



HHS Public Access

Author manuscript

Traumatology (Tallahass Fla). Author manuscript; available in PMC 2022 March 30.

Published in final edited form as:

Traumatology (Tallahass Fla). 2021 ; 27(4): 399–412.

How Right Now? Supporting Mental Health and Resilience Amid COVID-19

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Abstract

The How Right Now communication initiative (HRN) was developed to facilitate resilience amid the COVID-19 pandemic in the United States. HRN was designed as a conduit for promoting mental health and addressing feelings of grief, worry, and stress experienced during this time. This article provides an overview of the rapid, mixed-method, culturally responsive formative research process undertaken to inform the development of HRN. Specifically, it describes how HRN's disproportionately affected audiences (adults aged 65 and older and their caregivers, adults with preexisting physical and mental health conditions, adults experiencing violence, and adults experiencing economic distress) describe and discuss emotional resilience, what they need to be resilient, and what factors contribute to the perceptions of their ability to "bounce back" from the conditions caused by the COVID-19 pandemic. Data collection methods included an environmental scan ($n = 700$ publications), social listening ($n = 1$ million social media posts), partner needs-assessment calls ($n = 16$), partner-convened listening sessions with community members ($n = 29$), online focus groups ($n = 58$), and a national probability survey ($n = 731$), all in English and Spanish. Results revealed that HRN's audiences have diverse perceptions of what constitutes resilience. However, common factors were identified across populations to support resilience amid the COVID-19 pandemic, including informal and formal social support and access to services to meet basic needs, including food and housing resources. Stress, anxiety, depression, and experience with stigma and discrimination were also linked to resilience. Understanding the

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perspectives and experiences of disproportionately affected populations is vital to identifying supports and services, including the engagement of community stakeholders.

Keywords

resilience; mental health; emotional wellbeing; coping; COVID-19 pandemic

The COVID-19 pandemic has taken a toll on people's mental health and emotional wellbeing. As millions of Americans experience unemployment, loss of loved ones, and isolation from social distancing, many people struggle with feelings such as anxiety, fear, and loneliness (Panchal et al., 2021). Yet, ways to address the critical need for rapid distribution of mental and behavioral health resources remain limited (Moreno et al., 2020). For communities and populations disproportionately affected by challenges with access to culturally and linguistically appropriate mental health resources before COVID-19, including older adults (White et al., 2017), racial and ethnic minorities (McGuire & Miranda, 2008), and sexual/gender minority groups (Plöderl & Tremblay, 2015; Ross et al., 2018), the conditions of the current pandemic have exacerbated disparities in need for and access to mental health supports (Mukhtar, 2020; Salerno et al., 2020; Rothman et al., 2020).

To help fill some of these identified gaps in access to mental health resources and support, the How Right Now communication initiative (HRN) was developed. Made possible with support from the CDC Foundation, with technical assistance from the Centers for Disease Control and Prevention (CDC), HRN aims to help people cope, adapt, and be resilient throughout the COVID-19 pandemic. HRN has four priority audiences: (a) adults aged 65 years and their caregivers; (b) adults with preexisting physical and mental health conditions; (c) adults experiencing violence (including physical, sexual, and psychological violence at home or in the community); and (d) adults experiencing economic distress. These were selected as the focus for the initiative early in the pandemic because of the possibility they would disproportionately endure challenges to psychological wellbeing due to the COVID-19 pandemic. There is a focus on racial/ethnic and sexual orientation/gender identity minority groups within each of these groups.

Rapid, mixed-method, and culturally responsive formative research was conducted to inform the development of HRN and, specifically, to understand these audiences' most urgent emotional and behavioral health concerns, perceptions of resilience, emotional health resource needs, and trusted sources and channels to receive emotional health resources and support. This formative research process was conducted in the early months of the COVID-19 pandemic (April–July 2020) in the United States and produced findings related explicitly to these audiences' perceptions of resilience, the resources they need to be resilient, and the factors that may predict their ability to be resilient at this time.

This research builds on the literature on stress, coping, and psychological resilience that has broadly investigated factors that foster resilience during major disasters and traumatic events (Bonanno et al., 2007; Earls et al., 2008; Lazarus & Folkman, 1984). It expands on this work by examining what resilience means to populations disproportionately affected

by stress amid the COVID-19 pandemic and what these populations identify as needed to be psychologically resilient. This article reviews the foundational literature supporting this study, its design and methods, findings, and the implications of this work for future research and communication opportunities.

Literature Review

Understanding people's perceptions of resilience has particular relevance for public health, psychology, and pandemic or emergency response. Prior research on the mental health impacts of natural disasters, epidemics/pandemics, and significant traumatic events highlights the potentially devastating psychological and emotional effects these experiences can have on people (Norris & Elrod, 2006; North, 2016; Makwana, 2019). Research on the negative mental and emotional health consequences of major traumatic events also explores *how* people and communities can be resilient and mitigate potential mental illness. Research reveals that, despite experiencing trauma and adverse psychological reactions, most people can be resilient and eventually return to their previous level of functioning (Bonanno, 2007; North, 2016). Some of the earliest research on resilience defines it as the ability of individuals to successfully function despite significant life adversity (Rutter, 1987; Werner & Smith, 1992), whereas more recent literature has expanded the definition of resilience to include an individual's ability to cope with stress, adapt to change, respond to adversity, and seek help when needed (Crowe et al., 2016; Shrivastava & Desousa, 2016). The concept has evolved to a dynamic process, which depends on an interaction between internal and external risk and protective factors (Scoloveno, 2017).

Audience-Specific Definitions of Resilience

Because resilience is a dynamic concept, it is crucial to understand how definitions of resilience and needed supports for resilience vary by audience type. MacLeod et al., (2016) found that frequent predictors of resilience among *adults over the age of 65* included adaptive coping styles, optimism and hopefulness, positive emotions, social support, and community involvement, as well as independent daily living activities and being physically active. For *adults living with ongoing or chronic physical conditions* (e.g., cancer, serious heart conditions, obesity), resilience is associated with health-related factors such as adherence to treatment and physical activity, health-related quality of life, and perceptions of disease, as well as internal factors such as self-care, self-empowerment, and self-efficacy (Gheshlagh et al., 2016).

For *adults living with mental health conditions*, resilience plays a vital role in maintaining emotional health and treatment of mental illness, specifically acting as a protective factor against the exacerbation of mental illness (Crowe et al., 2016; Shrivastava & Desousa, 2016). Similarly, increased emotional support can help mitigate some aspects of the negative mental and physical health consequences experienced by *victims of violence* (Coker, 2003; Powers et al., 2009). Finally, for *adults experiencing economic distress* (e.g., persons with low income and savings), resilience is enhanced by both seeking and providing support to their family, spousal, and community connections. Self-determination, such as taking actions, demonstrating problem-solving skills, having a sense of mastery, and holding beliefs

about personal, social, and spiritual life that nourish emotional health, are critical to this audience's resilience (Conger & Conger, 2002; Mullin & Arce, 2008).

Protective Factors to Foster Resilience

Social support and ties are consistently noted in the research as key predictors of resilience, including after experiences such as the 9/11 terrorist attacks, Hurricane Katrina, the HIV/AIDS epidemic, and the 2003 SARS outbreak (Bonanno, 2007, 2008; Bonanno, 2008; Earls et al., 2008; Saltzman, 2020; Silver et al., 2002). Studies have also identified individual characteristics associated with resilience, including being male, over 65 years of age, having a high school degree, having no preexisting chronic conditions, and not experiencing income loss due to the major event (Bonanno, 2007; Bonanno, 2008). At the community level, factors such as strong leadership, tight bonds, and trust among stakeholders are critical to facilitate collective action and community resilience, such as shown during the Ebola outbreak in Liberia between 2014 and 2016 (Alonge et al., 2019).

COVID-19 and Resilience

Strategies documented in the literature related to resilience and natural disasters, epidemics/pandemics, and major traumatic events focus on social support between and among individuals, community resources and support, and strong leadership. Yet, the COVID-19 pandemic has posed unique challenges to actuating those social and communal supports (McCanlies et al., 2018). Encouraging mental and emotional resilience is especially challenging since infection mitigation strategies disrupt one's ability to engage in traditional mechanisms that promote psychological resilience (Gruber, 2020).

The literature that focuses on HRN's priority audiences supports this. *Adults over the age of 65* remain particularly vulnerable to specific social and structural challenges exacerbated by the pandemic, including economic (reduced financial security, difficulty securing employment) and physical and mental health setbacks (emotional distress due to isolation, risk of contracting the virus, disruption in services; Morrow-Howell, 2020). *Caregivers* are also susceptible to higher stress, primarily due to increased challenges associated with providing care, the inability to rely on typical support networks, and their fears of exposure and spreading the virus (Dang, 2020). *Adults living with preexisting health conditions* have reported high levels of anxiety and depression amid COVID-19 (Alonzi et al., 2020). The prevalence of depressive disorders reportedly increased nearly 400% among U.S. adults between the second quarter of 2019 and June 2020; and the impact of these mental health conditions disproportionately affected people with preexisting psychiatric conditions (Czeisler et al., 2020). In addition, the inability to leave one's household and not having access to social resources may pose additional challenges for *adults experiencing violence*. *Adults experiencing economic distress* are at higher risk of developing depressive symptoms due to increased stress related to job loss, food insecurity, disruptions in health care insurance coverage, education, and access to child care (Ettman, 2020). One study found that over 40% of all parents of children younger than 19 reported themselves or a family member losing work due to COVID-19 (Karpman et al., 2020). Furthermore, Karpman et al. (2020) reported that 50% of Black parents and 60% of Hispanic parents have

lost work due to COVID-19, indicating a disproportionate impact of economic distress on historically underserved communities.

The COVID-19 pandemic revealed new challenges to prior constructs of resilience and opportunities to address shifting needs and gaps in the availability of and access to culturally responsive mental health resources. This research effort sought to understand the experiences of individuals disproportionately affected by pandemic-related stressors and develop a culturally-informed model for communicating about mental health and resilience to communities in need.

Research Questions

This study aimed to glean insights on dimensions of resilience that could inform the development of an evidence-based, culturally relevant, and effective health communication initiative that supports people's ability to cope and maintain emotional health amid the COVID-19 pandemic. The specific research questions for this study were:

Research Question 1: How do HRN audiences define and discuss resilience amid the COVID-19 pandemic?

Research Question 2: What kinds of mental health resources and supports do HRN audiences need to be resilient amid the COVID-19 pandemic?

Research Question 3: What factors inhibit resilience or predict challenges to resilience among HRN audiences?

Study Design and Methods

HRN used mixed-method and culturally responsive formative research to achieve the aforementioned aims. Qualitative data collection involved an environmental scan, social media listening, partner needs assessment calls, partner-convened audience listening sessions, and online focus groups. Quantitative data collection included a national probability survey of adults. All data collection happened concurrently over six weeks (May 4–June 16, 2020). Data collection initiatives were reviewed and approved by NORC's Institutional Review Board and were determined exempt under 45 CFR 46 102(1) by CDC.

Environmental Scan

The study team systematically collected and reviewed more than 700 published and gray articles and documents focused on audiences' experiences, needs, coping mechanisms, and resilience during the COVID-19 pandemic. Using a Boolean search strategy, primary, secondary, and tertiary search terms (in both English and Spanish) were used to acquire relevant, United States-focused resources published in the last year related to emotional health, COVID-19, and at least one of the HRN audiences. Each search consisted of one primary, one secondary, and one tertiary term to capture resources relevant to the research's purpose and the priority audiences. Examples of primary search terms, which focused on the research questions' main topics, included mental health, COVID-19, isolation, distancing, and resources. Secondary terms included preexisting condition, violence, older adult, caregiver, and poverty to derive information about priority audiences. Tertiary terms

included anxiety, stress, therapy, and counseling to target resources specific to the variety of audiences' emotional health needs. Searches for published literature were conducted using the University of Chicago library database; gray literature searches were conducted via the Google search engine. Each piece of literature reviewed was tracked in a spreadsheet, along with notes on key themes and target audiences from the researchers, which allowed the team to conduct a rapid analysis of the environmental scan data.

Social Listening

To understand conversations in social media, the environmental scan terms were adapted and used to collect more than one million posts from Twitter, Reddit, Facebook, Instagram, YouTube, and Pinterest to understand how people in the United States were talking about emotional health and COVID-19 in social media. Due to time, the largest and most popular social media platforms were selected for data collection. The research team used Twitter's 1% sample data to track mentions of the environmental scan search terms to understand public emotions about the COVID-19 pandemic. Data suggests that minority groups use the same social media platforms as nonminority groups (Krogstad, 2015), which helped ensure that diverse perspectives were gathered while still allowing for the research to be conducted within the given time period. To augment the gathering of these public conversations, social media posts from HRN partner organizations and key influencers were also gathered and analyzed.

Partner Needs Assessment Calls

A broad array of partners who worked with HRN's priority audiences were identified early on and engaged to participate. Sixteen video conferencing calls (via Zoom) were convened in May 2020 with representatives from partner organizations representing the interests of key audience groups (65+ and their caregivers [$n = 2$]), preexisting health conditions ($n = 2$), experiencing economic distress ($n = 3$), experiencing violence [$n = 2$], as well as racial/ethnic and sexual/gender minority groups (Asian Americans, Blacks, American Indian/Alaska Native, LGBTQ+ [$n = 1$, each]; Hispanic [$n = 2$]). Using a semistructured interview guide, these calls introduced the HRN initiative, engaged partners, gauged their interest in collaboration, and gathered information on audiences' needs and partners' experiences with emotional health during COVID-19.

Partner-Convened Listening Sessions

HRN partners also helped convene seven listening sessions (English [6], Spanish [1]) with 29 community members during June 2020. HRN conducted these sessions using Zoom to understand audiences' emotional health concerns, needed support, and how they seek and obtain information. These sessions also gathered information on audience behaviors and trusted sources and communication channels. As time allowed, moderators obtained audience reactions to draft emotional health communication messages. Participants received a \$75 incentive for their participation.

Online Focus Groups

Ten focus groups with a total of 58 participants were conducted between June and July 2020; two with each audience including caregivers for people over 65 years of age (English [5], Spanish [5]). All of the groups were conducted synchronously online using Zoom. A professional market research firm recruited six adults to participate in each focus group to ensure open and in-depth discussions. Participants received a \$100 incentive for their participation. Focus groups were conducted to understand audiences' thoughts and feelings about emotional health issues amid COVID-19 and consisted of discussions about the types of emotional health support that audiences needed, sought, and obtained, what it means to them to be resilient, and their reactions to draft HRN communication messages about emotional health. Researchers took detailed notes during the discussions in order to distill key findings and themes.

National Survey

The HRN team designed and fielded a national probability panel survey to obtain HRN audiences' perspectives on: COVID-19 beliefs, experiences, and mitigation practices; and their urgent emotional health issues and perceived ability to "bounce back" from hard times as well as the challenging conditions presented by the pandemic. The survey was fielded using NORC's AmeriSpeak® panel, a nationally representative probability panel of over 30,000 households. AmeriSpeak® administers a biweekly survey to the panel to track public opinion on various topics, drawing a random sample of 1,000 nationally representative adults, aged 18 and older, to be interviewed online or by phone. To obtain curated responses by HRN priority audience group, respondents were asked to self-identify into the initiative's four audience groups before proceeding to answer the 23-item survey fielded via the second wave of the May 2020 AmeriSpeak survey. In addition, this sample was constructed based on a variety of demographic attributes (including age, race/ethnicity, education, and gender) to ensure the inclusion of diverse perspectives in the respondent group. Our study team acquired completed surveys from $N = 731$ eligible adults across the four priority HRN audiences.

Analysis

To produce rapid and actionable findings within the time period allowed, the study team had to quickly analyze, interpret, and triangulate multiple streams of data from different sources in different formats. This required a nimble approach to qualitative and quantitative data collection and an iterative process of data analysis, which involved blending data across sources and triangulating or integrating findings to achieve a full understanding of the results. The iterative mixed-methods analytical approach is described below.

Qualitative Data Analysis

Team members involved in conducting the environmental scan, partner calls, listening sessions, and online focus groups reviewed the detailed field notes from each data collection effort to identify common themes and relevant patterns. The researchers constructed spreadsheets organized by discussion question, theme, and audience, into which field notes were entered for each data collection method. This allowed for the rapid distillation of key

themes discovered in the qualitative data sources. Team members held multiple collaborative analysis meetings to review preliminary interpretations of the data across sources, discuss findings that might inform or explain gaps in the content or research of a single data source and develop high-level themes to answer the research questions. Analysts then collaboratively explored relationships between themes across the data to provide a holistic picture of HRN audiences' and organizational partners' thoughts, beliefs, intentions, and behaviors.

Social Listening Data Analysis

The data gleaned from the social listening required qualitative human coding as well as quantitative machine learning techniques. Automated sentiment analysis and thematic analysis with human-coders were used on collected posts. The team also used quantitative frequency analysis to determine the number and volume of posts about emotional health and COVID-19 during the study period to detect any meaningful themes or trends over time.

Quantitative Data Analysis

To analyze the survey data, quantitative analyses were conducted using SAS Version 9.4 and R 4.2 (SAS Institute, Cary, NC). First, data were cleaned, and completed survey data were weighted to national census benchmarks, balanced by gender, age, education, race/ethnicity, and region. The weights were then adjusted to HRN's priority population totals for the final study weights. Statistical weights for the study's eligible respondents were calculated using panel base sampling weights to start, which were computed as the inverse probability of selection from the NORC National Frame used to sample housing units for AmeriSpeak[®] or other address-based sample. Panel weights were then raked to external population totals associated with age, sex, education, race/Hispanic ethnicity, housing tenure, telephone status, and Census Division, obtained from the Current Population Survey, and adjusted to the external population totals to develop the final panel weights. Study-specific base sampling weights were derived using a combination of the final panel weight and the probability of selection associated with the sampled panel member. An additional adjustment was made to account for screener nonresponses, which decreased the nonresponse bias.

Population totals for the survey's target population were obtained using a screener nonresponse adjusted weight for all eligible respondents from the screener question. At the final stage of weighting, any extreme weights were trimmed based on a criterion of minimizing the mean squared error associated with key survey estimates. Then, weights were re-raked to the same population totals. Raking and re-raking were done during the weighting process such that the weighted demographic distribution of the survey completes resembled the demographic distribution in the target population, the assumption being that the essential survey items are related to the demographics.

The weighting of the survey respondent demographics with the HRN priority audiences in this way helped ensure that key survey items were representative of the intended audiences. Bivariate analyses were used to test the null hypothesis of independence for a pair of random variables. For multivariate analysis, statisticians used the least absolute shrinkage

and selection operator (LASSO) together with cross-validation to select independent variables used in modeling each dichotomized dependent variable (Tibshirani, 1996). Using LASSO facilitated removing redundant variables and reduced over-fitting of the model. After variable selection, the team employed logistic regression to determine predictors of responses to two resilience measures: (a) confidence in staying emotionally healthy during the COVID-19 pandemic and (b) confidence in “bouncing back” from the COVID-19 pandemic.

Study Participants

In the following text, we describe the participants for three of the aforementioned data collection methods: partner-convened listening sessions, online focus groups, and the survey.

Partner-Convened Listening Sessions

Adults aged 21 to 84 participated in seven partner-convened listening sessions (in English [6] and Spanish [1]) between June 1 and 16, 2020. While the study team sought to ensure racially diverse participants for the listening sessions, partners did not systematically collect participant demographic data. For this reason, detailed demographic information on participants is not presented here, however, sentiments expressed in these listening sessions are included in our analysis of the audience-specific results under each research question.

Online Focus Groups

A total of 58 individuals participated in the online focus groups, half of which were conducted in English and the other half in Spanish. The groups were evenly distributed by target audience, with approximately 6 participants in each group. The average age of focus group participants was 45 years old for English and 46 for Spanish; 41% of the total participants were male, whereas 59% were female. All of the Spanish speaking participants and 59% of the total participant group (English and Spanish language groups) identified as Hispanic, 17% of the total group identified as non-Hispanic Asian or Pacific Islander, 10% as non-Hispanic White, 10% as non-Hispanic Black, and 2% as non-Hispanic multiracial. In all, 22% of participants reported either a physical or mental disability. In all, 62% reported having obtained an associate’s degree or higher. Table 1 documents these participant characteristics.

National Survey

A total of 731 respondents were included in the final sample of the panel survey after self-identifying into at least one of the initiative’s four audience groups. Of the respondents, 58% had preexisting conditions, 33% were over the age of 65, 33% were experiencing economic distress, 13% reported experiencing violence, and 13% were caregivers of people older than 65. Overall, 43% of respondents were male, and 57% were female. 63% identified as non-Hispanic White, 17% identified as Hispanic, 15% identified as non-Hispanic Black, and significantly smaller proportions of respondents identified as non-Hispanic Asian, multiracial, or other (5% total). Thirty-three percent of respondents were over the age of 65, with 28% reporting their age as between 45 and 64 years old and a third of the total respondent group reporting being between the ages of 18 and 44. One-third of respondents

had a high school graduate degree or equivalent, whereas 29% had a bachelor's degree or higher.

Results

This study sought to achieve its aims by using a mix of qualitative and quantitative methods and blending or integrating (i.e., triangulating) data to answer the study's three research questions. The following section documents the results from the study by the research questions. Results discussed under each research question reflect triangulation across all data sources unless explicitly noted otherwise.

Research Question 1: How Do HRN Audiences Define and Discuss Resilience Amid the COVID-19 Pandemic?

Analysis of the data revealed several important themes regarding how HRN audiences define and discuss resilience. In defining resilience, participants described mechanisms through which resilience can be achieved, including developing greater community cohesion and social connections by mobilizing to help others, tapping into social networks, contributing to a shared goal, and connecting with faith communities. Individuals expressed relying on past experiences as an essential way to gain resilience in the face of adversity, including the ability to “bounce back,” individuals' feelings of “being a survivor,” and connection with the phrase “this too shall pass.” Others looked toward the future and used terms such as “hope for a new day,” to “strive, to do better,” and “recovery” when discussing resilience. Some acknowledged challenges of trying to be resilient, for example, “not giving up, taking the punches,” “grow through adversity,” and one participant spoke of the “ability to bend with the wind without breaking.”

As evidenced through social listening, organizations that serve priority audience members aimed to promote resilience by posting messages with supportive, positive, inspirational content, existing mental health resources, lists of coping tips and activities, and instructions for self-care exercises as mindfulness and meditation. However, other data collected through the formative research process suggested that some audiences perceive resilience as more than just self-care activities (e.g., yoga and mindfulness). Some of the most intimate content related to emotional distress was posted on Reddit, where audiences discussed complex, interacting concerns and sought specific advice from peers in this online community who might be experiencing similar complex emotions about COVID-19 and the impact of social distancing and restrictions related to mitigating the spread of disease on their mental health.

The literature reviewed in the environmental scan suggests that people who have encountered previous adversity may be better prepared than others who have not needed to be resilient and that the factors that allowed individuals to adapt during earlier struggles are critical in maintaining their resilience through the current challenges brought by the COVID-19 pandemic. Results triangulated from across the data collection activities also revealed that priority audiences have distinct perceptions of resilience and ways to talk about resilience based on their lived experiences before the onset of the pandemic. For *adults 65 and older and their caregivers*, resilience means actively coping with the challenges and stressors created by the pandemic, including finding new ways to create structure and

exhibit control in their daily lives, overcoming reluctance with technology to connect with loved ones and others in similar situations over distance, having a plan and team in place to provide support, and practicing self-care behaviors (e.g., exercise, taking breaks, regular sleep). For *adults 65 and older*, in particular, resilience relies on their age as a source of strength, as they may have bounced back from adversity many times throughout their life and have the wisdom and experience to know that they and their loved ones will overcome the COVID-19 pandemic.

Feeling well-equipped to handle the mental health impacts of COVID-19 and being able to leverage one's previous experiences with mental health (e.g., posttraumatic stress disorder) and physical health (e.g., cancer) conditions to help others were indicative of resilience for *adults living with preexisting conditions*. Resilience can also be a matter of acknowledging and reframing negative experiences, adjusting expectations, and “simply functioning” for this group.

Adults experiencing violence perceive resilience by actively seeking emotional support for relief and for help with developing or modifying safety plans, such as through domestic violence hotlines, despite fears of exacerbated violence perpetration and retaliation. Further, setting new goals and growing through adversity were key to this group's definition of resilience.

Finally, for *adults experiencing economic distress*, overcoming fear about potential exposure to COVID-19 was key to their definition of resilience. This impacted their perceived ability to continue working to support their families—especially for those in low-wage jobs. They also identified learning new skills that might help them enter the job market in the future, connecting with and supporting others, relying on past experiences overcoming hardships, and engaging in cultural and faith practices as vital to their ability to be resilient during the pandemic.

Related to how people talk about emotional health during COVID-19 on social media, the study team identified mixed positive and negative sentiments that often varied depending on the social media platform. On image-oriented platforms, including Instagram and Pinterest, public posts were optimistic in tone and included messages with supportive, positive, inspirational content. On these platforms, people often even included simple, visually instructional materials for self-care in posts. Partners serving HRN audiences aimed to promote people's emotional health and resilience with supportive, positive, and inspirational content and mental health resources. Specifically, partners' Facebook and Twitter posts commonly focused on sharing existing mental health resources with the public, such as lists of “tips,” activities, and suggestions for actions that people can take to improve their emotional health, coping, and resilience. While partner organizations' recommendations were positive and included posts about engaging in mindfulness and physical activity to manage stress and emotional distress at this time, audience reactions were not always positive. One Reddit user's response to these types of positive, inspirational posts was to say, “[I'm] so sick of people treating meditation and yoga as a cure-all for depression from lockdowns.”

Research Question 2: What Kinds of Mental Health Resources and Supports Do HRN Audiences Need to Be Resilient Amid the COVID-19 Pandemic?

When considering what disproportionately affected audiences need to be resilient amid the COVID-19 pandemic, social and community connections, access to virtual support systems and tangible resources emerged as key. The review of the gray literature highlighted that priority audiences need access to culturally sensitive community resources and support (e.g., in their language of choice), including those that meet basic human needs (e.g., free meals for families provided at local schools), mental health needs (e.g., support hotlines), and social needs (e.g., neighborhood and community support systems). Connecting with family and friends using phone or video technology was the most commonly reported coping strategy on the audience survey.

Analysis of social media data also reflected a need among HRN's audience groups for connections to and conversations with other people going through similar experiences. Specifically, Reddit users demonstrated a strong need for reassurance that their experiences and feelings were not abnormal and were also experienced by others. Users often searched for advice on their specific circumstances, which was generally provided by a diverse mix of commenters. Most prominently, users frequently searched for reassurance from others that their worries and concerns were legitimate and normal. It was not uncommon for such posts to get dozens or hundreds of sympathetic comment responses. Users were frequently willing to discuss in detail much more serious and stigmatized topics, including bankruptcy, death, and suicidal ideation, on Reddit than on other platforms (e.g., Instagram and Pinterest).

Information obtained from discussions with partners indicated additional details about HRN audiences' coping behaviors and the information, support, and resources needed to be resilient. Using remote technology for social and faith community connections, increased engagement in self-care activities like meditation and exercise, increased physical activity, and reengagement with established sources of resilience were commonly expressed coping behaviors. Participants also reported reprioritizing and rebudgeting as a way to cope with emotional and financial uncertainty. Among Spanish-speaking audiences, acts of community and familial service were discussed as ways to give back and to build resilience through reaffirming the identity of the community as people who take care of each other:

I have brought oranges to the neighbors; we share the famous toilet paper between three different families because nobody could find it. Then my husband went and changed the oil in the car for one of the grandmothers of one of my "comrades." All these acts of charity serve a lot to feedback and give at the same time a sense of who we are. And we haven't had the opportunity to talk about it much, but this gives encouragement, gives hope.

In addition to coping strategies, audience groups expressed what information and resources they need to support their mental health during this time. Access to responsive, remote, and readily-available mental health services and support groups; clear information and resources from trusted sources on coping, resilience, and virtual engagement; culturally and linguistically appropriate materials; ways to connect virtually with family, friends, and

clergy; and needs-based services such as transportation, medical care, safe housing, and food and economic assistance were most salient across all audience groups.

Different target audiences expressed the use of a variety of coping behaviors and information and resource needs. For *adults older than 65 and their caregivers*, engaging in faith activities and enjoying entertainment and hobbies were commonly mentioned. For *adults with preexisting health conditions*, engagement in therapy, maintaining routines, disengaging from social media, and practicing active gratitude were essential to coping. Adults experiencing violence frequently reported relying on informal support structures, seeking social connections online, and using mental health mobile apps. *Adults experiencing economic distress* reported reconnecting with family, relying on cultural values and faith, enrolling in online courses, and accessing virtual therapy to cope with the stress caused by the pandemic.

In terms of information and resources, the environmental scan revealed some distinct needs between audience groups. *Adults 65 and older* need ways to connect to people and telehealth, including education on using virtual platforms effectively and actionable information from trusted sources. *Adults with preexisting health conditions* need ways to connect virtually with peer support groups and tips on coping. *Adults experiencing violence* need private, secure hotlines and warm lines, access to informal support networks or remote therapy privately or anonymously, as well as safe and secure housing from which to access these services. *Adults experiencing economic distress* need clear information from trusted sources delivered in their language, connections to tangible resources including technology and bandwidth for telehealth and virtual connections, and to feel supported, reassured, and validated. Participants from this group also expressed that having resources to address their basic needs such as food, stable housing, and economic support were important to their ability to stay emotionally healthy.

Research Question 3: What Factors Inhibit Resilience or Predict Challenges to Resilience Among HRN Audiences?

To investigate factors that inhibit or predict challenges to resilience among HRN audiences, data from the survey were analyzed. The Brief Resilience Scale and the Connor-Davidson Resilience Scale were adapted and modified for the panel survey, as they are validated scales that have been used previously to measure resilience in the wake of environmental traumas (Connor & Davidson, 2003; Smith et al., 2008). The study team selected two primary resilience measures based on the theoretical definitions of resilience and the operationalization of resilience in these validated measures: (a) “confidence in staying emotionally healthy during the COVID-19 pandemic” and (b) “confidence in “bouncing back” from the conditions caused by the COVID-19 pandemic.” Results of the LASSO regression model revealed several variables as predictors for the two identified measures of individual resilience.

The study team first identified several possible predictors of resilience operationalized first as “confidence in staying emotionally healthy” amid the COVID-19 pandemic. Potential predictors included HRN audience membership (e.g., being 65 or older, experiencing violence), demographics (e.g., gender, age, education) as well as factors such as but not

limited to self-reported exposure to COVID-19, worry about getting or giving COVID-19 to others, depression, overall stress, and loneliness. The potential independent variables identified can be found in Table 2.

The same set of variables was used in modeling different subgroups, with variables only excluded if there was no variation in the subgroup variable. Our model determined that self-reported experiences of increased anxiety and depression and overall stress were significant negative predictors of one's ability to stay emotionally healthy amid the COVID-19 pandemic. Examining the odds ratio [OR], the strongest predictor was increased depression (OR 2.5), followed by increased anxiety (OR 1.65), then overall stress (OR .36). This means that respondents who reported that they do not have increased depression were 2.5 times more likely to report confidence that they could stay emotionally healthy. For detailed logistic regression results, see Table 3 ("confidence in staying emotionally healthy") and Table 4 ("confidence in one's ability to bounce back from these hard times").

Furthermore, based on modeling predictors of resilience by HRN audience group, we found significant variation in the factors that contributed to challenges to resilience—by group. For adults 65 years and older, race/ethnicity, depression, anxiety, and family stress were identified as predictors. For example, non-Hispanic White people and those who reported low levels of depression were more likely than non-Hispanic Black people or those with increased depression to report confidence in staying emotionally healthy during the COVID-19 pandemic. Increased depression and overall stress were also negative predictors of resilience for caregivers of adults over 65 years, and gender (female), overall stress, isolation, and severe family stress were noted as negative predictors of resilience for adults with preexisting conditions. There were no significant predictors for adults experiencing economic distress.

The study team also modeled predictors of resilience operationalized as "confidence in one's ability to bounce back from these hard times." Potential predictors were the same factors noted above for the first model (Table 2). Our second model determined that being in economic distress was also a significant predictor of confidence in one's ability to bounce back, in addition to the predictors of increased anxiety, increased depression, and overall stress. The most impactful predictor for the "bounce back" resilience measure was self-reported depression (OR 2.97), followed by being in economic distress (OR 2.40), overall stress (OR .44), and increased anxiety (OR 1.76). This means that respondents who did not report increased depression were almost three times as likely to say that they had a lot of confidence they will bounce back quickly from these hard times compared to those who reported increased depression.

Based on modeling predictors by HRN audience group, we found variety in the factors that contribute to the "bounce back" resilience measure. No items were found to be predictors of resilience for caregivers and those experiencing violence; however, stress, sleep changes, and depression contributed to challenges in "bounce back" resilience for adults over 65 years of age. In addition, depression, stress, family stress, and anxiety were negative predictors of resilience among adults with preexisting conditions. Experiencing stigma or discrimination

was negatively associated with “bounce back” resilience for adults in economic distress. Equations for the regression models can be found in Table 5.

Discussion

This study aimed to explore how HRN audiences define and talk about resilience amid the COVID-19 pandemic, what they need to be resilient, and what factors contribute to and predict challenges to audiences’ ability to be resilient during the current public health emergency. It sought to achieve these aims by using a mix of qualitative and quantitative methods and blending the data together to answer three primary research questions. The following in-depth discussion of the study’s results begins an exploration of how this work contributes theoretical and translational insights to the fields of public health, health communication, psychology, and pandemic or emergency response. It also provides researchers and communicators alike insight into how disproportionately affected audiences define and talk about resilience, what they need to be resilient, and what factors contribute to and predict challenges to resilience —within the unique context of the COVID-19 pandemic, where strategies commonly used for coping and resilience amid other disasters or emergency response situations are no longer available to people.

Theoretical Insights

Across HRN’s four priority audiences, there are similar conceptualizations of the construct of resilience. These include perceptions and feelings of “having the ability to bounce back,” “being a survivor,” “having hope for a new day,” “not giving up, taking the punches,” “[growing] through adversity,” and the “ability to bend with the wind without breaking.” Similarly, common strategies and mechanisms for resilience were identified, including drawing from past experiences, developing greater community cohesion and social connections by mobilizing to help others, tapping into social networks, contributing to a shared goal, and connecting with faith communities. Among Spanish-speaking participants, affirming cultural identity, defined by being an active member of the community, was particularly salient. Acts of service to the community and the family were important ways of building resilience for this group. These support prior findings from the literature in this space.

However, according to Ohio State University’s 2019 State of Resilience Survey, most people perceive that they have high levels of mental and emotional resilience (83%). Yet, far fewer (57%) actually score as resilient (Lucid Research, 2019). These data suggest that, in general, what people say they need to be resilient may not necessarily match up with their ability to identify what helps them be resilient and therefore take actionable steps to, in fact, be resilient. The COVID-19 pandemic underscores this point and further illuminates this trend. While the definitions of and mechanisms for being resilient identified in this study support and buttress prior research on this topic, they are challenged by the unique realities of the COVID-19 pandemic. As the pandemic has placed unique restrictions on such previously tested coping and resilience methods, people’s ability to cope over the last several months has also been challenged as they struggle to find new ways to connect and support each other in a socially-distanced world. Therefore, this study advances the resiliency knowledge

base, supporting prior work but adding a new dimension based on the unique context of COVID-19.

Moreover, it is clear from the study's findings that certain factors are significant negative predictors of one's confidence in one's ability to bounce back from these times. These include being in economic distress and living with increased anxiety, increased depression, and overall stress. Thus, certain groups of people have and will continue to have a more challenging time bouncing back from the effects of the COVID-19 pandemic. However, the study's subsequent finding that facing stigma or discrimination for people already experiencing economic distress contributes to lower "bounce back" resilience exposes how existing structural barriers are impeding people's ability to cope, making it even harder for some groups to be resilient during this time.

Translational Insights

Health communication aims to facilitate the improvement of health and health outcomes (Kreps & Maibach, 2008); however, health communicators and researchers designing initiatives within the context of the COVID-19 pandemic are dealing with a unique mix of old and new challenges. Some of the old challenges include the continued need to develop messages that are effective in shifting knowledge, attitudes, and beliefs about coping strategies to improve people's mental health and emotional wellbeing during this time and to increase visibility in an already saturated media environment. However, new challenges, such as the need for social connection as a coping strategy in a socially distancing world, also exist and need to be addressed.

A communication initiative such as HRN offers possible prevention messages to these challenges. Drawing on past evidence as well as input from HRN's four priority audience groups led to the development of messages that promoted the idea that getting and giving support to others can help people be more emotionally healthy and build resilience. Yet, the messages could not stop there as they needed to address how to do this within this new context. These included actions such as establishing new routines and learning new skills for adults 65 and older; making time to get sleep and exercise for caregivers; developing or modifying safety plans for people experiencing violence based on their personal situations; and providing resources that support more basic needs, such as job bank, food bank, and housing resources for people experiencing economic distress. Although these strategies may not address all needs, especially the profound structural and social barriers people face, they promote simple, actionable steps to be resilient.

These were intentionally selected and highlighted for this initiative because they are low-cost and low barrier-to-entry. Therefore, they are easy for people to do in their everyday lives. This ultimately helps address the incongruity in the aforementioned data (Lucid Research, 2019). Moreover, as the COVID-19 pandemic progresses—and as new viruses and infections continue to emerge—the lessons from this study may provide insight and models for supporting coping and resiliency into the future.

Limitations

There are several limitations of the current study that create specific opportunities for future work. This study's time frame was short, which meant that all data collection had to be done concurrently. With more time, data collection could have been done in a more sequential format, allowing each subsequent stage to build on the prior one and deepen the findings. Additionally, the limited time frame meant that notes-based analyses had to be used to distill the qualitative research findings; with more time, more rigorous thematic analysis using software such as NVIVO could have been done. The time period for data collection is also a limitation as it happened during the pandemic's early days, which had a different context than the pandemic today, some 12 months later. Perceptions and findings reflect this moment in time. More work is needed to understand how these experiences and perceptions may be changing for these audience groups throughout the pandemic.

In addition, the web panel through which the survey was fielded presents potential nonresponse bias. Out of 30,000 households nationwide represented in the panel, we selected a stratified random sample of 7311 households. Of these, 1,065 responded, 731 of which were included in the final analysis, due to the eligibility requirement that each respondent be a member of one of HRN's priority audiences. Across the data from the focus groups, partner listening sessions, and survey, there is also the potential for self-report recall bias.

In addition, there are limitations to drawing inferences about broader demographic groups based on this research. The focus groups were predominantly Hispanic (58%), and complete demographic information was not available for the partner listening sessions. Therefore, comprehensive information about demographic groups cannot be derived, as our main focus was on ensuring representation from members of HRN's four priority audience groups. The study team also did not account for older adults living with memory or cognitive issues in our study population of adults 65 and older. The lack of systematic demographic data collection limited the breadth and depth of understanding people's experiences and perspectives.

This research was focused on HRN's four priority audiences. Therefore, while they have general applicability, the study's findings do reflect the experiences and perceptions of these particular disproportionately affected groups. Future research should consider exploring the construct of resilience with other groups, such as parents of school-age children and college-aged students. Finally, COVID-19 presents a unique context for exploring the construct of resilience and therefore has several limitations. First, COVID-19 is a new virus. This meant that little was known about and published on COVID-19 at the outset of this study; thus, there was little prior work to reference and build on. The novel circumstances of the COVID-19 pandemic resulted in unpredictable barriers to data collection and community engagement. For example, all data were collected using remote technology, which may have limited participation (e.g., Internet-access was required to participate in online focus groups).

Conclusion

The findings from this study suggest that communities and populations at high risk for negative mental health outcomes due to the pandemic, with those that are disproportionately affected by COVID-19 struggling considerably to maintain their emotional wellbeing, be psychologically resilient, and support their communities. Aligned with previous research, social connections continue to provide critical support during the pandemic, although these connections look different. People want to be together, and there is an intense desire for connections to the community and others. There is also a desire to do things for others and a heavy reliance on faith.

However, populations previously vulnerable to adverse health outcomes and facing other social and structural challenges that the pandemic has exacerbated are more at-risk for increased vulnerabilities during COVID-19 due to added stress and difficulty accessing resources. In particular, as the findings from this study elucidate, for adults experiencing violence and adults experiencing economic distress, challenges to resilience are substantial. They often include structural barriers such as discrimination, stigma, and a lack of access to resources resulting from already living at or below the poverty level. This makes resilience that much harder for these groups and suggests that more work is needed to address these needs.

To begin to address these challenges, culturally-responsive mental health resources and support are critical. These collective findings informed the development of HRN's messages and materials, for example, getting and giving support to others, practicing self-care, strategies for adapting, as well as providing support for basic needs, for example, job banks, food banks, and housing and crisis resources. HRN materials were also designed with linguistic and cultural sensitivities in mind. Developed in this way and supporting the needs of its priority audiences, they have been positively received and are helping to support individuals and communities across the United States. Increased efforts could focus on the mid- and long-term effects of these materials on HRN's audiences' coping behaviors and overall feelings of resilience. HRN is currently conducting ongoing data collection to explore these effects more fully.

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Table 1

Online Focus Group Participant Characteristics

	65+	Caregivers of 65+	Pre-existing conditions	Experiencing violence	Economic distress	Total
English-Language Groups (five groups, 29 participants total)						
Age						
Mean Age (years)	67.8	46.2	41	30	39.2	45.3
Gender						
Male	3	3	3	0	3	12
Female	3	3	3	5	3	17
Race/Ethnicity						
White, non-Hispanic	1	1	1	2	1	6
Black, non-Hispanic	2	1	0	1	2	6
Hispanic	1	1	1	0	2	5
Asian or Pacific Islander, non-Hispanic	2	3	2	2	1	10
Multiracial, non-Hispanic	0	0	2	0	0	2
Other	0	0	0	0	0	0
Education						
High school or lower	1	0	0	0	1	2
Some college	2	1	2	2	1	8
Bachelor's or higher	3	5	4	3	4	19
Employment						
Working	1	4	2	2	3	12
Not working: retired	5	1	0	0	0	6
Not working: other	0	1	4	3	3	11
Spanish-language groups (five groups, 29 participants total)						
Age						
Mean age (years)	68.3	47.2	46	36	33	46.6
Gender						
Male	3	3	3	0	3	12
Female	3	3	3	6	2	17
Race/ethnicity						

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	65+	Caregivers of 65+	Pre-existing conditions	Experiencing violence	Economic distress	Total
White, non-Hispanic	0	0	0	0	0	0
Black, non-Hispanic	0	0	0	0	0	0
Hispanic	6	6	6	6	5	29
Asian or Pacific Islander, non-Hispanic	0	0	0	0	0	0
Multiracial, non-Hispanic	0	0	0	0	0	0
Other	0	0	0	0	0	0
Education						
High school or lower	0	0	3	2	0	5
Some college	1	2	1	1	2	7
Bachelor's or higher	5	4	2	3	3	17
Employment						
Working	1	4	5	6	4	20
Not working: retired	4	0	0	0	0	4
Not working: other	1	2	1	0	1	5

Table 2

Least Absolute Shrinkage and Selection Operator Independent Variables

Caregiver of 65+	45–54
Pre-existing conditions	55–64
Experiencing violence	65–74
Financial hardship	75+
Exposure to coronavirus	Non-Hispanic Black
Change to daily life patterns as compared to before coronavirus	Non-Hispanic Non-White Other
Personal financial loss	Hispanic
Childcare challenges	Non-Hispanic Multi-Race
Difficulty caring for a chronic condition	Non-Hispanic Asian/Pacific Islander
Stigma or discrimination from other people	Mid-Atlantic
Worry about getting coronavirus	East North Central
Worry about giving coronavirus to someone else	West North Central
Worry about the impacts on my life from a second wave of coronavirus	South Atlantic
Worry that others are not taking precautions seriously	East South Central
Feelings of frustration	West South Central
Increased anxiety	Mountain
Increased depression	Pacific
More sleep, less sleep or other changes to your normal sleep pattern	Metro Area
Changes in eating and/or challenges maintaining healthy eating habits	65+
Increased alcohol or other substance use	Has Disability
Increased feelings of isolation or loneliness	None to mild stress related to coronavirus pandemic
Confusion about what coronavirus is, how to prevent it or why social distancing, isolation or quarantines are needed	None to mild stress and discord in the family
Female	High school degree or less
25–34	Currently employed
35–44	

Table 3

Logistic Regression Results—Staying Emotionally Healthy

Dependent variable: Resilience as defined by having “a lot confidence in staying emotionally healthy during the reopening of the country amid coronavirus”						
Target group	Variable description	Coefficient	Standard error	Pr>ChiSq*	Odds ratio	95% Wald confidence limits
Overall (n = 723)	Intercept	-0.62	0.105	<.0001		
	No increased anxiety	0.25	0.096	0.009	1.65	1.13 2.40
	No increased depression	0.46	0.116	<.0001	2.50	1.59 3.94
	Not none to mild stress related to coronavirus pandemic	-0.52	0.099	<.0001	0.36	0.24 0.53
65+ years (n = 255)	Intercept	-0.42	0.569	0.460		
	No increased anxiety	0.40	0.178	0.026	2.21	1.10 4.43
	No increased depression	0.71	0.256	0.006	4.10	1.50 11.21
	Non-Hispanic Multi-Race	1.29	1.115	0.246	7.36	0.66 82.26
	Non-Hispanic Asian/Pacific Islander	0.42	2.083	0.840	3.08	0.02 401.73
	Non-Hispanic Black	-2.63	0.801	0.001	0.15	0.04 0.58
	Hispanic	-0.44	0.723	0.544	1.30	0.41 4.20
	Non-Hispanic Non-White Other	2.06	1.308	0.116	15.81	0.84 298.75
	Not none to mild stress related to coronavirus pandemic	-0.31	0.207	0.136	0.54	0.24 1.21
	Not none to mild stress and discord in the family	-0.89	0.345	0.010	0.17	0.04 0.66
Caregivers of 65+ (n = 93)	Intercept	-0.93	0.348	0.007		
	No increased depression	0.93	0.355	0.009	6.37	1.58 25.65
	Not none to mild stress related to coronavirus pandemic	-0.75	0.288	0.010	0.23	0.07 0.70
Pre-existing conditions (n = 433)	Intercept	-0.73	0.183	<.0001		
	No increased anxiety	0.16	0.130	0.216	1.38	0.83 2.30
	No increased depression	0.18	0.155	0.241	1.44	0.78 2.65
	No increased feelings of isolation or loneliness	0.37	0.132	0.006	2.08	1.24 3.50
Female		-0.42	0.111	0.000	0.43	0.28 0.67

Dependent variable: Resilience as defined by having “a lot confidence in staying emotionally healthy during the reopening of the country amid coronavirus”

Target group	Variable description	Coefficient	Standard error	Pr>ChiSq*	Odds ratio	95% Wald confidence limits
	Not none to mild stress related to coronavirus pandemic	-0.42	0.138	0.002	0.43	0.25 0.74
	Not none to mild stress and discord in the family	-0.46	0.181	0.011	0.40	0.19 0.81
Experiencing violence (<i>n</i> = 92)	Intercept	-0.51	0.230	0.027		
	No financial hardship	0.62	0.230	0.007	3.49	1.42 8.58

* PR > ChiSq is the probability of observing a χ^2 statistic as extreme as, or more so, than the observed one under the null hypothesis (that all of the regression coefficients in the model are equal to zero). Presents statistical significance of χ^2 tests.

Table 4

Logistic Regression Results—Bouncing Back

Dependent variable: Resilience as defined by having “a lot confidence in bouncing back quickly from these hard times”						
Target group	Variable description	Coefficient	Standard error	Pr > ChiSq	Odds ratio	95% Wald confidence limits
Overall (<i>n</i> = 719)	Intercept	-1.19	0.132	<.0001		
	No financial hardship	0.44	0.104	<.0001	2.40	1.60 3.61
	No increased anxiety	0.28	0.101	0.0049	1.76	1.19 2.61
	No increased depression	0.54	0.133	<.0001	2.97	1.76 5.01
65+ years (<i>n</i> = 257)	Not none to mild stress related to coronavirus pandemic	-0.41	0.108	0.0001	0.44	0.29 0.67
	Intercept	-1.33	0.338	<.0001		
	No increased anxiety	0.30	0.176	0.0942	1.80	0.90 3.60
	No increased depression	0.90	0.334	0.0074	5.99	1.62 22.18
Pre-existing conditions (<i>n</i> = 430)	Not more sleep, less sleep or other changes to your normal sleep pattern	0.47	0.164	0.0041	2.55	1.35 4.85
	Not none to mild stress related to coronavirus pandemic	-0.65	0.204	0.0014	0.27	0.12 0.60
	Intercept	-1.43	0.232	<.0001		
	No financial hardship	0.31	0.130	0.0163	1.86	1.12 3.10
Experiencing violence (<i>n</i> = 90)	No increased anxiety	0.57	0.171	0.0009	3.12	1.60 6.09
	Not none to mild stress related to coronavirus pandemic	-0.45	0.151	0.0029	0.41	0.23 0.74
	Not none to mild stress and discord in the family	-0.62	0.225	0.0062	0.29	0.12 0.71
	Intercept	-8.82	51.155	0.863		
No change to daily life patterns as compared to before coronavirus	No pre-existing conditions	-4.25	15.488	0.784	<0.001	<0.001 >999.99
	No change to daily life patterns as compared to before coronavirus	-6.50	15.304	0.671	<0.001	<0.001 >999.99
	No childcare challenges	14.17	18.279	0.438	>999.99	<0.001 >999.99
	No stigma or discrimination from other people	-3.86	12.275	0.753	<0.001	<0.001 >999.99
No worry about giving coronavirus to someone else	No worry about giving coronavirus to someone else	3.80	19.480	0.846	>999.99	<0.001 >999.99
	No worry that others are not taking precautions seriously	-0.79	9.951	0.936	0.21	<0.001 >999.99

Dependent variable: Resilience as defined by having "a lot confidence in bouncing back quickly from these hard times"						
Target group	Variable description	Coefficient	Standard error	Pr > ChiSq	Odds ratio	95% Wald confidence limits
	No increased anxiety	3.05	24.260	0.900	446.17	<0.001
	No increased depression	15.54	27.502	0.572	>999.99	<0.001
	No increased feelings of isolation or loneliness	1.41	22.707	0.950	16.88	<0.001
	No confusion about what coronavirus is, how to prevent it or why social distancing, isolation or quarantines are needed	-10.48	15.811	0.508	<0.001	<0.001
	Female	-6.58	19.828	0.740	<0.001	<0.001
	18-24 years	-10.85	31.866	0.733	<0.001	<0.001
	25-34 years	16.37	27.631	0.554	>999.99	<0.001
	35-44 years	-9.52	39.653	0.810	<0.001	<0.001
	45-54 years	10.00	25.991	0.700	10.39	<0.001
	55-64 years	-8.22	24.560	0.738	<0.001	<0.001
	65-74 years	-5.46	20.749	0.793	<0.001	<0.001
	Non-Hispanic Multi-Race	10.61	39.889	0.790	>999.99	<0.001
	Non-Hispanic Asian/Pacific Islander	-1.89	80.862	0.981	>999.99	<0.001
	Non-Hispanic Black	9.79	40.994	0.811	>999.99	<0.001
	Hispanic	-19.47	38.808	0.616	<0.001	<0.001
	Non-Hispanic Non-White Other	11.47	104.700	0.913	>999.99	<0.001
	East North Central	0.63	32.712	0.985	17.80	<0.001
	East South Central	-34.45	64.443	0.593	<0.001	<0.001
	Mid-Atlantic	17.02	34.276	0.619	>999.99	<0.001
	Mountain	19.70	79.738	0.805	>999.99	<0.001
	New England	15.10	181.700	0.934	>999.99	<0.001
	Pacific	2.74	42.473	0.949	146.20	<0.001
	South Atlantic	-19.87	44.965	0.659	<0.001	<0.001
	West North Central	1.37	51.221	0.979	37.10	<0.001
	Metro Area	1.03	14.864	0.945	7.85	<0.001
	Not none to mild stress and discord in the family	-0.20	15.832	0.990	0.67	<0.001
	High School or Less	-2.42	11.504	0.834	0.01	<0.001
	Intercept	-5.63	42.909	0.896		

Economic distress (n = 213)

Dependent variable: Resilience as defined by having "a lot confidence in bouncing back quickly from these hard times"							
Target group	Variable description	Coefficient	Standard error	Pr > ChiSq	Odds ratio	95% Wald confidence limits	
	No stigma or discrimination from other people	-0.66	0.287	0.023	0.27	0.09	0.83
	No increased anxiety	0.44	0.247	0.072	2.43	0.92	6.40
	No increased depression	0.27	0.254	0.284	1.72	0.64	4.67
	Non-Hispanic Multi-Race	-5.69	93.529	0.952	<0.001	<0.001	>999.99
	Non-Hispanic Asian/Pacific Islander	-6.41	163.800	0.969	<0.001	<0.001	>999.99
	Non-Hispanic Black	3.50	36.988	0.925	1.58	0.56	4.45
	Hispanic	3.61	36.988	0.922	1.77	0.71	4.40
	Non-Hispanic Non-White Other	1.95	36.998	0.958	0.34	0.04	3.14
	East North Central	1.45	21.757	0.947	5.28	0.88	31.85
	East South Central	0.37	21.774	0.987	1.79	0.13	24.88
	Mid-Atlantic	2.41	21.758	0.912	13.81	2.14	89.14
	Mountain	1.42	21.762	0.948	5.16	0.65	41.19
	New England	-8.71	174.000	0.960	<0.001	<0.001	>999.99
	Pacific	1.42	21.756	0.948	5.13	0.93	28.32
	South Atlantic	1.78	21.755	0.935	7.38	1.40	38.98
	West North Central	0.08	21.773	0.997	1.35	0.10	17.79
	Not none to mild stress related to coronavirus pandemic	-0.24	0.219	0.278	0.62	0.26	1.47
	High School or Less	0.20	0.215	0.351	1.49	0.64	3.46

* PR > ChiSq is the probability of observing a Chi-Square statistic as extreme as, or more so, than the observed one under the null hypothesis (that all of the regression coefficients in the model are equal to zero). Presents statistical significance of Chi Square tests.

Table 5

Regression Model Equations

Measure	Equation
“confidence in staying emotionally healthy”	$\log(\alpha \text{ lot confidence in bouncing back/not a lot confidence in bouncing back}) = \beta_0 + \beta_1 * \text{financial hardship} + \beta_2 * \text{Increased anxiety} + \beta_3 * \text{Increased depression} + \beta_4 * \text{None to mild stress related to coronavirus pandemic}$
“confidence in one’s ability to bounce back from these hard times”	$\log(\alpha \text{ lot confidence in staying emotionally healthy/not a lot confidence in staying emotionally healthy}) = \beta_0 + \beta_1 * \text{Increased anxiety} + \beta_2 * \text{Increased depression} + \beta_3 * \text{None to mild stress related to coronavirus pandemic}$