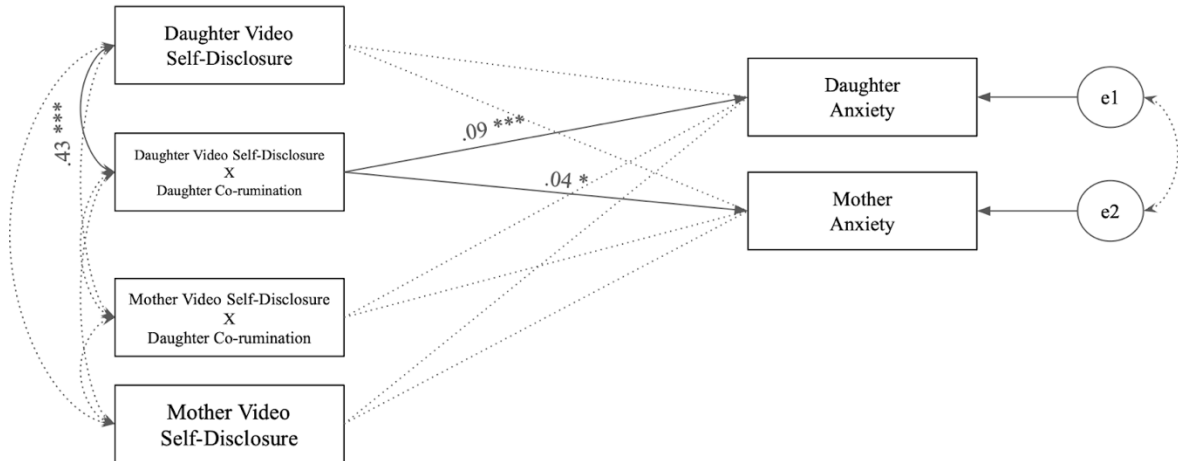


Figure 5

APIMoM: Video Chat Self-Disclosure - Anxiety



Note. To improve readability, only significant path coefficients are displayed in the figure. For full results, please see the appropriate table.

Figure 6

Daughter video self-disclosure and co-rumination on her own anxiety

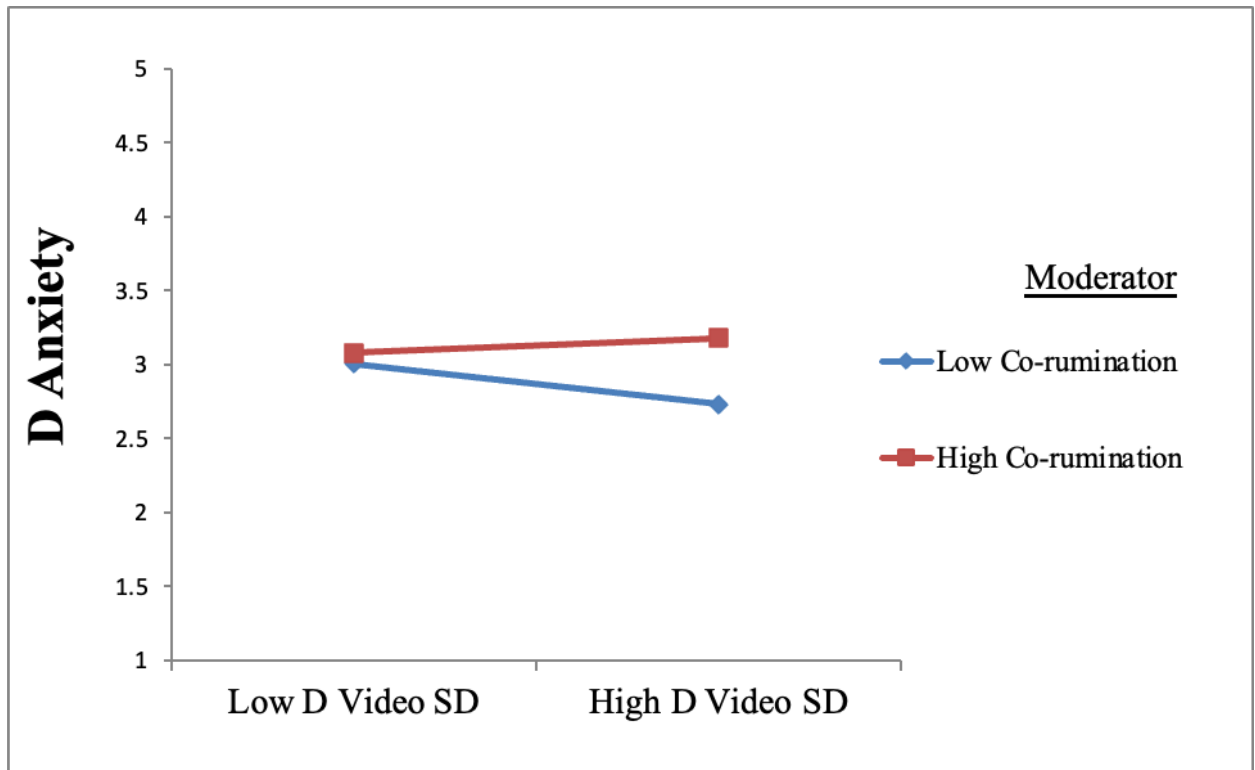


Figure 7

Daughter video self-disclosure and co-rumination on mother anxiety

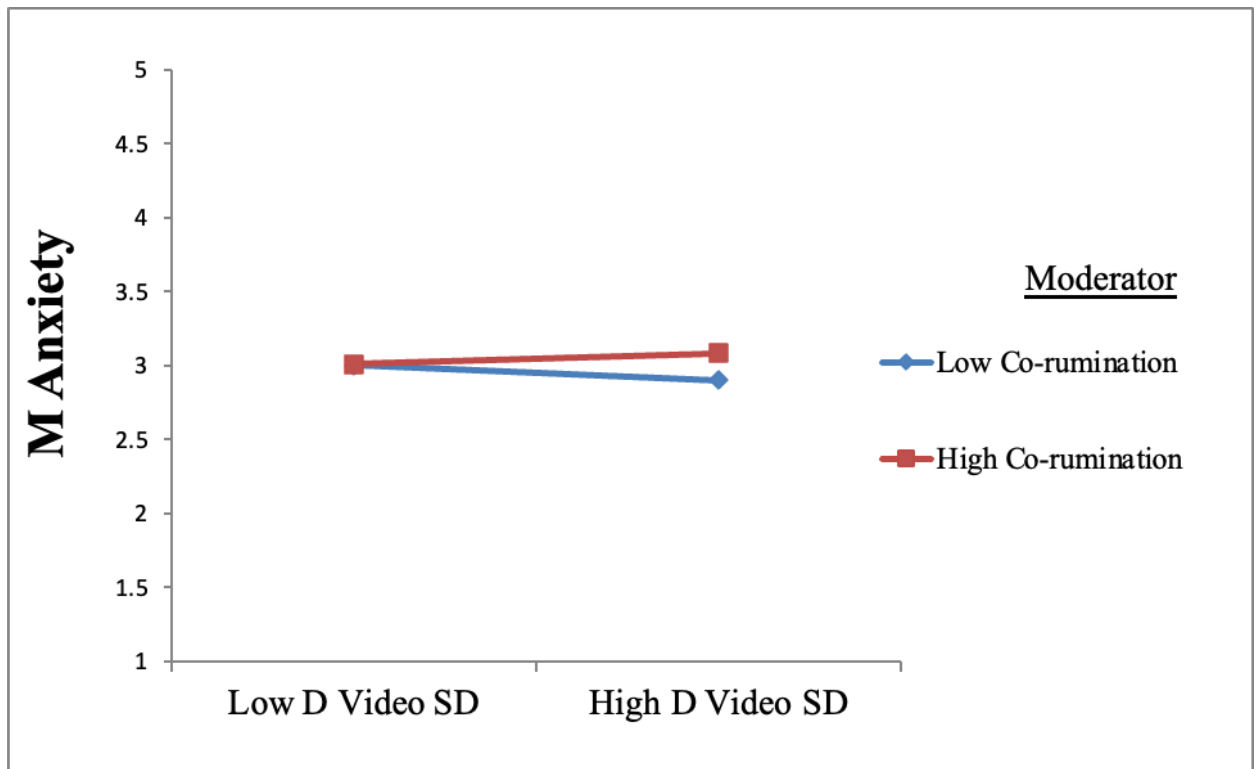
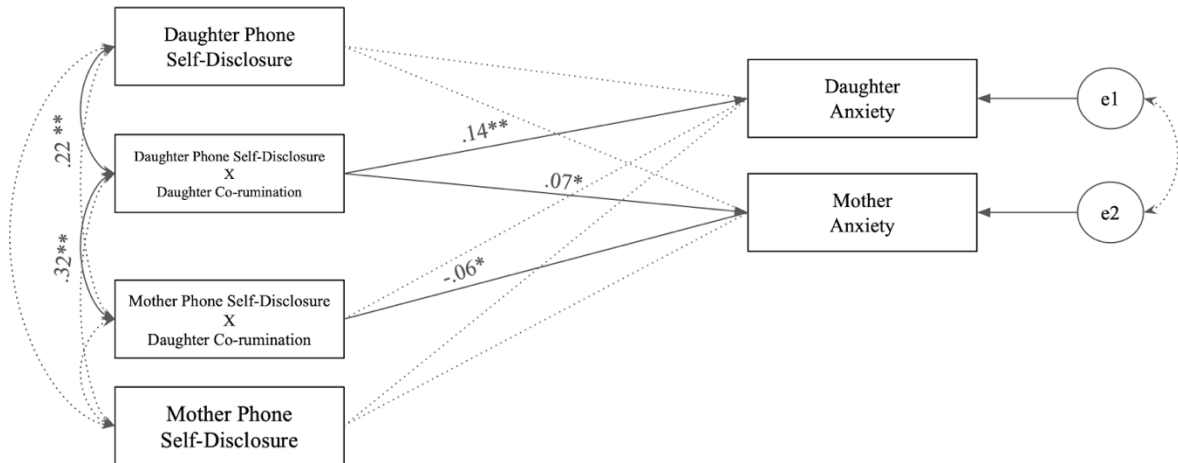


Figure 8

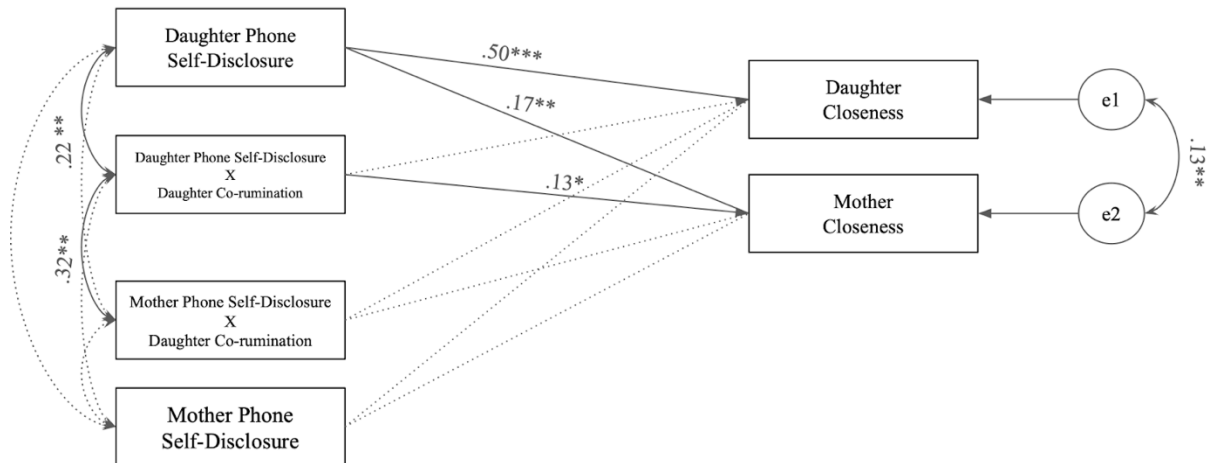
APIMoM: Phone Call Self-Disclosure - Anxiety



Note. To improve readability, only significant path coefficients are displayed in the figure. For full results, please see the appropriate table.

Figure 9

APIMoM: Phone Call Self-Disclosure - Closeness



Note. To improve readability, only significant path coefficients are displayed in the figure. For full results, please see the appropriate table.

Figure 10

Daughter call self-disclosure and co-rumination on mother closeness

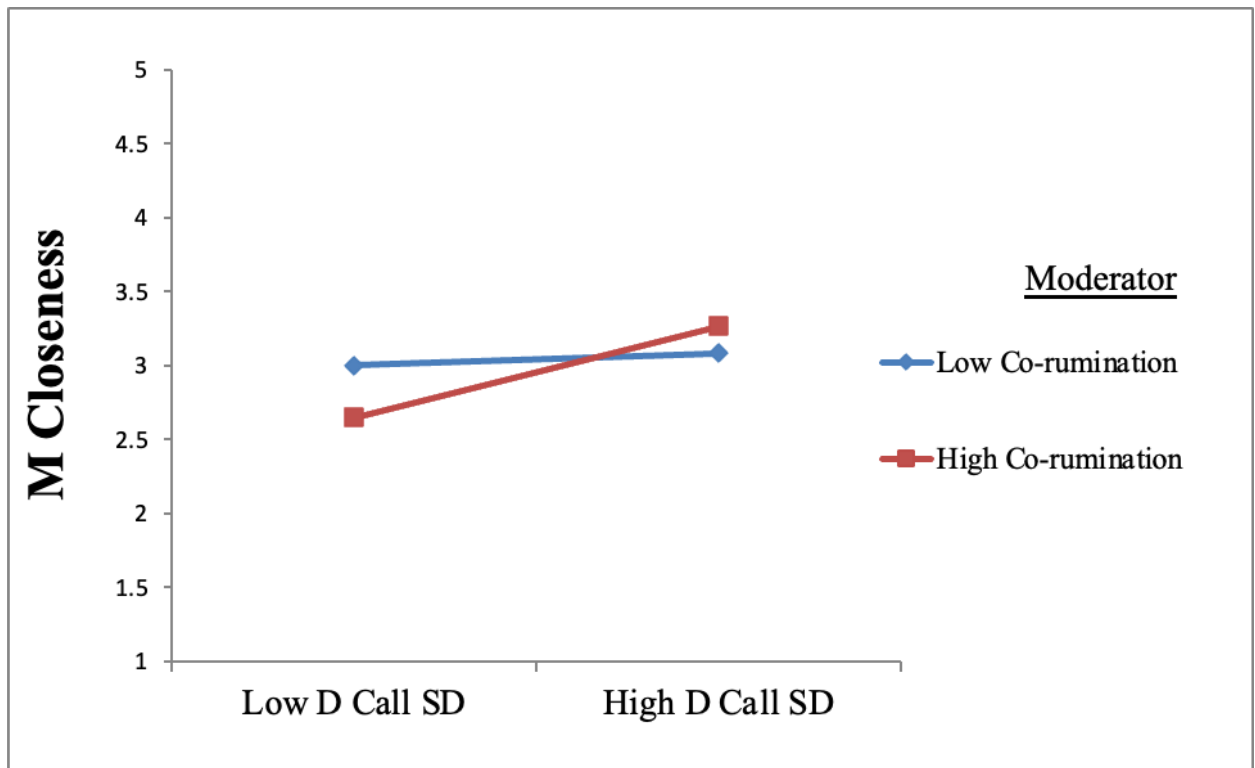


Figure 11

Daughter call self-disclosure and co-rumination on her own anxiety

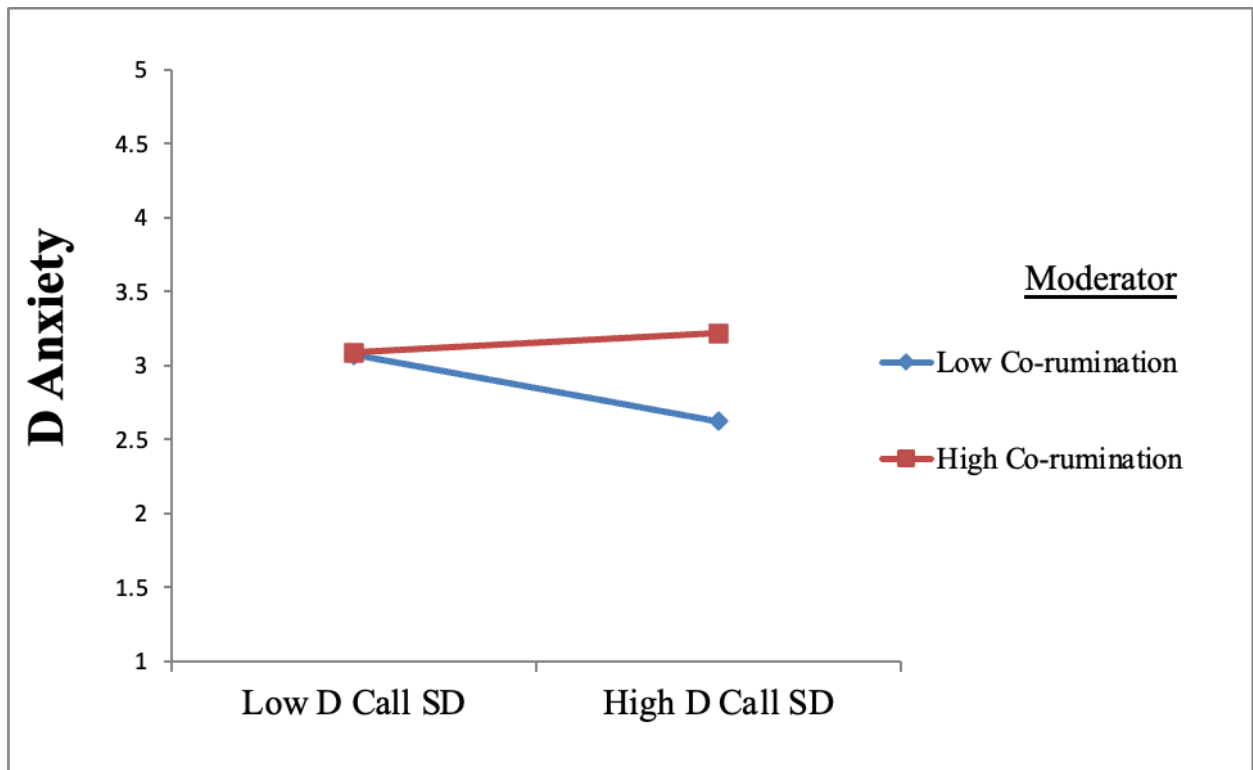


Figure 12

Daughter call self-disclosure and co-rumination on mother anxiety

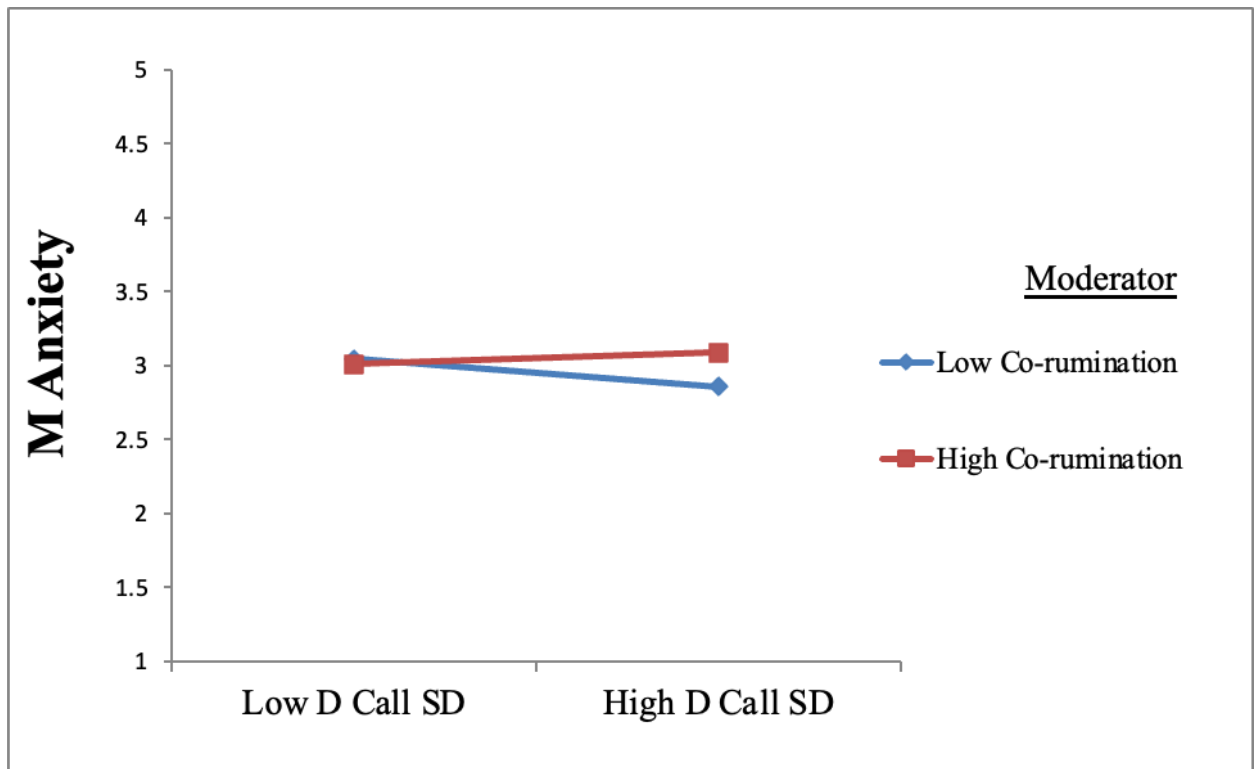


Figure 13

Mother call self-disclosure and co-rumination on her own anxiety

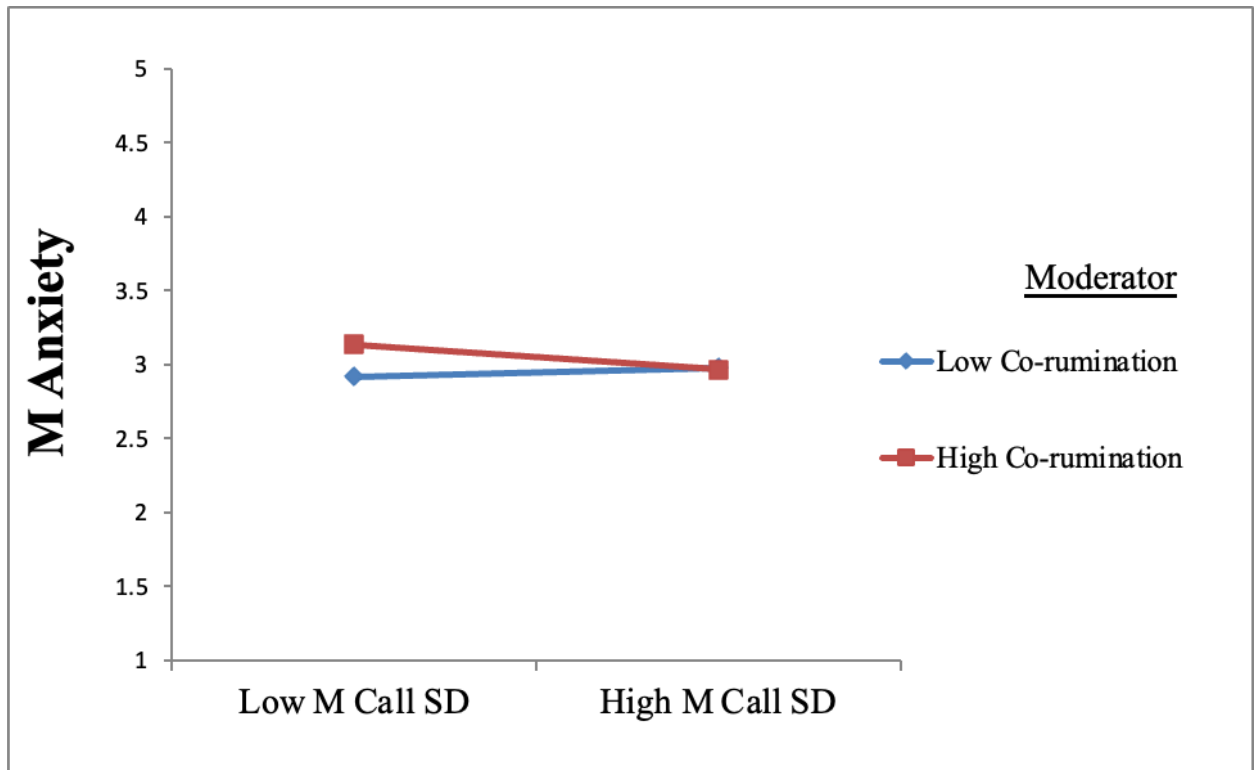
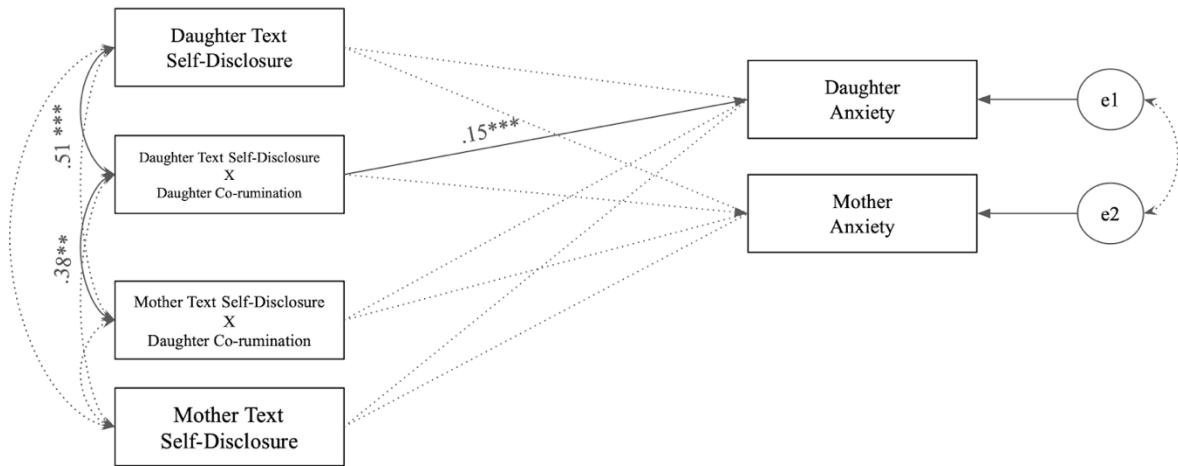


Figure 14

APIMoM: Text Message Self-Disclosure - Anxiety



Note. To improve readability, only significant path coefficients are displayed in the figure. For full results, please see the appropriate table.

Figure 15

Daughter text self-disclosure and co-rumination on her own anxiety

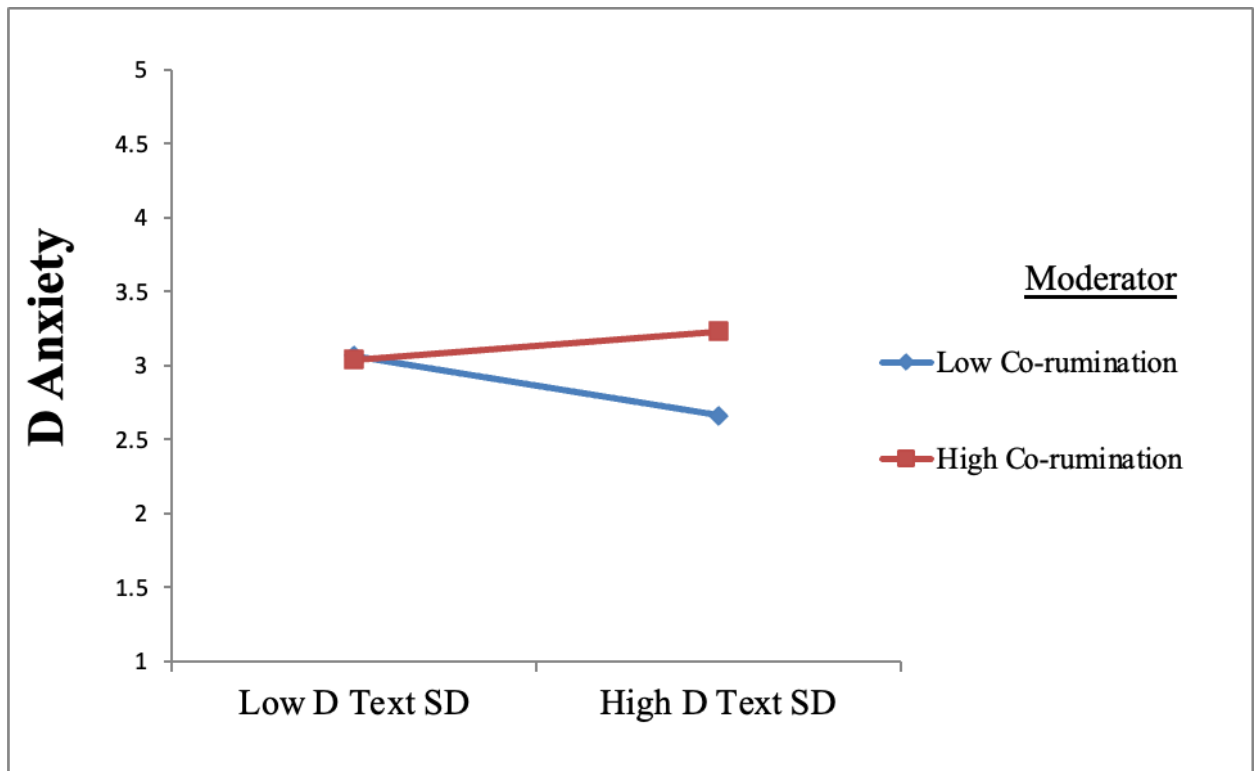


Table 1

Stressful Topics Discussed Among Mother-Daughter Dyads

Topic Discussed
Concern: daughter's adjustment to school
Concern: daughter's future
Concern: daughter's safety
Finances: daughter's
Finances: mother's
Generational differences
Health
Personality differences
Relationships: family, friends, etc.
Relationships: significant others
Technology usage

Table 2*Multimedia Frequency*

Frequency Percent			Frequency Percent		
Face-to-Face			Telephone		
Daily	51	32.5	Daily	2	1.3
A few times a week	65	41.4	A few times a week	18	11.5
Weekly	28	17.8	Weekly	19	12.1
A few times a month	6	3.8	A few times a month	36	22.9
Monthly	5	3.2	Monthly	48	30.6
Never	2	1.3	Never	34	21.7
Mobile text			Email		
Daily	83	52.9	Daily	83	52.9
A few times a week	33	21	A few times a week	33	21
Weekly	20	12.7	Weekly	20	12.7
A few times a month	12	7.6	A few times a month	12	7.6
Monthly	6	3.8	Monthly	6	3.8
Never	3	1.9	Never	3	1.9
Public SNS			Video Chat		
Daily	52	33.1	Daily	28	17.8
A few times a week	12	7.6	A few times a week	17	10.8
Weekly	17	10.8	Weekly	30	19.1
A few times a month	15	9.6	A few times a month	27	17.2
Monthly	29	18.5	Monthly	33	21
Never	32	20.4	Never	22	14
Snapchat			Other forms		
Daily	133	84.7	Daily	145	92.4
A few times a week	5	3.2	A few times a week	1	0.6
Weekly	3	1.9	Weekly	2	1.3
A few times a month	3	1.9	A few times a month	5	3.2
Monthly	7	4.4	Monthly	1	0.6
Never	6	3.8	Never	3	1.9

Table 3*CFA results*

	Daughters					Mothers				
	χ^2 (df)	CFI	TLI	RMSEA	SRMR	χ^2 (df)	CFI	TLI	RMSEA	SRMR
Mediated Disclosure	.94(1)	1.00	1.00	.00	.01	1.04(1)	1.00	1.00	.017	.01
Video Disclosure	1.36(1)	.99	.99	.05	.01	.41(1)	1.00	1.01	.00	.00
Call Disclosure	.39(1)	1.00	1.01	.00	.01	1.18(1)	.99	.98	.08	.01
Text Disclosure	.02(1)	1.00	1.02	.00	.01	3.58(1)	.99	.95	.14	.01
Co-Rumination	20.42(17)	.99	.99	.04	.03	-	-	-	-	-
State Anxiety	.30(1)	1.00	1.04	.00	.08	2.58(1)	.99	.95	.11	.28
Closeness	2.52(2)	.99	.99	.05	.02	3.37(2)	.99	.98	.07	.02
Confirmation	.91(2)	1.00	1.02	.00	.01	.14(1)	1.00	1.05	.00	.01

Table 4*Daughters' Correlations*

	M	SD	Mediated Disclosure	Video	Call	Text	Co- rumination	Anxiety	Closeness	Confirmation
Mediated Disclosure	2.76	.91	-							
Video	2.76	1.12	.88**	--						
Call	3.11	.94	.88**	.68**	--					
Text	2.41	1.06	.86**	.51**	.65**	--				
Co-rumination	2.63	1.01	.23**	.17*	.39**	.29**	--			
Anxiety	1.27	.45	.07	.02	.02	.02	.14	--		
Closeness	6.17	.84	.54**	.41**	.58**	.46**	.31**	-.12	--	
Confirmation	4.06	.80	.40**	.26**	.41**	.32**	.34**	.00	.57**	--

Note. Correlations are standardized estimates. a = $p < .10$; * $p < .05$; ** $p < .01$

Table 5*Mothers' Correlations*

	M	SD	Mediated Disclosure	Video	Call	Text	Anxiety	Closeness	Confirmation
Mediated Disclosure	2.31	.85	-						
Video Chat	2.30	1.04	.88**	--					
Phone Call	2.53	.92	.91**	.69**	--				
Text Message	2.09	.92	.86**	.62**	.70**	--			
Anxiety	1.14	.29	-.10	-.09	.08	.03	--		
Closeness	6.32	.75	.15	.10	.13	.08	-.02*	--	
Confirmation	4.21	.63	.16	.07	.14	-.00	-.23*	.52**	--

Note. Correlations are standardized estimates. a = $p < .10$; * $p < .05$; ** $p < .01$.

Table 6*Daughters' and Mothers' Correlations*

	Daughter Mediated Disclosure	Daughter Video	Daughter Call	Daughter Text	Daughter Co- rumination	Daughter Anxiety	Daughter Closeness	Daughter Confirmation
Mother Mediated Disclosure	.13	.04	.14	.17	.17	-.02	.20*	.12
Mother Video	.11	.08	.19*	.18*	.14	.02	.23**	.12
Mother Call	.14	.13	.17*	.19*	.13	.06	.18*	.06
Mother Text	.11	.06	.15	.13	.06	-.01	.07	-.05
Mother Anxiety	.01	-.04	-.06	-.08	.15	.15	-.05	-.15
Mother Closeness	.24**	.23**	.29**	.18*	.34	.77	.39**	.21*
Mother Confirmation	.194*	.17*	.26**	.10	.07	-.05	.37**	.35**

Note. Correlations are standardized estimates. a = $p < .10$; * $p < .05$; ** $p < .01$; ***.

Table 7

APIM Results

Video Chat - Closeness	Estimate	SE	P	Phone Call - Closeness	Estimate	SE	P
Daughter Closeness <-- Mother SD	.15	.06	.01	Daughter Closeness <-- Mother SD	.08	.06	.21
Mother Closeness <-- Daughter SD	.14	.06	.02	Mother Closeness <-- Daughter SD	.19	.07	.00
Daughter Closeness <-- Daughter SD	.33	.06	***	Daughter Closeness <-- Daughter SD	.59	.06	***
Mother Closeness <-- Mother SD	.11	.06	.08	Mother Closeness <-- Mother SD	.06	.07	.35
Video Chat - Confirmation				Phone Call - Confirmation			
Daughter Confirmation <-- Daughter SD	.23	.05	***	Daughter Confirmation <-- Daughter SD	.02	.04	.70
Mother Confirmation <-- Daughter SD	.08	.04	.05	Mother Confirmation <-- Daughter SD	.00	.03	.99
Daughter Confirmation <-- Mother SD	.13	.06	.02	Daughter Confirmation <-- Mother SD	-.01	.04	.78
Mother Confirmation <-- Mother SD	.10	.04	.02	Mother Confirmation <-- Mother SD	-.02	.03	.46
Video Chat - Anxiety				Phone Call - Anxiety			
Mother Anxiety <-- Mother SD	-.04	.02	.11	Mother Anxiety <-- Mother SD	-.02	.03	.46
Daughter Anxiety <-- Mother SD	.01	.04	.89	Daughter Anxiety <-- Mother SD	-.01	.04	.78
Mother Anxiety <-- Daughter SD	.02	.02	.45	Mother Anxiety <-- Daughter SD	.00	.03	.99
Daughter Anxiety <-- Daughter SD	.02	.04	.61	Daughter Anxiety <-- Daughter SD	.02	.04	.70
Text - Closeness				Mediated Maintenance - Closeness			
Daughter Closeness <-- Mother SD	.11	.07	.11	Daughter Closeness <-- Mother SD	.01	.01	.08
Mother Closeness <-- Daughter SD	.10	.06	.10	Mother Closeness <-- Daughter SD	.02	.01	.01
Daughter Closeness <-- Daughter SD	.30	.06	***	Daughter Closeness <-- Daughter SD	.04	.01	***
Mother Closeness <-- Mother SD	.10	.07	.15	Mother Closeness <-- Mother SD	.01	.01	.15
Text - Confirmation				Mediated Maintenance - Confirmation			
Daughter Confirmation <-- Daughter SD	.17	.06	.00	Daughter Confirmation <-- Daughter SD	.02	.00	***
Mother Confirmation <-- Daughter SD	.05	.04	.25	Mother Confirmation <-- Daughter SD	.01	.00	.04
Daughter Confirmation <-- Mother SD	-.02	.06	.70	Daughter Confirmation <-- Mother SD	...00	.01	.44
Mother Confirmation <-- Mother SD	.04	.05	.49	Mother Confirmation <-- Mother SD	.01	.00	.13
Text - Anxiety				Mediated Maintenance - Anxiety			
Mother Anxiety <-- Mother SD	-.01	.03	.73	Mother Anxiety <-- Mother SD	.00	.00	.27
Daughter Anxiety <-- Mother SD	-.03	.04	.44	Daughter Anxiety <-- Mother SD	...00	.00	.72
Mother Anxiety <-- Daughter SD	-.01	.02	.66	Mother Anxiety <-- Daughter SD	.00	.00	.80
Daughter Anxiety <-- Daughter SD	.05	.04	.20	Daughter Anxiety <-- Daughter SD	.00	.00	.41

Note. SD = Self-disclosure

Table 8*Mediated Disclosure APIMoM Results*

	Estimate	SE	P
Mediated Disclosure - Closeness			
Daughter Closeness <-- Daughter SD	.49	.07	***
Daughter Closeness <-- Mother SD	.16	.08	.04
Daughter Closeness <-- Mother SD X Daughter Co-rumination	-.01	.07	.93
Daughter Closeness <-- Daughter SD X Daughter Co-rumination	-.11	.06	.06
Mother Closeness <-- Mother SD X Daughter Co-rumination	.06	.07	.39
Mother Closeness <-- Daughter SD X Daughter Co-rumination	.05	.06	.42
Mother Closeness <-- Daughter SD	.13	.07	.06
Mother Closeness <-- Mother SD	.09	.08	.22
Mediated Disclosure - Anxiety			
Daughter Anxiety <-- Daughter SD	-.07	.04	.10
Daughter Anxiety <-- Mother SD	-.04	.03	.25
Daughter Anxiety <-- Mother SD X Daughter Co-rumination	.01	.04	.86
Daughter Anxiety <-- Daughter SD X Daughter Co-rumination	.15	.04	***
Mother Anxiety <-- Mother SD X Daughter Co-rumination	-.05	.03	.10
Mother Anxiety <-- Daughter SD X Daughter Co-rumination	.06	.03	.02
Mother Anxiety <-- Daughter SD	-.03	.03	.37
Mother Anxiety <-- Mother SD	-.04	.03	.25
Mediated Disclosure - Confirmation			
Daughter Confirmation <-- Daughter SD	.28	.07	***
Daughter Confirmation <-- Mother SD	.05	.07	.45
Daughter Confirmation <-- Mother SD X Daughter Co-rumination	-.002	.06	.98
Daughter Confirmation <-- Daughter SD X Daughter Co-rumination	-.04	.06	.55
Mother Confirmation <-- Mother SD X Daughter Co-rumination	.06	.05	.24
Mother Confirmation <-- Daughter SD X Daughter Co-rumination	-.03	.05	.46
Mother Confirmation <-- Daughter SD	.10	.05	.06

Mother Confirmation <-- Mother SD	.08	.05	.16
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Note. SD = Self-disclosure

Table 9

Video Chat APIMoM Results

	Estimate	SE	P
Video Chat - Closeness			
Daughter Closeness <-- Daughter SD	.34	.06	***
Daughter Closeness <-- Mother SD	.14	.06	.02
Daughter Closeness <-- Mother SD X Daughter Co-rumination	.08	.06	.16
Daughter Closeness <-- Daughter SD X Daughter Co-rumination	-.12	.05	.02
Mother Closeness <-- Mother SD X Daughter Co-rumination	.08	.06	.69
Mother Closeness <-- Daughter SD X Daughter Co-rumination	.01	.05	.92
Mother Closeness <-- Daughter SD	.14	.06	.02
Mother Closeness <-- Mother SD	.10	.06	.12
Video Chat - Anxiety			
Daughter Anxiety <-- Daughter SD	-.04	.04	.23
Daughter Anxiety <-- Mother SD	-.02	.04	.52
Daughter Anxiety <-- Mother SD X Daughter Co-rumination	.05	.03	.12
Daughter Anxiety <-- Daughter SD X Daughter Co-rumination	.09	.03	.00
Mother Anxiety <-- Mother SD X Daughter Co-rumination	-.03	.02	.20
Mother Anxiety <-- Daughter SD X Daughter Co-rumination	.04	.02	.04
Mother Anxiety <-- Daughter SD	-.01	.02	.79
Mother Anxiety <-- Mother SD	-.04	.02	.08
Video Chat - Confirmation			
Daughter Confirmation <-- Daughter SD	.23	.05	***
Daughter Confirmation <-- Mother SD	.12	.05	.03
Daughter Confirmation <-- Mother SD X Daughter Co-rumination	.01	.05	.80
Daughter Confirmation <-- Daughter SD X Daughter Co-rumination	-.06	.05	.24
Mother Confirmation <-- Mother SD X Daughter Co-rumination	.04	.04	.35
Mother Confirmation <-- Daughter SD X Daughter Co-rumination	-.02	.04	.56
Mother Confirmation <-- Daughter SD	.08	.04	.05

Mother Confirmation <-- Mother SD	.09	.04	.03
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Note. SD = Self-disclosure

Table 10

Telephone Call APIMoM Results

	Estimate	SE	P
Telephone Call - Closeness			
Daughter Closeness <-- Daughter SD	.50	.07	***
Daughter Closeness <-- Mother SD	.09	.06	.18
Daughter Closeness <-- Mother SD X Daughter Co-rumination	-.03	.06	.67
Daughter Closeness <-- Daughter SD X Daughter Co-rumination	-.05	.06	.42
Mother Closeness <-- Mother SD X Daughter Co-rumination	.03	.06	.67
Mother Closeness <-- Daughter SD X Daughter Co-rumination	.13	.07	.04
Mother Closeness <-- Daughter SD	.18	.07	.02
Mother Closeness <-- Mother SD	.05	.07	.50
Telephone Call - Anxiety			
Daughter Anxiety <-- Daughter SD	-.08	.04	.06
Daughter Anxiety <-- Mother SD	-.04	.04	.32
Daughter Anxiety <-- Mother SD X Daughter Co-rumination	.01	.04	.85
Daughter Anxiety <-- Daughter SD X Daughter Co-rumination	.14	.04	***
Mother Anxiety <-- Mother SD X Daughter Co-rumination	-.06	.02	.02
Mother Anxiety <-- Daughter SD X Daughter Co-rumination	.07	.03	.01
Mother Anxiety <-- Daughter SD	-.03	.03	.35
Mother Anxiety <-- Mother SD	-.03	.03	.52
Telephone Call - Confirmation			
Daughter Confirmation <-- Daughter SD	.30	.07	***
Daughter Confirmation <-- Mother SD	.04	.06	.54
Daughter Confirmation <-- Mother SD X Daughter Co-rumination	-.05	.06	.34
Daughter Confirmation <-- Daughter SD X Daughter Co-rumination	.05	.06	.38
Mother Confirmation <-- Mother SD X Daughter Co-rumination	-.02	.05	.65
Mother Confirmation <-- Daughter SD X Daughter Co-rumination	.05	.05	.25
Mother Confirmation <-- Daughter SD	.12	.05	.02

Mother Confirmation <-- Mother SD	.06	.05	.22
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Note. SD = Self-disclosure

Table 11*Text Message APIMoM Results*

	Estimate	SE	P
Text Message - Closeness			
Daughter Closeness <-- Daughter SD	.29	.07	***
Daughter Closeness <-- Mother SD	.12	.07	.09
Daughter Closeness <-- Mother SD X Daughter Co-rumination	-.03	.07	.67
Daughter Closeness <-- Daughter SD X Daughter Co-rumination	-.06	.06	.30
Mother Closeness <-- Mother SD X Daughter Co-rumination	.03	.07	.64
Mother Closeness <-- Daughter SD X Daughter Co-rumination	.05	.06	.43
Mother Closeness <-- Daughter SD	.12	.07	.09
Mother Closeness <-- Mother SD	.10	.07	.17
Text Message - Anxiety			
Daughter Anxiety <-- Daughter SD	-.05	.04	.16
Daughter Anxiety <-- Mother SD	-.03	.04	.43
Daughter Anxiety <-- Mother SD X Daughter Co-rumination	-.04	.04	.28
Daughter Anxiety <-- Daughter SD X Daughter Co-rumination	.15	.03	***
Mother Anxiety <-- Mother SD X Daughter Co-rumination	-.02	.03	.56
Mother Anxiety <-- Daughter SD X Daughter Co-rumination	.03	.02	.16
Mother Anxiety <-- Daughter SD	-.04	.03	.17
Mother Anxiety <-- Mother SD	-.01	.03	.78
Text Message - Confirmation			
Daughter Confirmation <-- Daughter SD	.15	.06	.02
Daughter Confirmation <-- Mother SD	-.02	.06	.71
Daughter Confirmation <-- Mother SD X Daughter Co-rumination	.04	.06	.52
Daughter Confirmation <-- Daughter SD X Daughter Co-rumination	-.02	.06	.77
Mother Confirmation <-- Mother SD X Daughter Co-rumination	.03	.05	.52
Mother Confirmation <-- Daughter SD X Daughter Co-rumination	.02	.04	.63
Mother Confirmation <-- Daughter SD	.05	.05	.33
Mother Confirmation <-- Mother SD	.03	.05	.54

Note. SD = Self-disclosure

Survey Instrumentation

Multimedia Frequency

How often have you used each channel to communicate with your mother/daughter in the past MONTH?

- Never (1)
- Monthly (2)
- A few times a month (3)
- Weekly (4)
- A few times a week (5)
- Daily (6)
- Several times a day (7)

1. Face-to-face
2. Voice telephone
3. Mobile text or instant messaging
4. Email
5. Public social networking sites (e.g., Facebook, Twitter, Instagram)
6. Video chat
7. Snapchat
8. Other forms of online communication (e.g., gaming)

Mediated self-disclosure

When you were using [insert channel/medium] to communicate with your mother in the past MONTH, how much did you tell about...

- I tell nothing about this (1)
- I tell very little about this (2)
- I tell some about this (3)
- I tell a lot about this (4)
- I tell everything about this (5)

1. Your personal feelings
2. The things you are worried about
3. Your secrets
4. Moments in your life you are ashamed of

Co-rumination (T1 Survey)

Thinking back on the conversations you've had with your mother over the past month and to what extent each of the following occurred in that conversation.

1 = not at all true; 5 = really true

1. We talk for a long time trying to figure out all of the different reasons why a problem might have happened.
2. We try to figure out every one of the bad things that might happen because of a problem.
3. We talk a lot about how bad the person with the problem feels.
4. We talk about every part of a problem over and over.
5. We talk a lot about a problem in order to understand why it happened.
6. We talk a lot about all of the different bad things that might happen because of a problem.
7. We talk a lot about parts of the problem that don't make sense to us.
8. We talk for a long time about how upset it has made one of us with the problem.
9. We spend a long time talking about how sad or mad the person with the problem feels.

Confirmation

When answering the questions below, please think about how your MOTHER/DAUGHTER communicated with you in the conversation that just occurred.

1 = strongly disagree; 5 = strongly agree

1. My mother genuinely listened to me when I spoke about something important.
2. My mother gave me clear and direct responses.
3. My mother gave appropriate facial responses such as smiling, nodding, or other indicators that she is paying attention during our conversation.
4. My mother made statements that communicated that my feelings were valid and real (e.g., made statements like "I'm sorry that you're so disappointed, angry, etc.)"

Closeness

We would like to know about how close you CURRENTLY feel with your MOTHER/DAUGHTER.

1 = not at all; 7 = very

1. How interested is your mother when you talk to each other?
2. How often does your mother express affection toward you?
3. How well does your mother know what you are really like?
4. How close do you feel to your mother?

State Anxiety

A number of statements which people have used to describe themselves are given below. Read each statement and indicate how you feel RIGHT NOW, in this moment. There are no right or wrong answers.

1 = not at all; 4 = very much so

1. I feel upset
2. I feel frightened
3. I feel nervous
4. I feel confused