UNIVERSITY OF CALIFORNIA SAN DIEGO

Examining the Determinants of COVID-19: The Experience of Burnout Among Parents in a Marginalized Community

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in

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by

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The Thesis of Gabriela Stone is approved, and it is acceptable in quality and form for publication on microfilm and electronically.

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LIST OF ABBREVIATIONS

FGDs	Focus group discussions
NIH	National Institutes of Health
CDC	Centers for Disease Control and Prevention
NIH	National Institutes of Health
SVI	Social Vulnerability Index
SASEA	Safer at School Early Alert

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ABSTRACT OF THE THESIS

Examining the Determinants of COVID-19: The Experience of Burnout Among Parents in a Marginalized Community

by

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The COVID-19 pandemic has brought to light significant health disparities that have existed in society for decades. Studies exploring the mental health implications have only just begun to emerge. This study sought to understand the experience of burnout among parents during the COVID-19 pandemic. Using a mixed-methods research design, this study analyzes fifteen focus group discussions with school staff (n=22) and parents (n=20) conducted between December 2020- March 2021 in English and Spanish. The study also analyzes a

cross-sectional survey administered in 2 waves (February and March 2022) of parents' pandemic experiences (n=541) conducted in English (n=382) and Spanish (n=159). Participants were drawn from school sites in California located in zip codes of high social vulnerability according to the California Healthy Places Index. Participants in the focus groups expressed substantial COVID-19 fatigue and discussed experiences of structural barriers, misinformation, social stigma, and trauma. Analysis of survey responses revealed that burnout was significantly associated with structural barriers and misinformation. These findings support that COVID-19 can be understood as a traumatic event increasing burnout these findings support emerging that COVID-19 can be understood as a traumatic event increasing burnout.

INTRODUCTION

Although the pandemic has been ravaging all domains of human life across the globe, socially disadvantaged communities are particularly vulnerable to suffering from mental health-related challenges via indirect or direct experiences with the virus. Choosing which protective behaviors and guidelines to uptake may further exert a negative impact on mental health outcomes, especially when considering what is best for their child. These decisions become even more complicated when also taking into consideration structural barriers such as economic uncertainties, disability status, housing insecurity, and language barriers. This study seeks to understand the experiences and perceptions of burnout among parents in a community of high social vulnerability.

CHAPTER 1 LITERATURE REVIEW

The COVID-19 pandemic has exponentially spread worldwide and has had profound effects on communities, representing an unprecedented crisis that has affected traditionally underrepresented populations at higher rates. The virus has increased death tolls and adverse health outcomes, with more than 529 million reported cases and 6.29 million reported deaths worldwide as of May 30th, 2022 (*WHO COVID-19 Dashboard*, 2020).

The first case of the novel coronavirus was reported in Wuhan, China, in December 2019, followed by a cluster of patients with pneumonia of an unknown etiology (Huang et al., 2020; Piret & Boivin, 2021; Zhu et al., 2020). After rapid transmission and spread to twenty other countries from China in the first six weeks of 2020, the World Health Organization (WHO) declared the outbreak a Public Health Emergency of International Concern (PHEIC) in January of 2020 (*WHO Director-General's Opening Remarks at the Media Briefing on COVID-19 - 11 March 2020*, n.d.). A PHEIC declaration is the highest level of alarm following a governing framework through the United Nations International Health Regulations, constituting an international global health risk requiring a coordinated international response (Assefa et al., 2021; Bennett & Carney, 2017; Mullen et al., 2020; Wilder-Smith & Osman, 2020).

COVID-19 became characterized as a global pandemic on March 11th, 2020, with more than 118,000 cases in 114 countries and 4,291 reported deaths to date. (*Virtual Press Conference on COVID-19*, 2020; *WHO Director-General's Opening Remarks at the Media Briefing on COVID-19 - 11 March 2020*, n.d.). According to the Director-General of the WHO, "This is the first pandemic caused by a coronavirus and we have never before seen a pandemic that can be controlled at the same time" (*Virtual Press Conference on COVID-19*, 2020). Within this same press conference, the Director-General also stated that classifying COVID-19 as a pandemic

"does not change the WHO's assessment of the threat posed by the virus, however, the term and elaboration of the term throughout the conference gathered high public and mass media interest/coverage (*Virtual Press Conference on COVID-19,* 2020). The definition and classification of a pandemic vary widely, in which the Dictionary of Epidemiology defines it as "an epidemic occurring over a very wide area, crossing international boundaries, and usually affecting many people. Only some pandemics cause severe disease in some individuals or at a population level…." (Porta et al., 2014). This statement by the Director-General became one of many mixed messages and unclear communication from authoritative sources. The rapid spread of the disease combined with the unknown etiology and transmission of the disease combined with having no approved vaccines, therapies, or treatments for any human coronavirus in the past fueled social media misinformation and further divided the population with conspiracy theories (Anwar et al., 2020; Lin et al., 2020).

Researchers worldwide began to work aggressively to create effective vaccines to respond to the pandemic, with more than 200 vaccine candidates in different stages of development in late August of 2020 (Sharma et al., 2020). The pandemic thus became a catalyst for scientific and public health advancements with mass vaccination campaigns, but despite the unprecedented speed of vaccine development and mass vaccination efforts, variants continue to emerge and threaten to undo the progress made so far in controlling the spread of the disease. A central component of the public health strategy to control the COVID-19 pandemic involves societal engagement in protective behaviors to minimize the transmission and spread of the virus. In context to the COVID-19 pandemic, these protective behaviors include encouraging mask-wearing, social distancing, vaccination, and testing.

Burnout and Emotional Health

The concept of burnout has been recognized for years, but has generated controversy, including when the WHO classified it as an occupational pathology (Reed et al., 2019). Burnout originated as a syndrome involving emotional exhaustion, depersonalization, and a decrease in feelings of self-fulfillment (Maslach & Leiter, 2016, 2016; Rohland et al., 2004). Parental burnout is classified in four dimensions: an overwhelming sense of exhaustion, emotional distancing from their child, a loss of fulfillment with the parental role, and a sharp contrast between the perception of how the parents used to be and how they see themselves now (Maslach & Leiter, 2016; Vertsberger et al., 2022; Woine et al., 2022).

COVID Stress Syndrome is a newly proposed condition characterized by a network of symptoms across five interconnected facts comprised by: danger and contamination fears, socioeconomic concerns, compulsive checking and reassurance seeking, traumatic stress, and xenophobia (Bryant-Genevier, 2021; Taylor, 2021; Taylor et al., 2020; Watson, 2022). This network of associated variables leads to higher levels of distress and maladaptive coping, panic buying, and excessive avoidance.

The significant risks from COVID-19 are not from the pathogen itself "but from indirect effects of control measures on health and core societal activities" (Grace E. Patterson et al., 2021; Naomi J. Patterson et al., 2022). The transactional model of stress and coping provides a theoretical framework emphasizing the interrelated nature of a person and their environment as the driving force for the stress experience (Lazarus & Folkman, 1984, 1987). This theoretical framework is built upon Lazarus's previous theory, placing the individual's appraisal of a stressor at the center of the stress experience. Stress is thus characterized by constantly changing behavioral or cognitive efforts in order to manage the factors an individual perceives as stressful

(Lazarus & Folkman, 1987; Lazarus & Launier, 1978). According to this model, individuals respond differently to the same stressors due to social, psychological, or emotional differences. When Goffman first introduced stigma, it mainly referred to the visible characteristic features of individuals to identify them as tainted or immoral but has since evolved as a concept to take on many more forms (Goffman, 1986). In the context of COVID-19, stigma resides in a social context and internalized stigma refers to the awareness of devaluation or stereotyping of oneself because of a perceived link with COVID-19. The psychological aspects of stigma and social discrimination (SAD), has emerged within the context of previous pandemics such as HIV, HCV, tuberculosis, and Zika (Baldassarre et al., 2020).

Mental health issues triggered by viral outbreaks such as the current pandemic have been coined a “parallel epidemic” in which as the pandemic disease continues to spread, there is a similar outbreak of fear and worry (Bridgland et al., 2021; Czeisler et al., 2021; Kupietz & Gray, 2021). The outbreak is also associated with many individual stressors, including fear of infection, quarantine, health complications, illness, and deaths. This is further compounded by social distancing measures, closures of schools and daycares, the impact of jobs including unemployment and working from home, restrictions on people being allowed to meet over long periods of time, high financial stress, and social stress as well as changes in usual routines (Forrester et al., 2019). All the policies implemented to protect the population from infection and from transmitting the disease impact many aspects of daily life over a prolonged time, so rather than one major stressful or traumatic event, there is a cumulative effect of daily and repeated stressors, which in turn affect physical and emotional health (Chatterji et al., 2021; Hobfoll, 1998).

Throughout the pandemic, misinformation and disinformation have propagated regarding the virus, its origin, vaccines, protective behavior efficacy, and treatments leading to harmful and dangerous consequences (Rosenberg et al., 2020; Tagliabue et al., 2020). Mental health has been identified as a critical factor influencing health behaviors (McLeroy et al., 1988). Misinformation is the spread of false or inaccurate information without malice. Disinformation is the spread of inaccurate information deliberately with harmful or deceitful intent. According to the WHO, an infodemic is "too much information including false or misleading information in digital and physical environments during a disease outbreak" (World Health Organization, n.d.). Regardless of intent, the infodemic leads to increased fear and mistrust in the general population, reducing community engagement in protective behaviors such as social distancing. This problem becomes exacerbated when considering marginalized populations and whether or not they can identify whether the information they have seen on social media or heard from friends and family is accurate (Muric et al., 2021; Purnat et al., 2021; Rg et al., 2021).

CHAPTER 2 METHODS

2.1 Participants

In late 2020, 15 school sites within San Diego partnered with the University of California San Diego surveillance and diagnostic testing pilot program, SASEA (Safer at School Early Alert). Schools chosen to partner with SASEA had several eligibility criteria to meet, including: being a PreK-8 school or childcare center, having elevated rates of positive cases per 1,000 residents, and being located within census tracts of high social vulnerability by the CDC/ATSDR Social Vulnerability Index (SVI) scores (Centers for Disease Control and Prevention/ Agency for Toxic Substances and Disease Registry/ Geospatial Research, Analysis, and Services Program, 2022). This index is maintained by the Geospatial Research, Analysis, and Services Program (GRASP) to create and maintain the database to assist public health officials and emergency response planners in identifying and supporting communities most likely to be affected by public health emergencies to reduce human suffering and increase recovery efforts. Socially vulnerable population scores are derived for each census tract based on 15 social factors in four themes categorized as the Socioeconomic Status theme, Household Composition and Disability, Minority Status and Language, and Housing Type and Transportation, as well as an overall score.

2.2 Qualitative Data

The qualitative interviews aimed to gain insight and understanding of COVID-19 themes and perceptions that parents and staff experienced regarding the pandemic, diagnostic testing, risk communication preferences, and protective behavior strategies and experiences. Participants of the focus group discussions (FGDs) were eligible if they identified as a staff member or as a parent or guardian of a child at a participating SASEA school site. Participants were recruited

utilizing convenience sampling through email correspondence from principals and administrators and paper flyers distributed in-person at childcare centers and schools. Included within this study were 15 semi-structured focus group discussions with 42 total participants compromised of school staff (n= 22) and parents (n=20). Six key informant interviews (KII) of SASEA school staff and administrators were also included.

All participants completed a written informed consent form and were ensured anonymity. Focus group discussions (FGDs) were conducted via zoom by seven trained qualitative researchers within the SASEA research team in English or Spanish using a semi-structured field guide. FGDs were digitally recorded and transcribed verbatim. Transcripts were translated into English as needed, de-identified, and reviewed by the research team for accuracy.

All FGD and KII participants were informed of the study purposes and their rights, with ongoing consent obtained throughout the interviews. Participants received $25 Visa gift cards for their time. This study was approved by the University of California, San Diego Institutional Review Board, with protocol number 201627.

Data analysis was conducted manually using MAXQDA 2022 software using thematic analysis to identify themes and subthemes of interest. After formulating a hypothesis to use MAXQDA to code for the themes of interest, code definitions were established. Qualitative analysis was used to identify trends and patterns among participants before quantitative data analysis to formulate a testable hypothesis within the quantitative data. As part of the iterative research process, after quantitative analysis was conducted, the qualitative data was again used to gain a further understanding and insight into what the quantitative data revealed. As these FGDs were conducted between December 2020 and March of 2021, before any vaccines were available for children, the quantitative and qualitative analyses were treated as related but distinct datasets

rather than using the qualitative data as explanatory for the quantitative survey results in accordance with the report of best practices for mixed methods research commissioned by the National Institutes of Health (Creswell et al., 2011).

2.3 Quantitative Data

Quantitative analysis used a population-based cross-sectional study conducted using an anonymous online survey distributed directly to the parents of children within partnered schools of SASEA over various waves (months). Data collection of quantitative surveys is still ongoing as part of a larger SASEA investigation. This study specifically included waves 3 and 4, collected in February and March of 2022.

As the survey was administered in both English and Spanish, the survey language was used for analysis rather than the survey item of "primary language that is spoken in the home" in accordance with the current consensus of the literature in survey statistics and methodology establishing this as best practice for ensuring quality data measurements. Language proficiency, particularly when surveying communities of high social vulnerability index and minority populations, can confound results within quantitative self-administered questionnaires. To generate valid and reliable results, survey participants must fully comprehend the implications of the questions and all of their responses and retrieve and integrate the relevant information (Wenz et al., 2021). This study was approved by the University of California, San Diego Institutional Review Board, with protocol number 800612.

2.4 Instruments and Measures

Sociodemographic characteristics were collected, including age of the parent, age of the child, gender of the parent, gender of the child, primary language spoken in the home, the language the survey was collected in, education level of the parent, race/ethnicity/origin of the

child, education level, family income in 2019, number of people in the household, and household size. Options for "not applicable," "prefer not to answer," and "don't know" were included in the questionnaires, as well as the option to skip questions to reduce social desirability bias.

Burnout was measured using the Rohland single-item burnout inventory, a reliable and validated non-proprietary 5-point Likert-scale that was tested against the proprietary Maslach Burnout Inventory Emotional Exhaustion subscale (MBI:EE) (Dolan et al., 2015; Rohland et al., 2004). Burnout was measured via a 5-point Likert-scale asking, "Overall, based on your definition of burnout, how would you rate your level of burnout?" 1= "I enjoy my daily activities. I have no symptoms of burnout". 2= "Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out." 3= "I am definitely burning out. I have one or more symptoms of burnout such as physical or emotional exhaustion. 4= "The symptoms of burnout that I'm experiencing won't go away. I think about my frustrations a lot." 5= "I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help".

The vaccination status of an eligible child of age five or above was assessed by asking "Has your child received at least one dose of a COVID-19 vaccine?" with dichotomous response options of yes/no. Adult vaccination status was assessed by asking participants "Have you yourself received a COVID-19 vaccine?" with dichotomous response options of yes/no.

Health care and mental health care access was asked stating, under a portion of the survey with section header "The COVID-19 pandemic has caused challenges for people, whether they get COVID-19 or not, in the past 6 months have you or your family experienced any of the below challenges?" asking "Getting the health care I need (including for mental health)" with

response options 0 = No, not a challenge, 1 = Yes, a minor challenge, 2 = Yes, this is a major challenge.

2.5 Demographic Variables

The age of the parent (participant) was measured via a fill-in text response of an integer with a minimum of 18 and a maximum of 110. The child's age was measured via a fill-in text response of an integer with a minimum of 0 and a maximum of 18. Gender of the parent and gender of the child had response options of "female, male, prefer not to answer." Participants were asked, "What is the highest level of education you have completed?" with answer options "some high school, high school graduate or GED, bachelor's degree, graduate degree (masters, PhD, MD, etc.)".

Data Analysis

Pre-tested, standardized inventories and scales were used to collect the data. The instruments were created and administered after detailed analysis of several related types of literature by the SASEA team. Data was exported into IBM SPSS Statistics for Windows, version 26.0 for the analysis (*IBM SPSS Statistics for Windows*, 2022).

Data Validation and Reliability

Descriptive and missing values analyses were performed for all items in the questionnaire and validity and reliability analyses for each survey wave and the combined survey wave database. Items codified according to an ordinal scale, such as burnout, were subject to an exploratory factor analysis consisting of a principal component analysis with varimax rotation, and Kaiser criterion (eigenvalues greater than 1). Scree plots were analyzed to assess the data's fitness for factor analysis and to check for patterns of homogeneity. To ensure internal

consistency analysis, significant correlations among variables and Cronbach's alpha were determined for each factor identified. Dichotomous items were not subject to factor analysis.

Descriptive statistics and univariate frequencies were calculated for all key demographic characteristics and variables of interest included within the survey, including disaggregating by different variables of interest such as survey language and waves. χ^2-tests were conducted for categorical-dependent variables, including comparing observed with expected counts. T-tests or analysis of variance (ANOVA) with post-hoc testing of Dunnett's method or Tukey's method were conducted for continuous variables to examine whether the demographics and variables were significantly different between wave 3 and wave 4 and by survey language. Multiple linear regression models were constructed to investigate predictors on child vaccination status with the independent variables. The p-values, unadjusted odds ratios, and 95% confidence intervals were analyzed for each outcome of interest. P-values were treated as significant at the $P < .05$ value.

CHAPTER 3 QUALITATIVE RESULTS

Semi-structured FGDs with school staff and parents were conducted along with 6 key informant interviews to understand overarching themes, perceptions, and experiences towards COVID-19 protective measures and the early pandemic experience within a population of high social vulnerability. Qualitative data analysis followed an exploratory, thematic process approach that was used to formulate hypotheses to test within the quantitative dataset. Major themes can be classified into two main themes: structural and emotional. Structural themes identified include language and economic uncertainty. Emotional themes included COVID-19 fatigue, social stigma, misinformation, and trauma. Two protective themes of interest identified included communication and community.

The major structural barriers identified included language and economic uncertainty. During FGDs and KIIs, participants described that language barriers made it difficult to engage in testing and contact-tracing and made it challenging to understand notifications of positive status and the frequently shifting safety guidelines and protocols. The study participants are from schools partnered with SASEA, which have a large Hispanic/Latino population, so many participants identified there were not enough Spanish resources throughout the community. Economic uncertainty often emerged as a structural barrier within the discussions. The study population is predominantly of lower socioeconomic status, and loss of income from positive test results posed a significant deterrent to testing for COVID-19. If the participants themselves tested positive, they would have to miss work to quarantine. Many participants were essential workers and therefore could not work remotely from home or did not have options such as paid time off and sick leave available to them. If children had symptoms, they would be sent home from school to quarantine while they waited for the results of negative PCR tests per school

policies. If a child tested positive, even if they were asymptomatic, they would also be sent home to quarantine. Under these circumstances, the child could not go to a daycare or babysitter even if the parent had the option and income to afford it due to the risk of spreading COVID-19. A staff member illustrated this well in the following statement:

> I know for the population at my school, one of the big hang-ups and drawbacks is people are afraid to test positive, because they can't take time off of work and they can't have their kids stay home…So that definitely is another thing, people, you know, if they know that if they happen to test positive, and we'll have to quarantine, and that just isn't sustainable for a lot of our families to miss two weeks of work.

COVID-19 Fatigue

Emotional themes that emerged during FGDs and KIIs included COVID-19 fatigue, a phrase participants used to describe their feelings of exhaustion from remaining isolated in their homes and following the COVID-19 safety guidelines for so long. One participant recollected what it was like to engage in 'normal activities' and expressed their longing to resume their life to how it was prior to the pandemic:

> I think it's fatigue in engaging in the safe practices. So, I think it's like feeling isolated, I think it's like people have had their limits of just kind of being safe and considerate of other people kind of like, I've done it for long enough. And now I'm ready to, like, go out and have brunch again, and do you know, like, resume what they say like normal activities, or? Right, so that's, I think it's fatigue from not engaging in those kinds of social activities.

The constant shift in guidelines and messaging regarding COVID-19 was generally described as overwhelming and confusing in the beginning. Over time, participants describe getting used to the fact that there was a risk of catching COVID-19. A participant described their fear of catching the virus change over time as they have seen others around them get COVID-19 and recover:

> I would say the first month was really, really scary. The unknown, the news, everything was just a panic, the shopping and as the months progressed, it's like anything else you kind of get used to it. And now that we're into almost a year I'm not so scared of it anymore. I have a feeling like I'm gonna I know I'm gonna eventually get it. You get the flu. Do I want it? No. But so many people around me survive.

Social Stigma

Social stigma was a reoccurring theme identified within FGD participants. The consensus was that participants felt stigma related to sharing COVID-19 positive status within the community. Testing positive for the participant or their child would involve sharing status to anyone who may be exposed, and there were concerns about feeling judged or ostracized by others even after finishing their quarantine. One participant shared her perception that others were cautious to stay away from her after she had tested positive for COVID-19:

> **P4** I still feel like there's definitely still that scarlet letter on me. Like, you know, I want to stay away from her because she had COVID. So, I'm thinking, oh, wow, OK, I can feel it. You know, whether it's me feeling that or it's actually there. I don't know, you know, who knows, perception, but I perceive that that's the case.

Another participant explained that even after someone has recovered from COVID-19, people remain diligent and suspicious because there is still a fear of catching the virus:

> **P2** Yeah. And maybe because, you know, cognitively we may know, "oh you know, that person's no longer positive, they're fine. But still in the back of your mind, there's that fear, that anxiety about COVID. And so, I just wonder if people are doing that. Not intentionally, but it's just a reaction, I don't know.

Misinformation

Conflicting and confusing messaging regarding COVID-19 transmission and guidelines emerged as a theme along with a perceived lack of transparency and a lack of trust in government sources. Many participants described that a lack of clarity regarding the etiology and

transmission of COVID-19 led a decreased sense of perceived risk in the beginning of the pandemic. A participant describes this perception below:

> But, I mean, it was weird that we didn't even think that it was going to come to us, like we had a very arrogant view of ourselves, apparently, at least in my opinion. I mean, you know, they're saying there's clusters, there's going on the whole government in China shut down…. Like that doesn't make any sense that we were like, 'Ah, it's okay. No problem whatsoever'. And then, basically, you know, it then came to us. So, I mean, even me, I was very arrogant in my own health. There was obviously a sick person where I was at back in March and I was confident I would be perfectly fine. So, it came to bite me very hard.

Another recurring theme that emerged was discussion regarding the infodemic and misinformation. The participants describe relying on their own interpretation of the pandemic and what information to believe, particularly for consideration of what information is real or fake. The role of social media and public controversy led to uncertainty and suspicion, particularly for vaccination. This experience was described by a participant below:

> I noticed that there was a lot of people who didn't believe it was a real thing that it was just something that was made up to hurt different aspects of our society. Obviously with the spread of chat rooms and Facebook, we kind of had a lot of people forming their own opinions that were based off of some nonsensical ideas and information. It's still since this is something that's we're not really sure where it's where it came, you know exactly where it came from. There's different ideas. You know, I believe it probably was just from a bat because of zoology and evolution of things. But hey, there's other ideas out there. So, there's a lot of just misinformation that people are following. Personal family members believe certain things about how it's, you know, there's not anything that's good that it's not real, or it's something that can be pushed back or whatnot. And it starts with the vaccines. Now, that's obviously the next thing that's on the table of what's going to be a fight. Why is it a fight? Because it's unknown. We don't know, you know, even though there's a lot of things that are saying that's going to be safe, there's going to be obviously some reactions in people, there's allergic reactions that were people have seen and, you know, just like how Hank Aaron just got the vaccine, then he died several weeks later, or there's somebody in San Diego like, even if it's not really related 100% people are going to make relations and it's going to cause issues, because that's just how we work. We're scared to do so. And it's also a waiting game.

Trauma

The pandemic experience was described by the participants generally as traumatic. Participants described being aware of the importance of self-care, but how often that was not a possibility for them because of responsibilities they have as parents and because of work. An excerpt from a participant is described below:

> I think this has just been a traumatic experience, really, for everybody. I really can't imagine that there are people out anywhere that won't think of this as some kind of traumatic experience. And I know, like, our district is constantly talking about how we need to, you know, use practice, self care, self care. We hear a lot of that. Take time for you to be with your family, take time to do this and make sure you're exercising, make sure you're getting plenty of sleep. But they haven't really made that possible in the sense with like for me, with my workload, you know

Participants also describe the perception of COVID-19 being traumatic for their children as well. Participants shared concerns for their children because of lockdown measures, quarantining, and learning virtually. There were concerns for the mental health of their children as well as their education. Participants generally were concerned with how to best support their children with distance learning and when they were unable to see their friends or family. Participants emphasized that the trauma experience of the children different from their own, specifying sentiments such as, “They're experiencing somewhat of a different sort of a trauma thing in a way, because they're not allowed to do what kids do”.

Vaccination

Overall, the study participants were willing to vaccinate themselves for COVID-19. Participants expressed they had concerns about the vaccine in general and the efficacy amidst the the infodemic and changing guidelines. The majority of the participants described that part of the reason they were willing to get vaccinated was to keep their children, their family, and their community safe. Participants described they were suspicious as to whether having everyone get

vaccinated would be possible, and what would happen if people were hesitant to get vaccinated. This experience is described below:

> Well, in the initial thing, where they "oh let's flatten the curve". I mean, that was a matter of a couple weeks, right. Or maybe a month max. And then that's become like [scoffs] yeah right. Like that. That's not plausible. So, what actually is the solution? You know, is it going to be this vaccine? Well, then that also has some questions about it, too. So which vaccine and how, you know are there any long-term effects and are we really FDA approved? And, you know, is it going to be forced on people? I mean, there's just a myriad of questions having to do with the vaccine as well...

Communication and Community Cohesion

Two main protective themes of interest emerged within the FGDs and KIIs involving community and communication. A sense of community cohesion was identified within the participant discussions in which having the school, the SASEA researchers, and other parents engage in conversations about COVID-19 and their experiences was described as making the participants feel supported and more at ease. Participants stated they were more likely to turn to the school for their COVID-19 information as their communication was deemed as more trustworthy.

CHAPTER 4 QUANTITATIVE RESULTS

There were 541 total participants recorded in both waves of the survey. The median age of the participants was 36 years old, and the median age of the child was 8 years old. A summary of sociodemographic variables collected can be seen in Table 1. Most participants have received at least one dose of the COVID-19 vaccine (n= 441, 85.3%). After adjusting for 23 missing responses, approximately half had a child aged 5 or above who had received at least one dose of the COVID-19 vaccine (n= 226, 43.6%), while 235 (45.4%) were not vaccinated, and 57(11%) marked not applicable. Regression analyses show having access to the healthcare participants need (including mental health care), and being limited by a disability, parent's perception of their child's mental health, and child's masking behaviors when running errands. Misinformation was significantly correlated with increased burnout in bivariate analysis, and significantly correlated with an eligible child not being vaccinated against COVID-19 in linear regression.

The infodemic independent variable of "have you seen nor heard any COVID-19 vaccine information (on the news, on social media, or from friends and family) that you could not determine was true or false?" was measured using three options yes/no/not sure and was tested against the burnout question measured on a continuous scale. There was a statistically significant difference between groups as demonstrated by one-way ANOVA ($F(2, 485) = 3.854$), $p = .022$). A Tukey post hoc test showed that the infodemic groups who were not sure if they could identify misinformation and those who stated yes of those who reported report burnout was statistically significant further ($p = .017$) than the no group ($p = .178$). There is a significant association between not being able to recognize misinformation and increased burnout.

The infodemic measure was treated as a continuous scale variable with 0 coding for "no", 1 coding for "not sure", and 2 coding for "yes". Eligible child vaccination status was treated as a

continuous scale variable. A simple linear regression was conducted to identify the relationship between infodemic and child vaccination status which showed a significant relationship (p = .031) F = 4.677 at 1 dF. The R^2 was 0.10 which indicated that 1% of the variation in child vaccination status can be explained by the model containing only the infodemic item. This is low as a predictor on its own, so adding additional independent variables would improve the fit of the model. The model is child not vaccinated (y) = .404 + .128 (infodemic) The slope coefficient was tested for significance, and it is less than 0.05 and so there is significant evidence to suggest that the gradient is not 0 ($p < .001$). Not being able to recognize misinformation was a significant predictor of an eligible child not being vaccinated against COVID-19.

A simple linear regression was used to predict burnout based on if the item "getting the healthcare you need, including for mental health" was a challenge, measured as a continuous scale where 0 is no challenge and 3 is a major challenge. The results indicated that model explained 5.9% of the variance on its own and that the challenge was a statistically significant predictor of burnout, (F(1,478)=30.317, p<.001. It was found that challenge of accessing healthcare (including mental health care) predicted burnout (β1 = .325, p<.001). The final predictive model was: burnout = 1.867 + (.325*challenge). Burnout increased when parents experienced difficulties in getting the healthcare they needed, including for mental health.

A simple linear regression was used to predict burnout based on if the item of "How much of a challenge is earning a stable income?" measured as a continuous scale where 0 is not a challenge and 3 is major challenge. The results indicated that model explained 4.9% of the variance on its own and that an increased challenge of earning a stable income was a statistically significant predictor of burnout, (F(1,482)=25.070, p<.001). It was found that experiencing challenges with earning a stable income significantly predicted increased burnout (β1 = 2.68,

p<.001). The final predictive model was burnout = 1.847 + (2.68*challenge of earning stable income).

A simple linear regression was used to predict burnout based on if the item of "Are you worried or concerned that in the next two months you may not have a place to stay?" measured as a binary yes/no. The results indicated that model explained 6.5% of the variance on its own and that an increased housing insecurity was a statistically significant predictor of burnout, ($F(1,426)=29.379$, $p<.001$). It was found that experiencing challenges with earning a stable income significantly predicted increased burnout ($\beta1 = -.762$, $p<.001$). The final predictive model was burnout = 3.479 + (-.762*housing insecurity). Feeling worried or concerned that in the next two months you may not have a place to stay predicted increased burnout.

A simple linear regression was used to predict burnout based on if the item "For at least the past 6 months, to what extent have you or somebody in your household been limited because of a health problem in activities people usually do?", measured as a continuous scale where 0 is not limited at all and 3 is severely limited. The results indicated that model explained 5.2% of the variance on its own and that the challenge was a statistically significant predictor of burnout, ($F(1,485)=27.725$, $p<.001$). It was found that being limited because of a health problem predicted burnout ($\beta1 = .380$, $p<.001$). The final predictive model was burnout = 1.871 + (.325*disability). Burnout increased when the parent or somebody in their household was limited from engaging in activities people usually do because of a health problem.

A simple linear regression was used to predict burnout based on if the item of the parent's perception of their child's mental health measured as a continuous scale where 1 is excellent and 5 is poor. The results indicated that model explained 7.6% of the variance on its own and that child's mental health was a statistically significant predictor of burnout, ($F(1,480)=40.463$,

p<.001). It was found that parent's perception of their child's mental health predicted burnout (β1 = .264, p<.001). The final predictive model was burnout = 1.523 + (.264*child mental health). Burnout in parents increased when their perceived their child's mental health to be worse.

A simple linear regression was used to predict burnout based on if the item of "In the last week, how often did your child wear a mask when running errands?" measured as a continuous scale where 1 is all the time and 4 is never. The results indicated that model explained 1.1% of the variance on its own and that child masking when running errands was a statistically significant predictor of burnout, (F(1,469)=5.179, p<.023). It was found that child masking when running errands significantly predicted burnout (β1 = -.108, p<.001). The final predictive model was burnout = 2.222 + (-.108*child masking running errands). Burnout increased when their child masked less often when running errands.

A multiple regression was run to predict burnout from child's mental health, getting the healthcare you need (including medicine), and disability. The results indicated that model explained 13.8% of the variance in burnout on its own. These variables statistically significantly predicted burnout $F(3, 474) = 25.387$, $p < .001$. All 3 variables added statistically significantly to the prediction, $p < .05$. The final predictive model was:

Burnout = 1.406 + (.207*child mental health) + (.202*healthcare) + (.279*disability)

CHAPTER 5 DISCUSSION

The COVID-19 pandemic has been a global catastrophe with consequences seen across populations. However, the pandemic has disproportionately affected the mental health of parents from socioeconomically disadvantaged communities. This study set out to investigate and understand the experiences of burnout and the factors associated with burnout. Qualitative and quantitative data revealed themes of COVID-19 fatigue, trauma, misinformation, structural barriers, and stigma in relation to burnout during the pandemic.

The qualitative data describes the difficulty of being a parent during COVID-19 when having economic difficulties. Parents knew that for their mental health they should try to sleep more, exercise more, and practice self-care. However, this was often not possible because parents often had to work essential jobs where they did not have the option of staying home, and they experienced additional stressors such as assisting their children with distance learning. These experiences were not even taking into consideration the burden of having a positive diagnosis for themselves or for their children, which adds further layers regarding concerns for safety and well-being. Additional stressors included experiences such as their child needing to stay home from school to quarantine when the parents could not afford to call out of work. Economic stress can be seen within the quantitative data as feeling worried or concerned that in the next two months they may not have a place to stay was a statistically significant predictor of burnout. Experiencing a major challenge with having a stable income was also a statistically significant predictor of burnout. The quantitative data also revealed another significant predictor of burnout, being able to access the health care they need, including for mental health. The more of a challenge accessing healthcare or mental healthcare they experienced in the last six months, the more likely they were to have increased levels of burnout. So not only were they

experiencing challenges for accessing regular healthcare, which is stressful on its own particularly if they do receive a positive diagnosis of COVID-19, but they also had difficulties in being able to talk to a mental healthcare provider to lower their burnout levels. While the media emphasized the message, “self-care!”, those who really needed access to services could not even access them. How can they practice self-care when their basic needs are not met? What is the significance of knowing which communities and populations are at higher risk of burnout if they still experience difficulties in accessing the very services they need the most?

The stigma of COVID-19 in the present context can be understood as a social process that has impacted the emotional health and well-being of the participants in the qualitative data. Participants have modified their actions because of fear of being discriminated against (anticipated stigma), such as being hesitant to share positive COVID-19 status. Participants also described experiencing perceived stigma in which some shared feeling judged by others. Exposed persons, masking behaviors, and testing behaviors could additionally lead to participants being excluded from social gatherings and isolated or discriminated against (experienced stigma). Masking behaviors within the school settings were described as the normative behavior, where most students and staff were masking during school hours, but outside of the school it was common that much of the population was not masking. Masking behaviors are a physical characteristic that can be seen by others. This can be a stressful experience considering the polarizing nature of protective behavior uptake. This can additionally be seen within the quantitative data, as child masking behaviors decreased when running errands, burnout increased. This is particularly noteworthy considering the quantitative data was collected a year later, during Omicron, when masking guidelines were more relaxed.

Additionally, internalized stigma, such as feelings of shame, inadequacy, or fear of further stigmatization exacerbates the strain already marginalized individuals experience. Parents within the qualitative data commonly discussed concerns for their child's well-being. Besides the stress, fear, and anxiety that comes along with worrying for yourself and if you will get sick, they experienced the additional uncertainties with trying to do the best they could for their children and to keep them safe. Parents in the qualitative data were not sure if they should send their children to school, if they should continue to keep them indoors and away from friends, or if they should allow them to go out with friends and to school for their emotional well-being and social growth. Most chose to have their children attend school, but the fear persisted. This can still be seen a year later within the quantitative data. Parents who perceived their child's mental health to be worse were significantly more likely to experience increased rates of burnout. Parents were thrust into an impossible decision where there was no right answer, and they did not know who to turn to for guidance. They had to take calculated risks to decide whether them going to school and seeing their friends and going back to "normal life" was truly the right option even though they ran the risk of catching COVID-19. They additionally ran the risk of being judged by others for the decisions they decided to take, for themselves and for their children. These decisions did not exist in a vacuum, parents were all too aware that their children would end up being the most affected at the end of the day.

The findings of this study are consistent with the COVID-19 Health Stigma and Discrimination Framework and the existing literature, perceptions and experiences regarding structural barriers, stress, COVID-19 fatigue, and misinformation and their associations with burnout (Chung et al., 2022; Queen & Harding, 2020; Ransing et al., 2020; Rzymski et al., 2021; Stangl et al., 2019). Burnout has been shown to drive long-term adverse mental health outcomes

in socially vulnerable communities, and burnout can play a key role in decisions regarding which protective behaviors an individual chooses to uptake for themselves as well as their children.

Communication was described within the qualitative data in which information and resources for COVID-19 were more trustworthy when coming from SASEA researchers and the schools versus from official government sources. Perceptions of rapidly changing guidelines and the dissemination of information from government sources was described as overwhelming and confusing, and generally described with a sense of mistrust. Similarly, despite San Diego being a very diverse region with a high proportion of Hispanic/Latino populations, testing sites and contact-tracing efforts, such as notification of positive results, in the community outside of the school settings were described as inaccessible because of the lack of easy-to-understand resources in Spanish. Qualitative data revealed themes of misinformation and not knowing what guidelines should or should not be followed. They further describe feeling tired of the pandemic and everything they are "supposed" to do. The quantitative data confirms this, as those who could not identify if COVID-19 vaccine information they saw or heard in the media, from family, or friends were significantly associated with increased levels of burnout. Not being able to identify if misinformation was true or false was also significantly associated with an eligible child not being vaccinated against COVID-19.

Schools and the SASEA program were described as more of an in-group, where the parents felt more comfortable engaging in conversations about COVID-19 protective behavior guidelines and information from these sources. This may be explained as having a sense of community and community cohesion within these groups. Within the quantitative data, misinformation was significantly associated with burnout in which participants who could not identify if the COVID-19 vaccine information they had seen or heard were associated with

higher levels of burnout. Further, misinformation was also significantly associated with whether parents chose to vaccinate their child against COVID-19 or not. Communication preferences and who people trust and turn to for their information thus becomes especially critical when considering the emotional health of a population. Misinformation can increase feelings of fear and anxiety, which are contributors to burnout, which may be associated with the behaviors a person chooses to uptake or chooses for their children. Community cohesion similarly was described within the qualitative data as having an immediate social network with shared goals and perspectives. SASEA and having the option of testing and monitoring within the schools was regarded overwhelmingly positive despite fears of testing positive and the implications quarantining has. Communication and feelings of community cohesion thus represents a critical opportunity to explore as protective factors against burnout.

Limitations

Limitations of this study include the use of self-reported questionnaire which might cause response or social desirability bias. Another limitation includes the cross-sectional study design, which only provides a snapshot of the current state of the participants' perceptions and behaviors. The study used convenience sampling to recruit survey and FGD participants from schools enrolled within the SASEA pilot program, which makes these participants more familiar with diagnostic testing efforts and guidelines, making participants more likely to endorse testing and COVID-19 mitigation strategies. Additionally, FGDs were conducted a year before the quantitative surveys used in this study; having FGDs conducted during the same time as the quantitative surveys would allow for the FGDs and surveys to guide each other in an iterative process as well as allow the qualitative data to provide a more comprehensive understanding of the perceptions identified in the surveys. Burnout in the quantitative study was only one item; having other validated scales such as depression and anxiety scales and a perceived stress scale or

the COVID-19 stress syndrome inventory would facilitate drawing further connections across the variables of interest. Political affiliation was also not collected during the surveys, representing a potentially significant confounder given the politicized nature of mask-wearing and vaccine hesitancy.

CHAPTER 6 CONCLUSION

This study explores the experiences of burnout amongst parents of high social vulnerability. This study confirms that COVID-19 significantly impacts the emotional health of individuals, even when they did not have a positive diagnosis. Misinformation, structural barriers, stigma, COVID-19 fatigue might be prominent contributors to burnout among socially vulnerable communities. This study suggests that burnout may play a role in influencing what protective behaviors the population engages in and influences what protective behaviors are chosen for their children. This study also suggests that communication and a sense of community may serve as protective factors against increased feelings of burnout. As the pandemic continues and after the pandemic ends, this study emphasizes that public health efforts should be focused on bolstering emotional health responses, particularly in areas with higher proportions of minorities and lower socioeconomic status. Access alone is insufficient to reduce mental health disparities, as burnout transcends across multiple domains in an individual's life. These findings are in line with literature regarding health disparities and psychosocial effects in marginalized communities.

CHAPTER 6 APPENDIX

Table 1 *Sociodemographic Profiles of Participants All Waves Combined*

Social Demographic Profiles of Participants All Waves Combined

		Count	Column Valid N %	Median
Language	English	382	70.6%	
	Spanish	159	29.4%	
Participant Age				36
Participant gender	Female	427	87.3%	
	Male	54	11.0%	
	Prefer not to answer	8	1.6%	
Child Age				8
Child gender	Female	257	52.6%	
	Male	222	45.4%	
	Prefer not to answer	10	2.0%	
Is your child of Hispanic, Latino, Spanish origin	No	106	21.7%	
	Yes	344	70.5%	
	Prefer not answer	38	7.8%	
Is your child's race Black or African American	No	502	92.8%	
	Yes	39	7.2%	
In 2019, what was your total household income before taxes?	Less than 15k	60	11.1%	
	15k-19,999	39	7.2%	
	20k-24,999	50	9.2%	
	25k-34,999	65	12.0%	
	35k-49,999	78	14.4%	
	50k-74,999	66	12.2%	
	75k-99,999	32	5.9%	
	100k and above	27	5.0%	
	Did not answer	53	9.8%	
	Prefer not to answer	71	13.1%	
What is the highest level of education you have completed?	Some high school	78	16.0%	
	High school or GED	266	54.7%	
	Bachelors degree	110	22.6%	
	Graduate degree	32	6.6%	

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