



COVID-19 Needs Assessment of Vulnerable Community Adults in Charlotte, North Carolina

Technical Report

Prepared for Psychology For All

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Executive Summary

While national level data on social and psychological impacts of the pandemic are beginning to emerge, the unique demography of the Charlotte, NC region necessitates a specific COVID-19 impact assessment. Funded by a grant from Cardinal Innovation Healthcare, this evaluation held three objectives. **Objective 1:** To assess COVID-19 specific exposure, stress, and biopsychosocial responses. **Objective 2:** To assess psychosocial impacts, namely rates of mental health symptoms, alcohol use, domestic violence, relationship quality, and coping efforts. **Objective 3:** To assess interest in and barriers to low cost mental health services utilization. We conducted the needs assessment through an online mixed-methods survey of 156 adults in the Charlotte-Mecklenburg region. Psychology for All and six other regional non-profit partners disseminated the survey via email listserv and social media platforms. Study eligibility criteria included: (1) being 18 years of age, (2) residing in Mecklenburg or one of several surrounding counties, and (3) an annual household income of \$60,000 or less. The sample was diverse with respect to race, gender, age, education level, and ethnicity. High rates of COVID-19 exposure and related stressors were reported, particularly concerning exposure concerns, lost job/income, and increased home responsibilities. More than 40% of the sample reported personal job exposure to COVID-19 and knowing others in the same job situation. Most adults reported more than one hour of daily pandemic media consumption. Key responses to the pandemic appear to be notably less social interaction with friends and family, declines in physical activity, decreased use of prescription medication, increases in efforts to cope with stress, and a drop in overall sense of well-being. Average mental health scores were problematic with respect to symptoms of generalized anxiety and post-traumatic stress. Using clinical screener cut-scores, mental health-related rates were high for probable depression (52%), suicide risk (40%), possible PTSD (83%), moderate or worse anxiety (43%), and problematic drinking (50%). Of the respondents in an intimate partner relationship, 63% reported domestic violence in their relationship, including 19% who reported to be victims, 8% who reported to be perpetrators, and 36% who reported bidirectional violence (both victimization and perpetration). All assessed domains of resilience and coping were in the moderate-to-low ranges of use or confidence to use the technique. Despite low previous mental health services usage, respondents expressed high rates of willingness to use in-person and virtual individual therapy services. Topics of interest for development of mental health services included financial strain/literacy, coping skills, and mental health symptoms. Finances, fear of COVID-19, and other barriers to mental health service use were reported. Recommendations are offered for the following areas of COVID-19 related prevention and intervention in the Charlotte-Mecklenburg area: (1) mental health and suicide prevention, (2) domestic violence and trauma-informed care, (3) public health approaches to psychosocial impacts of the pandemic, and (4) future research focused on underserved and under resourced populations.



Background

Central North Carolina, including Charlotte and its surrounding area, has a deep history of social and economic inequality. Charlotte ranked 50th out of 50 large cities in a study of upward social mobility (Chetty et al., 2014) and 14% of the region lives both below the poverty line and without health insurance (U.S. Census Bureau, n.d.). Charlotte and its surrounding suburban areas are home to over 2.7 million diverse individuals. Recent U.S. Census (n.d.) data suggests more than 50% of the region identifies as a racial minority, with more than 30% identifying as African American. Another 14% of the region identifies as Hispanic, and 15% are immigrants and refugees. The recent COVID-19 pandemic has disproportionately impacted low income communities of color, likely exacerbated by pre-existing and on-going social and economic inequalities.

The demographic diversity of central North Carolina leaves the area particularly vulnerable to long-lasting negative impacts of COVID-19. In North Carolina, more than 31,000 people are estimated to be at risk of complications due to COVID-19, with patterns worse for racial and ethnic minority persons and those without health insurance (Adams et al., 2020). Black and Latinx individuals are more likely to have pre-existing conditions such as asthma or diabetes and are more likely to work jobs deemed essential, making them more prone to catch the disease and leading to higher rates of mortality once infected (e.g., Khunti et al., 2020; Laurencin & McClinton, 2020). Furthermore, unprecedented rates of job loss and prolonged social isolation during the COVID-19 pandemic has led to increased rates of domestic violence, mental health concerns, and coping through substance use (e.g., Gunnell et al., 2020; Woolf & Schoemaker, 2019). The demographic, financial, and social make-up of Charlotte and the surrounding areas raise concerns about the long-term impact of the COVID-19 pandemic in the region.

When deriving a set of outcomes of interest for this COVID-19 impact assessment, broader public health and research literatures help to identify starting points. For instance, a June 2020 CDC study regarding mental health during the pandemic showed that 40% of those surveyed reported struggling with mental health or substance abuse (Czeisler et al., 2020). Specifically, 31% of individuals reported symptoms of anxiety/depression, 26% indicated having a trauma-related concern, 13% started or increased substance use, and 11% considering suicide. Further, substance abuse and suicidal ideation frequencies were worse among vulnerable persons such as young adults and racial/ethnic minorities. In terms of social impacts of the pandemic, recent studies of relationship disturbance demonstrate concerning high rates and severity of domestic violence due to pandemic-related lockdowns (Bettinger-Lopezan & Bro, 2020; Sharma & Borah, 2020). Drivers of the rise in domestic violence include job loss, financial strain, and daily habits associated with cohabitating (Sharma & Borah, 2020). The increase in domestic violence is responsible for further social strain on victim services and resource depletion (Bettinger-Lopezan & Bro, 2020; Sharma & Borah, 2020). The COVID-19 pandemic has resulted in the publication and dissemination of numerous professional organization resource pages on stress, coping, and related matters (e.g., APHA, n.d.; CDC, 2020; Department of Veterans Affairs, n.d.); however, we sought to evaluate both COVID-19-related stress and exposure, as well as coping and biopsychosocial responses, to fully understand the unique problems facing vulnerable adults in the Charlotte-Mecklenburg region. Doing so offers the possibility of developing a tailored intervention program specific to needs in the region. Finally, recent federal funding priorities (e.g., NIH, n.d.) and mental health practice guidelines (e.g.,



Waller et al., 2020) have shifted toward an emphasis on psychotherapeutic interventions and leveraging technology to assist vulnerable groups affected by the pandemic. As such, we assessed interest in and barriers to utilization of both individual and group therapy programming delivered via in-person or online modalities.

Objectives. The combination of vulnerable population demography and financial challenges endemic to the central North Carolina region provide an unfortunate setting in which COVID-19 may cause social (e.g., domestic violence, job loss) and psychological (e.g., anxiety, elevated suicide risk) disruptions, especially for those already disadvantaged by poor financial and demographic minority statuses.

Objective 1: To assess COVID-19 specific exposure, stress, and biopsychosocial responses.

Objective 2: To assess psychosocial impacts, namely rates of mental health symptoms, alcohol use, domestic violence, relationship quality, and coping efforts.

Objective 3: To assess interest in and barriers to low cost mental health services utilization.



Approach

Survey administration. UNC Charlotte investigators obtained Institutional Review Board approval for this assessment. Data were collected in late July of 2020. An online Qualtrics-administered self-report survey was constructed for distribution [through Psychology for All](#) and its constituent community partners via email listserv and social media distribution. Partners sharing the survey opportunity were [C4 Counseling](#), [The Harvest Center](#), [Care Ring](#), [Time Out Youth](#), [Westside Education Think Tank](#), and [UNC Charlotte School of Social Work field education partners](#). The survey started with a consent page containing standard research study information such as study aims, procedure, investigators and contact information, participant rights, and remuneration details. Potential participants indicated consent by completing the survey. The demographic information page included study screening questions to confirm study inclusion criteria of (1) 18 years of age or older, (2) annual household income of \$60,000 or less, and (3) residence in Charlotte-Mecklenburg or surrounding counties (i.e., Gaston, Lincoln, Cabarrus, and Union). The survey immediately ended if a potential participant did not meet study inclusion criteria. All subsequent measures (see below) were presented in randomized order so as to avoid response set effects. Information regarding Psychology for All's online therapy service application and Psychology Today's mental health provider locator were given on each survey page. Upon survey completion, participants were provided with a written debriefing page. They were also offered the opportunity to provide an email address and preference for a \$20.00 Amazon or Walmart e-gift card.

Measures (see Appendix I for full survey)

Demographics. A demographics form recorded resident age, annual household income, county of residence, gender, race, ethnicity, insurance status, education level, employment status, and whether the person had been advised to see a mental health provider.

Objective 1: COVID-19 Exposure, Stress & Responses. COVID-19 exposure and adjustment measures developed for community research use by the Department of Veterans Affairs were used in the present study. The Coronavirus Stress Survey (McLean & Cloitre, 2020) comprises 10 questions capturing exposure, illness, and difficulties (e.g., medical challenges, familial responsibilities) associated with COVID-19. Respondents indicated whether the events happened to themselves and/or someone they know. The Coronavirus Response Scale-10 (CRS-10; Hilgeman et al., 2020) assesses specific domains of impact such as pain, social support, physical activity, and emotional distress. Items are scored individually and subject to further factor analytic work for subscale derivation.

Objective 2: Mental health symptoms. The following screening instruments were used: (1) Depressive symptoms: the Patient Health Questionnaire-2 (PHQ-2; Kroenke et al., 2003) provides total and cut-scores to identify those at risk for severe depression; (2) Anxiety symptoms: The Generalized Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006) captures seven domains of anxiety symptoms summed for a total score, which are subsequently classified into four severity categories; (3) Suicide risk: The Suicidal Ideation Attributes Scale (SIDAS; Van Spijker et al., 2012) contains five items assessing suicidal thinking, controllability, and impact. Total and cut-scores denote amount and identification of those at risk for suicide, and; (4) PTSD symptoms: The Post-traumatic Checklist-2 (PCL-2; Lang et al., 2005, 2012; Spooon et al., 2013) is a two item screener of key post-traumatic symptoms that provide a total score and cut-score for identifying probable PTSD diagnosis.



Alcohol use. Problematic drinking was assessed using the Alcohol Use Disorders Identification Test-C (AUDIT-C; Bush et al., 1998), a 3-item inventory providing a summed score and cut-score to identify those at risk for alcohol abuse. All Aim 2 instruments possess strong psychometric properties for community use and provide cut-scores to identify and refer persons at elevated risk for these symptom categories.

Relationship Quality. Among those indicating that they have been in a relationship with an intimate partner, two essential domains of relationship functioning were assessed with two single item questions regarding satisfaction and conflict (Faulkner et al., 2007). Changes in relationship conflict were assessed with a single item question tailored to the current situation, “How much has conflict with your intimate partner changed since the COVID-19 pandemic started? Participants indicated if their level of conflict had greatly decreased (1), slightly decreased (2), was unchanged (3), slightly increased (4) or had increased greatly (5).

Domestic violence. A two-item modification of the physical violence subscale of the Revised Conflict Tactics Scale (CTS2, Straus et al., 1996) was created for this survey. Participants read the following, “This has been a time of high stress for everyone. Please circle whether you, or your partner, or both have done the following behaviors in a conflict with each other since the COVID-19 pandemic” Item one assessed minor physical violence and item two assessed severe physical violence. These two items were then combined to determine whether the participant reported no violence by themselves or their partner, perpetration only (mild or severe), victimization only (mild/severe), or bi-directional violence (any combination of victimization and perpetration or reports of both engaging in the behavior).

Coping and Resilience. The Brief COPE (Carver, 1997) is a 28-item measure containing 14 coping style subscales (e.g., venting, religion). We selected items assessing venting, active coping, and reframing coping styles. The Coping Self-Efficacy Scale (Chesney et al., 2006) was used to assess three areas of beliefs about one’s ability to use the following coping strategies: thought stopping, problem-focused coping, and getting social support. The two-item version of the Brief Resilience Scale (Selwyn et al., 2019) serves as a screener for one’s ability to bounce back from difficult circumstances.

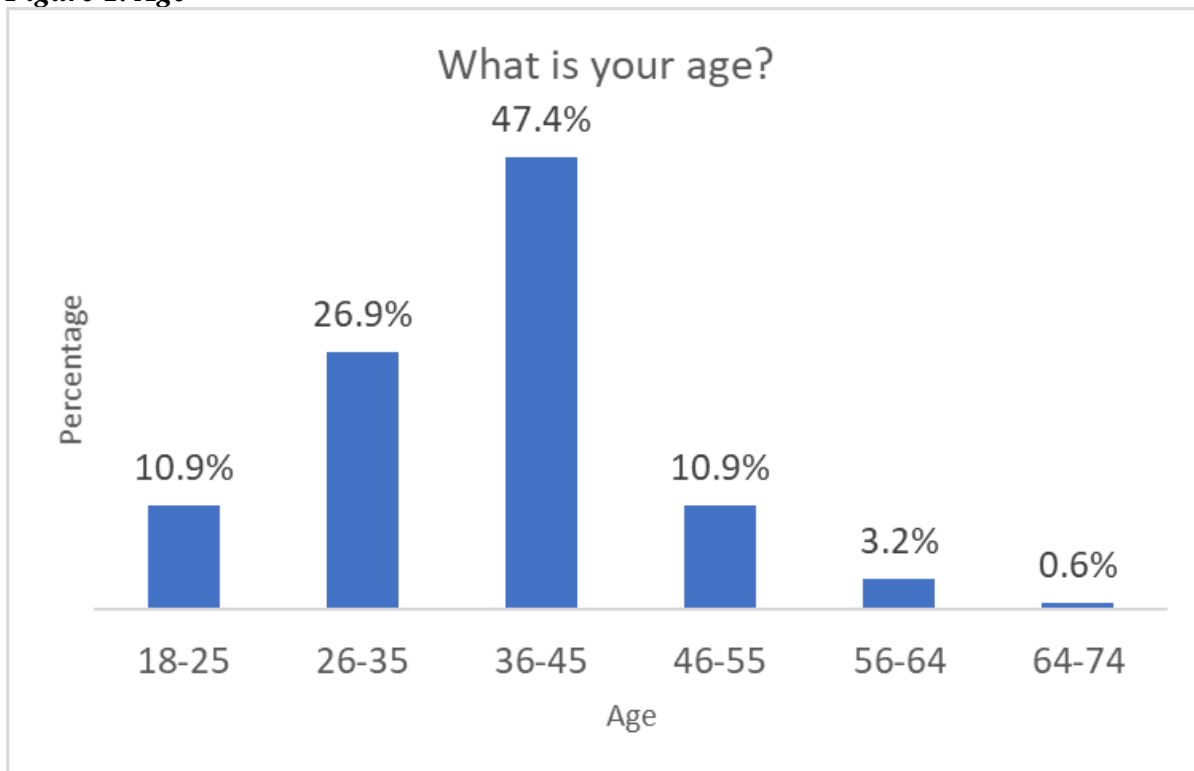
Objective 3: Preferences for psychological services delivery. Participants rated six statements regarding their perceived need for and willingness to use group therapy and individual therapy, via either in-person or online formats, using five-point Likert scales. Higher scores reflected stronger desire for that service type. Three additional open-ended questions collected participant perspectives on (1) additional experienced stresses, (2) topics and problems they would like to see addressed in mental health services, and (3) barriers that would interfere with use of mental health services.

Assessment Results

Demographics. In total, 209 individuals accessed the survey. After removal of those who did not meet eligibility criteria, instances of duplicate IP addresses, and cases with complete missing data, the final sample size was 156 low income adults residing in the Charlotte-Mecklenburg and surrounding region. In the final sample, missing data ranged from 0-2.5%; multiple imputation (Enders, 2017) was used to handle missing data.

As displayed in Figures 1 through Figure 9, the sample was predominantly middle-aged, insured, born in the United States, employed, and possessed an Associate’s degree or less. County of residence was split approximately evenly between Charlotte-Mecklenburg and surrounding counties. Race was diverse, but primarily comprised of White and Black adults. Although there was a large proportion identifying as American Indian/Alaskan Native, this statistic may be inaccurate.¹ Ethnicity was about evenly split between White/Non-Hispanic and Hispanic/Latino, with a few other categories noted. Gender was approximately even between male and female, with other identities noted.

Figure 1. Age



¹ The Charlotte-Mecklenburg region comprises approximately less than 0.5% American Indian/Alaskan Native (AI/AN) persons. None of the community partners distributing the survey serve a uniquely high rate of AI/AN persons. We investigated possible explanations of random responding or a systematic influence on race responses. AI/AN was the first option presented to respondents and persons indicating this race category were also systematically more likely to report lower education. Thus, we interpret the high rate of AI/AN persons in the dataset as a result of reading comprehension. It is likely that respondents read this as “American” and checked the response. No other problematic patterns such as random or rushed responding were detected.

Figure 2. County of Residence

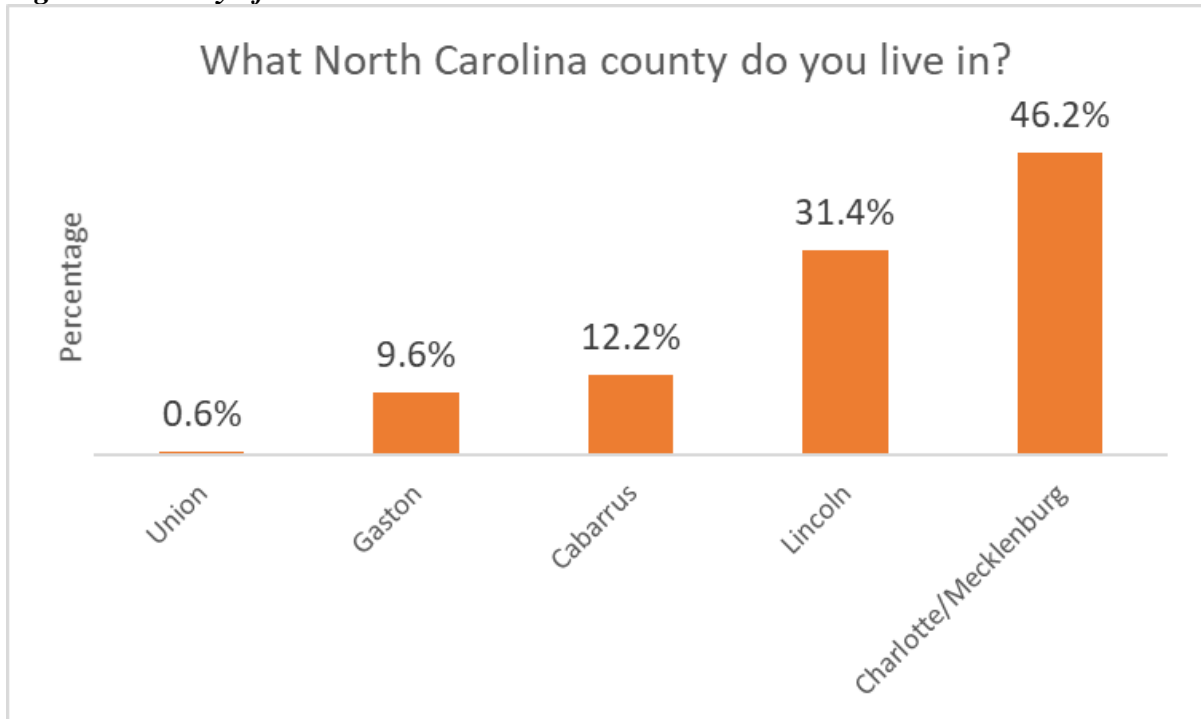


Figure 3. Race

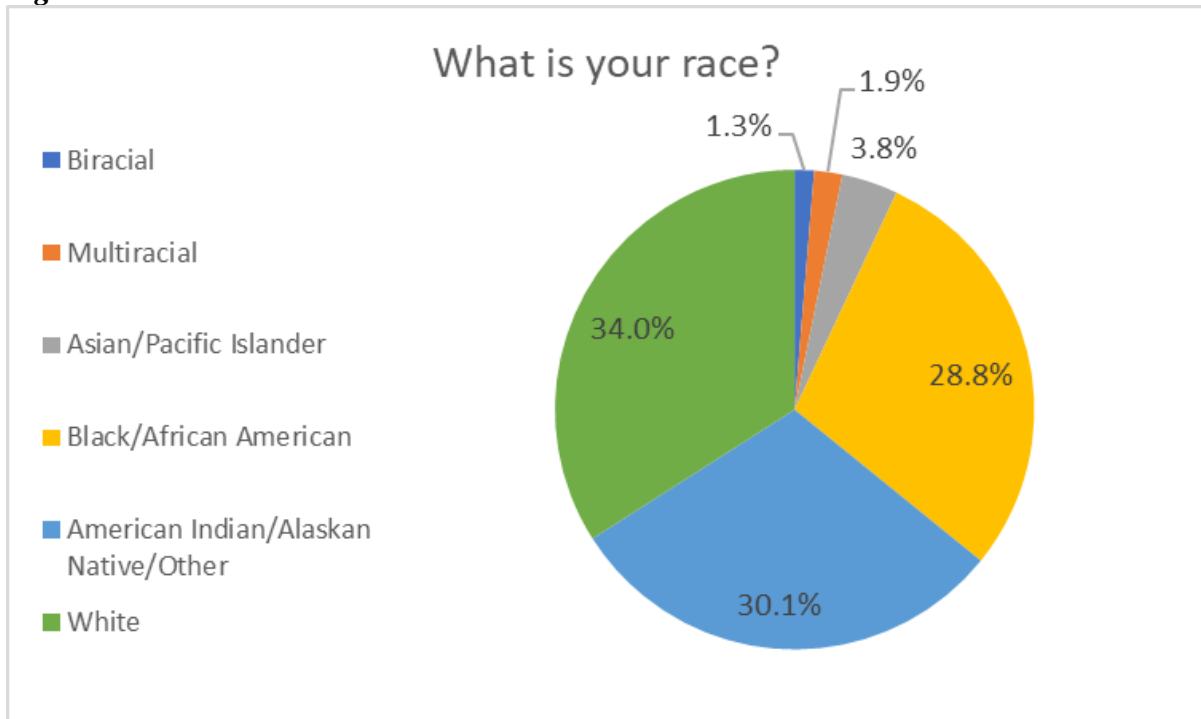


Figure 4. Ethnicity

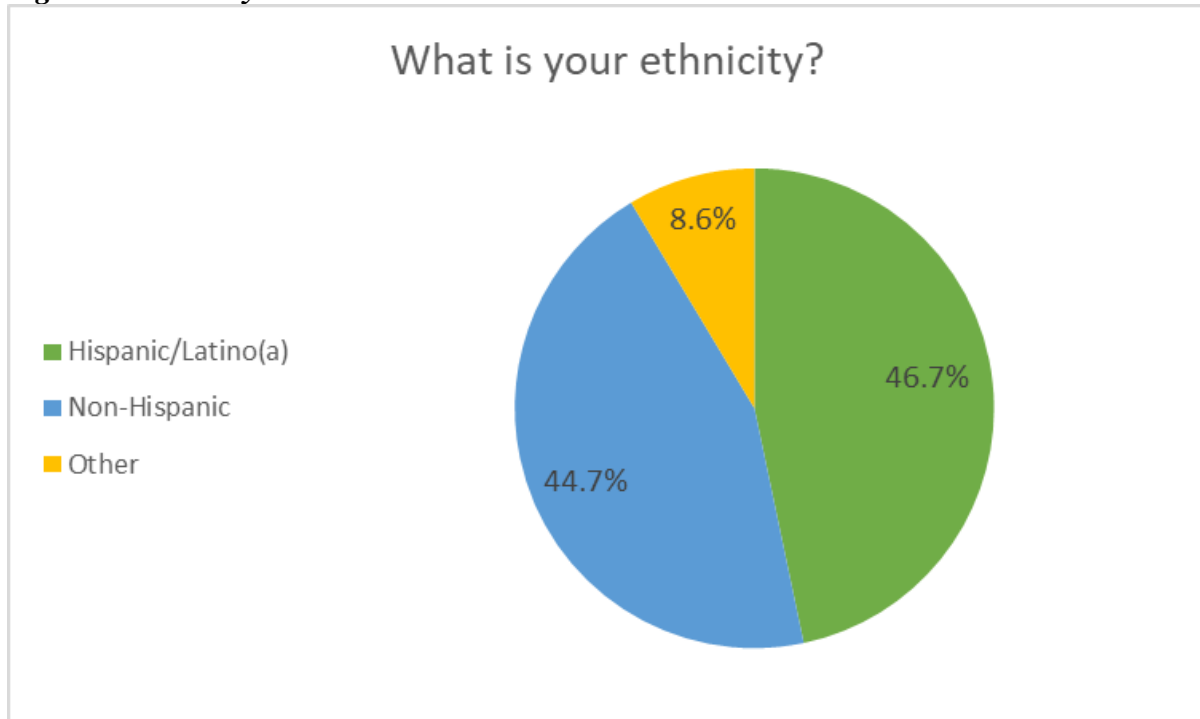


Figure 5. Health Insurance Status

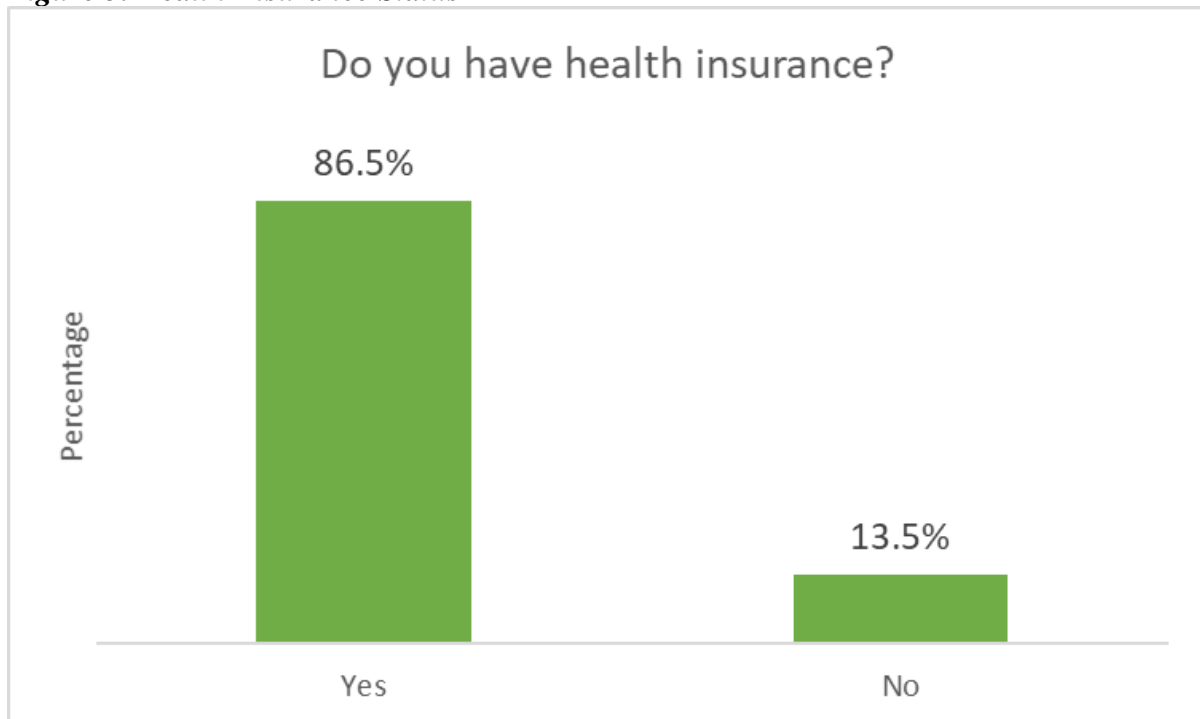


Figure 6. Immigrant Status

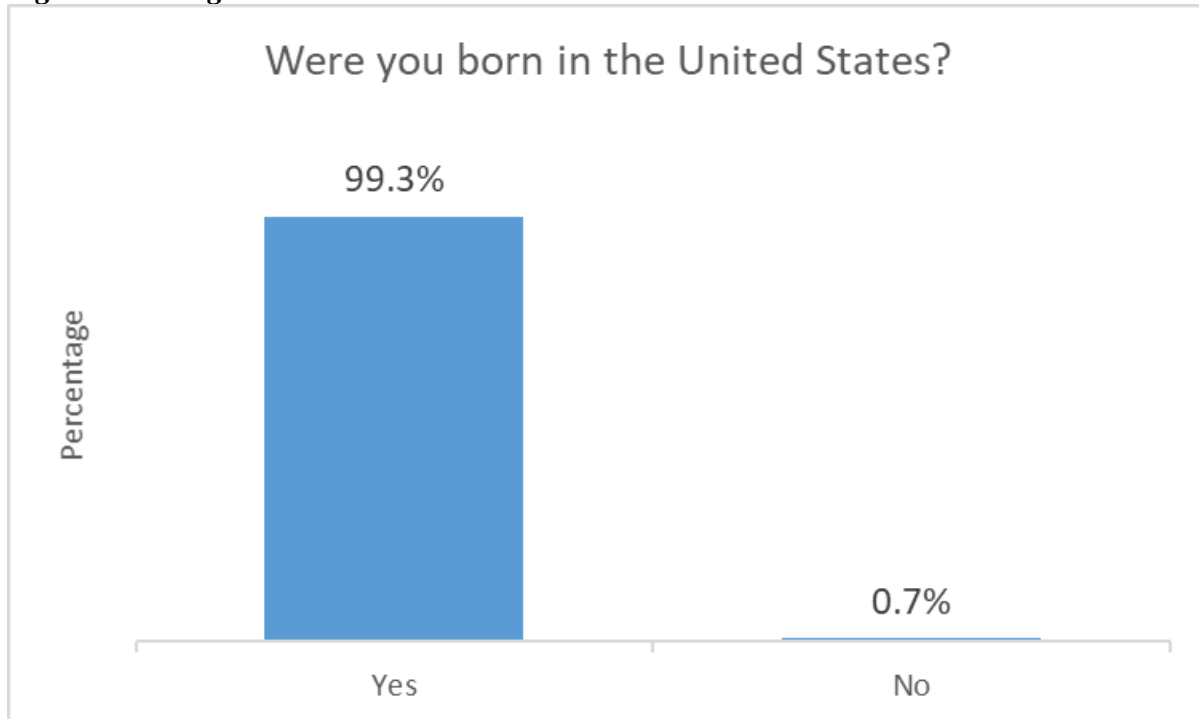


Figure 7. Gender

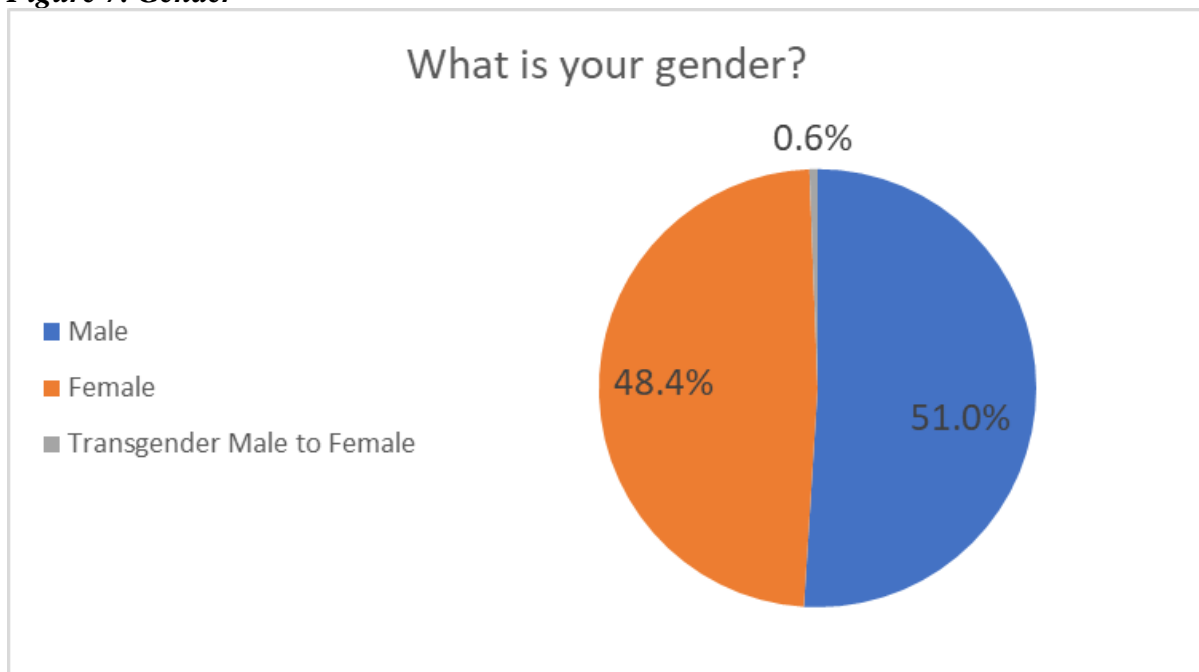


Figure 8. Education Level

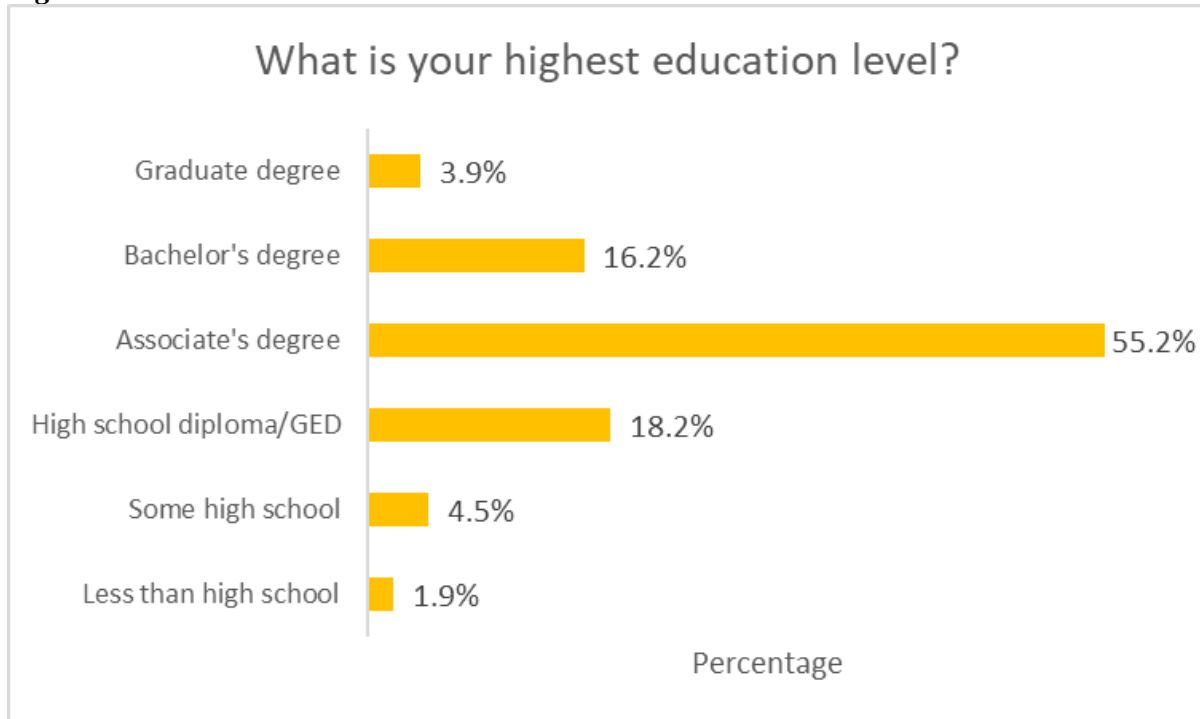
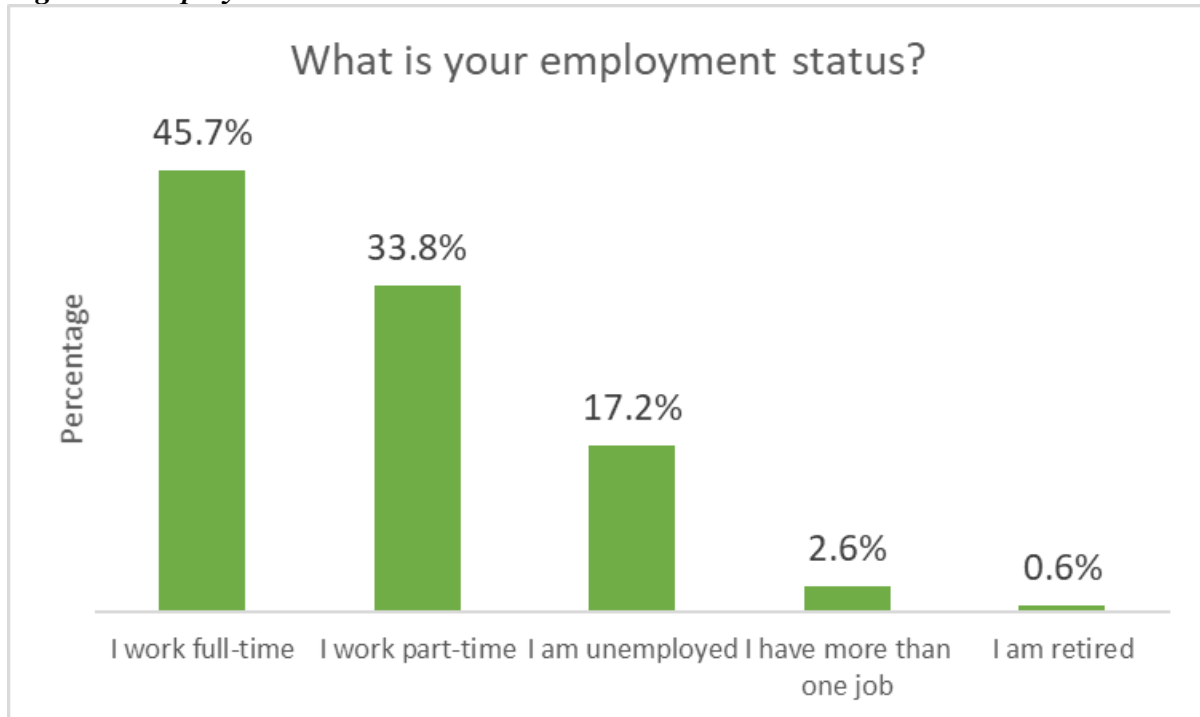


Figure 9. Employment Status



Objective 1: COVID-19 exposure, stress, and reactions. Table 1 contains results from the Coronavirus Stress Survey. Less than one-third reported direct exposure or illness, but almost three-quarters reported knowing someone close who was affected by COVID-19. The most common self-reported coronavirus-related stressors were job exposure, lost job/income, and increased home responsibilities. The most common reported stressors for known close persons were lost job/income, increased home responsibilities, and difficulties getting basic necessities (e.g., medication). More than 40% of the sample reported personal job exposure to COVID-19. The same pattern was observed for knowing someone who holds a job requiring COVID-19 exposure. A total of 83.4% of the sample reported consuming one or more hours per day of COVID-19 related media information (e.g., TV, Twitter, Facebook).

Table 1. Self- and Other-Experienced COVID-19 Related Exposure and Stressors.

Experience:	Happened to me <i>n</i> (%)	Happened to someone close to me <i>n</i> (%)
1. Become ill from possible or certain exposure to the coronavirus	46 (29.5%)	111 (71.2%)
2. Job requires possible exposure to coronavirus	73 (46.8%)	65 (41.7%)
3. Lost job or lost income due to the coronavirus pandemic	72 (46.2%)	84 (53.8%)
4. Increased responsibilities at home due to the coronavirus pandemic	73 (46.8%)	88 (56.4%)
5. Difficulty getting food, medication or other necessities due to the coronavirus pandemic	52 (33.3%)	76 (48.7%)
6. Difficulty getting needed social support due to the coronavirus pandemic	64 (41.0%)	71 (45.5%)
7. Lost health insurance due to the coronavirus pandemic	40 (25.6%)	70 (44.9%)
8. Went on public food assistance due to the coronavirus pandemic	54 (34.6%)	62 (39.7%)

A total of 85 people provided narrative responses regarding additional COVID-19 related concerns. Responses fell into the following categories (a respondent could provide more than one type):

- Job or financial loss (*n* = 14)
- Decreased socialization or being stuck at home (*n* = 13)
- Personal mental health or negative mood (*n* = 9)
- Job pressures (*n* = 5)
- No school for kids (*n* = 5)
- Know someone who died of COVID-19 (*n* = 5)
- Having to engage in preventive practices (e.g., wearing a mask) (*n* = 4)
- Child rearing (*n* = 4)
- Difficulty seeing family (*n* = 3)
- Spread of COVID-19 (*n* = 3)
- Change in daily way of life (*n* = 3)

- Family member’s health ($n = 2$)
- Fear of death ($n = 2$)
- Work inefficiency ($n = 2$)
- Personal health/quality of life ($n = 2$)
- Getting basic needs met ($n = 2$)
- Poor federal/population-level response ($n = 2$)
- Things never improving ($n = 1$)
- Friend hospitalized ($n = 1$)
- Distrust of the media ($n = 1$)
- Family’s safety ($n = 1$)
- Cannot travel ($n = 1$)

Table 2 contains summary findings for common biopsychosocial responses to the COVID-19 pandemic. On average, all 10 responses were “about the same” compared to before the beginning of the pandemic. Based on percentages of change, key responses to the pandemic appear to be interacting socially notably less with friends and family, decline in physical activity, decreased use of prescription medication, increased effort to cope with stress, and a drop in overall sense of well-being.

Table 2. Summary Findings from the Coronaviruses Response Scale-10

Response to COVID-19 pandemic	<i>M</i> (<i>SD</i>)	Corresponding Response Label	% who reported this lessened since beginning of pandemic	% who reported this increased since beginning of pandemic
1. My stress is:	2.96 (1.02)	About the same	34.6	29.5
2. My interaction with friends and family is:	2.77 (1.16)	About the same	43.6	23.8
3. My emotional distress is:	3.00 (0.96)	About the same	31.4	32.1
4. My physical activity is:	2.74 (1.07)	About the same	41.0	23.0
5. My use of alcohol and/or illicit drugs is:	2.95 (1.12)	About the same	34.0	34.0
6. My use of prescription medication is:	2.66 (1.15)	About the same	39.7	22.4
7. My pain is:	2.85 (1.05)	About the same	35.9	26.3
8. My fear or worry is:	3.06 (1.09)	About the same	32.1	37.8
9. My effort to cope with stress is:	3.24 (0.99)	About the same	19.9	41.6

10. My overall sense of well-being is:	2.87 (0.97)	About the same	37.2	25.0
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Notes: *M* = mean; *SD* = standard deviation; % less/more = sample percentage less/more since start of pandemic; **Red Bold** font denotes standout pattern of change.

Objective 2:

Mental health and alcohol use. More than two-thirds (68.6%) of the sample reported that someone recommended they see a mental health services provider in the last six months. Table 3 contains a summary of key mental health findings. Scores on PTSD and generalized anxiety screeners indicate elevated levels among this sample. Clinical cut scores show concerning rates of probable risk for post-traumatic stress (83.3%), problematic drinking (50%), depression (52%), generalized anxiety (43%), and suicide risk (40%). These rates need to be interpreted with caution, however, in that follow-up assessment would be required for formal diagnosis.

Table 3. Key Mental Health and Alcohol Use Findings

Symptom category	<i>M</i> (<i>SD</i>)	Average Score Qualifier	<i>n</i> (%) Above Cut Score Suggesting Increased Risk	Interpretation of Elevated Risk
Depression	2.47 (1.46)	No risk	83 (52.2%)	Probable risk for depression
Suicidal thinking	14.62 (11.50)	No risk	63 (40.4%)	Elevated suicide risk
Post-traumatic stress	5.61 (1.82)	Possible PTSD	130 (83.3%)	Possible PTSD
Anxiety	8.09 (4.02)	Moderate anxiety	67 (43.0%)	Moderate or worse
Alcohol use - men ^a	3.39 (1.50)	No risk	40 (50.6%)	Problematic drinking
Alcohol use – women	2.67 (1.91)	No risk	38 (50.0%)	Problematic drinking

Notes: *M* = mean; *SD* = standard deviation; ^a = AUDITC requires breakdown by gender for use of cut-scores.

Relationship quality and domestic violence. A total of 120 (76.9%) participants reported being in a relationship with an intimate partner during the COVID-19 pandemic. This subsample of persons in a relationship provided the following information regarding relationship quality and domestic violence. On average, relationship satisfaction was described “neither satisfied nor dissatisfied” (*M* = 3.21, *SD* = 1.11). A total of 36 (30.2%) individuals stated they were dissatisfied or worse, whereas 58 (48.7%) individuals reported being satisfied or better. On average, relationship conflict during the pandemic was described as “conflict did not change” (*M* = 2.80, *SD* = 1.08). A total of 50 participants (42.1%) stated conflict decreased slightly or greatly. A total of 35 (29.2%) reported that their relationship conflict had increased slightly or

greatly during the COVID-19 pandemic. For those in relationships and providing answers on domestic violence questions ($n = 118$), 62.7% ($n = 77$) indicated at least one act of domestic violence was present in their relationship during the COVID-19 pandemic. This included 36.4% ($n = 43$) who indicated bidirectional domestic violence, 18.6% ($n = 22$) who indicated being a victim only of domestic violence, and 7.7% ($n = 12$) who indicated perpetrating domestic violence.

Coping. Table 4 contains summary statistics for coping-related variables. With the exception of venting, participants reported average levels of all aspects of coping, including resilience, active coping, positive reframing, problem-focused coping, thought stopping, and getting social support. Venting, the one negative coping style included in the survey, was used less than average.

Table 4. Statistics and Qualifiers for Coping Factors

Coping domain	M (SD)	Response Anchor Label Matching Nearest M Whole Number
Resilience	3.38 (0.88)	Neutral
Active coping	2.69 (0.70)	Doing a medium amount
Venting	2.49 (0.70)	Doing a little bit
Positive reframing	2.77 (0.75)	Doing a medium amount
Problem-focused coping beliefs	5.24 (2.07)	Moderately certain I can do this
Thought stopping beliefs	5.26 (2.18)	Moderately certain I can do this
Getting social support beliefs	5.49 (2.26)	Moderately certain I can do this

Note: M = mean; SD = standard deviation.

Aim 3: Mental health services attitudes. Table 5 contains summary statistics for the mental health services questions. Average scores suggested no strong opinions either way. However, examining frequencies of endorsement of item response options offers more nuance. A higher rate of participants do not desire mental health services than those who do. Likewise, a considerably higher rate of the sample reported not having used mental health services in the past than individuals who have done so. Higher rates of willingness to use in-person and virtual individual therapy services were observed, compared to not being willing to do so. Rates of interest in both modalities of group therapy were equivocal.

Table 5. Experience with and Willingness to Use Mental Health Services

Mental health services statement	M (SD)	Response Label for Nearest Whole Number to M	n (%) Disagree or Strongly Disagree	n (%) Agree or Strongly Agree

1. I desire mental health or psychological services.	2.84 (1.07)	No opinion	54 (34.6%)	37 (23.7%)
2. I have used mental health or psychological services in the past.	2.80 (1.19)	No opinion	78 (50.0%)	40 (25.6%)
3. I would use in-person individual therapy services.	3.03 (1.23)	No opinion	48 (30.7%)	60 (38.5%)
4. I would use online/telehealth individual therapy services.	3.10 (1.26)	No opinion	50 (32.1%)	67 (43.0%)
5. I would use in-person group therapy services.	2.71 (1.20)	No opinion	61 (39.1%)	42 (27.0%)
6. I would use online/telehealth group therapy services.	2.99 (1.38)	No opinion	58 (37.2%)	60 (38.4%)

Note: M = mean; SD = standard deviation; **Bold Red** font denotes higher percent willing to use that type of mental health services than unwilling to do so.

Participants were asked three subsequent open-ended questions about mental health services programming. First, 82 (52.6%) participants provided information regarding *other ongoing stressors* as follows (a participant could fall in more than one category):

- Finances/income ($n = 20$)
- Exposure to COVID-19 ($n = 8$)
- Unemployment/job loss ($n = 6$)
- Children's education ($n = 6$)
- Anxiety symptoms ($n = 5$)
- Family conflict ($n = 4$)
- Depression/hopelessness ($n = 4$)
- Decreased social support/social interaction ($n = 4$)
- Other mental health symptoms (e.g., sleep disturbance, weight gain) ($n = 4$)
- Getting food ($n = 3$)
- General pressure ($n = 3$)
- Healthcare access ($n = 2$)
- Career pressure ($n = 2$)
- Uncertain future ($n = 1$)
- Trauma ($n = 1$)
- Alcohol dependence ($n = 1$)
- Giving birth ($n = 1$)
- Child rearing ($n = 1$)

A total of 79 (50.6%) of the sample provided information regarding *problems or topics they would like to see covered in design of mental health services* as follows (a participant could select more than one category):



- Financial strain, management, and literacy ($n = 16$)
- Coping skills ($n = 15$)
- Stress & stress coping ($n = 8$)
- Depressive symptoms ($n = 5$)
- Anxiety symptoms ($n = 3$)
- Employment opportunities ($n = 3$)
- Emotions ($n = 2$)
- Trauma/PTSD symptoms ($n = 2$)
- Increasing social interaction ($n = 2$)
- Handling COVID-19 risk and illness ($n = 2$)
- Cost of mental health services ($n = 2$)
- Helping children ($n = 1$)
- Self-understanding ($n = 1$)
- Community resources ($n = 1$)
- Compulsive behavior ($n = 1$)
- Domestic violence ($n = 1$)
- Medical expenses ($n = 1$)
- Offer free courses ($n = 1$)
- Anger management ($n = 1$)
- Positive media ($n = 1$)

A total of 79 (50.6%) participants provided information regarding *barriers to using mental health services* as follows (a participant could fall in more than one category):

- Insurance/cost ($n = 13$)
- Fear (e.g., of getting infected, dying) ($n = 12$)
- Inconvenient ($n = 5$)
- Family stress/change ($n = 4$)
- Trust/aligning with clinician ($n = 4$)
- Getting basic necessities ($n = 3$)
- Lack of time ($n = 3$)
- Negative expectations of therapy ($n = 2$)
- Unemployment ($n = 2$)
- Major life stress ($n = 2$)
- Don't know services options ($n = 2$)
- Stigma about mental health ($n = 2$)
- Work hours/pressure ($n = 2$)
- COVID-19 infected ($n = 1$)
- Relationship problems ($n = 1$)
- Needs to be online ($n = 1$)
- Single parenting ($n = 1$)
- Feeling lost ($n = 1$)
- Self-comfort ($n = 1$)



- Lack the skills ($n = 1$)
- Physical health ($n = 1$)
- Depressed ($n = 1$)
- Prefer in-person therapy ($n = 1$)
- Stuck at home ($n = 1$)





Recommendations

Report findings were reviewed by the team for recommendations for the Charlotte-Mecklenburg region. Recommendations should be interpreted with caution in light of assessment limitations discussed below. Pursuit of any recommendations preferred below should account for the unique characteristics of the clinic, agency, or geographic region being served. We tender the following recommendations for clinical practice, public/community health, community partnership, and future research.

Area 1: Mental health and suicide prevention.

Concerningly high rates of probable depression, generalized anxiety, suicide, and problematic drinking were observed in the sample. Also, a high rate of respondents reported others suggesting they seek psychological services since the pandemic; however, a high proportion of the sample reported never having used mental health services, nor desiring to use them.

1. We recommend regional investment in training mental health providers (e.g., social workers, psychiatric mental health nurses, clinical psychologists) in leading evidence-based therapies to treat suicide, depression, anxiety, and alcohol use. Among the best available therapeutic interventions for these conditions are: (1) The Collaborative Assessment and Management of Suicide (CAMS; Jobes, 2012), (2) Dialectical Behavior Therapy (DBT; Dineff & Linehan, 2001), (3) Acceptance and Commitment Therapy (ACT; Hayes et al., 2012), and (4) Cognitive-Behavioral Therapy (CBT) techniques such as Motivational Interviewing and Cognitive Restructuring (e.g., Kaczukin & Foa, 2015; Riper et al., 2014).
2. Gatekeepers are lay public persons who are educated in recognizing suicide risk factors and warning signs (e.g., symptoms of depression), asking questions of someone in need, and assisting in referral. Question Persuade Refer (QPR; QPR Institute, n.d.) is one such common training for suicide prevention. Generally speaking, gatekeeper training positively impacts a lay person's ability to intervene with someone who may be experiencing mental health or suicide risk by improving the community member's suicide prevention knowledge, self-efficacy, and stigma reduction. We recommend Charlotte-area entities invest in QPR or other gatekeeper trainings. Given the limitations imposed by the pandemic, online self-paced and virtual group webinars may be advisable.
3. Research demonstrates efficacy of online alcohol interventions, especially when accompanied by therapeutic principles and person support (Riper et al., 2018). We recommend promotion of existing virtual alcohol interventions such as virtual 12-step programs or cognitive-behaviorally based therapies. Given the variety of factors influencing alcohol use, selection and implementation for online alcohol interventions should occur in consultation with a substance abuse clinical expert.
4. Community-based screenings are a common clinical practice within many settings in order to detect persons at risk for various mental health and alcohol abuse problems (Cramer et al., 2020). We recommend the widespread use of mental health, suicide, and alcohol use screening instruments such as those employed in this assessment. They may be implemented in-person or online by partnering Charlotte-region agencies, emergency department or primary care facilities,



or other non-profit entities. When used online, screening tools should be accompanied by clear instructions on how to reach a provider. Whenever possible, it is recommended that the screening results be immediately seen by a healthcare provider for necessary follow-up with the person at-risk.

Area 2: Domestic violence and trauma-informed care.

1. These data show that relationship conflict has increased for many during the COVID-19 response. Given the link between relationship functioning and mental health/happiness, services should be directed to couples and families as well as individuals.
2. Domestic violence rates have generally increased during the pandemic and appear to be substantial in the current sample. It is essential that service providers partner with local domestic violence centers to connect victims to resources for safety and support.
3. Because financial strain, communication/intimacy concerns, and child-rearing decisions are common relationship conflicts, the COVID-19 situation is likely to strain many relationships. Routine screening for relationship conflict, violence, and dissatisfaction is recommended.
4. Given the relatively high level of conflict, violence, and PTSD reported in this sample, all providers might benefit from training in trauma-informed care.

Area 3: Public health approaches to ameliorate the psychosocial impacts of COVID-19.

Several pivotal themes related to the impact of COVID-19 were identified through mixed-methods data. These include, but are not limited to: job/income loss, high amounts of media consumption, difficulties obtaining basic necessities (e.g., food), deficits in social support/interaction, decline in physical activity, and fear about being infected or harmed by COVID-19. Also, coping and resilience scores were modest, raising the need to build resilience and coping skills among low income adults impacted by COVID-19. While individual therapy was of high interest, perception of the need for group therapy was equivocal. Financial strain/literacy, coping skills, stress, mental health symptoms, and fear were both common desired subjects for mental health services. Moreover, financial matters and other stress were commonly cited barriers to service use.

1. We recommend development of public health psycho-educational materials for social media and print distribution via Psychology for All and its constituent partners. Content should focus on mental health symptoms, services information, benefits of therapy, low cost/pro bono mental health services options, and free coping skills resources, among other topics.
2. The larger Charlotte region may benefit from a public health awareness campaign. Radio, newspaper print, podcast, and other media platforms can devise a unified public health messaging campaign targeting messages such as the importance of remaining socially distanced yet connected, mental health warning signs and therapy benefits, and free, brief coping skills tools. Where appropriate, awareness campaign design should employ principles of behavior change theories such as the Theory of Planned Behavior (Ajzen, 1991) or Technology Acceptance Model (Davis, 1989).



3. There appears to be sufficient need and interest in a wide variety of mental health resources for entities such as UNC Charlotte or Psychology for All and its partners to explore development of low or no cost virtual individual and group therapy resources. This may occur in a broader market assessment to explore the development of a low-cost mental health or interprofessional clinic. Programming can focus on COVID-19 specific stress, coping skills, financial literacy, and a number of other topics. Adopting a patient-centered model, program development can include the input of a Charlotte area patient advisory panel.

4. Given the high degree of financial strain and job stability concerns, we recommend the establishment of a UNC Charlotte campus-Charlotte community taskforce. Experts and professionals in business, non-profit management, and other areas can launch a team devoted to job creation, skills training, online course design, and other employment opportunity resource development. Charitable agencies such as Cardinal Innovations Healthcare, the Duke Endowment, or Laughing Gull Foundation could be contacted to explore philanthropic funding of a jobs training program.

5. Access to basic necessities such as food and healthcare are related to COVID-19 and may prevent mental health service usage. Charlotte-region entities should attend to the investment in new or existing food supply strategies for low income families. Such efforts represent a needed upstream mental health prevention strategy.

6. The Centers for Disease Control and Prevention (CDC, n.d.) articulated a plan for suicide prevention through building social support and connectedness. We recommend extending such a plan to meet the practical challenges imposed by the pandemic. Specifically, we endorse the design of a strategic plan for building social support over virtual platforms and in socially distanced formats in the COVID-19 era. Such a strategic plan should involve professionals with expertise in urban housing, information technology, public health, psychology/mental health, faith community, medical healthcare, schools/school policy, and local government.

7. We recommend program development to enhance physical activity via socially-engaged yet distanced means. Identification of social activity agencies or clubs to serve as hubs for building small group social and physical activity is advisable. Walking, biking, and other low impact physical activity can be accomplished in small groups.

8. Recent efforts have been undertaken to create free or low cost public WiFi hubs in the city of Charlotte, NC. We recommend that such city-wide efforts seek to create free privacy hubs that individuals may use for accessing online mental health services.

Area 4: Future Research

This COVID-19 impact assessments raises logical next steps for future research.

1. First, this report focuses on overarching trends and patterns in the evaluation. After Psychology for All and its partners review this report, the UNC Charlotte team can hold a joint meeting and report review with stakeholders to offer more nuanced assessment of specific research questions.



2. This report identifies a number of key problems experienced by respondents. However, prospective tracking of regional COVID-19 impacts is needed. These areas include COVID-19 specific stress, domestic violence, mental health, alcohol use, and financial strain/job loss. Moreover, comparison with other regions of North Carolina is warranted.
3. Research into the causal links and moderators between the key COVID-19 impacts is recommended.
4. In light of documented rises in gun sales during the pandemic, COVID-19 related research should evaluate the role of firearm access and storage in relation to matters such as stress, alcohol use, domestic violence, and suicide risk. Prevention strategies should be developed to limit the risk of accidental and intentional firearm injury and death.

Limitations

The following caveats are necessary. First, internal consistency was low for several screening tools, namely the PHQ-2, PCL-2, AUDIT-C, and Brief COPE subscales. Low numbers of items are a likely cause of the poor psychometric properties observed. Second, a readability or comprehension problem may have occurred with respect to how race was identified by survey respondents. Race data from the survey should not be considered an accurate representation. The cross-sectional and online administration of these instruments does not allow for causal inference. Also, the online format may result in missing those without equal access to technology. Finally, convenience sampling through specific community partners may have resulted in missing entire sectors of the Charlotte region. Conclusions in this report should be interpreted with caution in light of these limitations.



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Appendix I – Complete Survey

Screening Questions (Age, income, NC county):

What is your age? (Please check one):

___ 17 years of age or younger [Skip logic: if checked, end survey through skip logic because they do not meet study eligibility criteria]

___ 18-25 years of age ___ 26-35 years of age ___ 36-45 years of age
___ 46-55 years of age ___ 56-64 years of age ___ 65-74 years of age
___ 75 or higher years of age

What is your annual household income? (check one):

___ Less than \$60,000 ___ \$60,000 or more [Skip logic: if checked, end survey through skip logic because they do not meet study eligibility criteria]

What North Carolina county do you live in? (check one): ___ Gaston ___ Lincoln
___ Charlotte/Mecklenburg ___ Cabarrus ___ Union ___ Other (specify): _____

[Skip logic: if checked 'Other', end survey through skip logic because they do not meet study eligibility criteria]

What is your race? (check all that apply): ___ American Indian/Alaskan Native

___ Asian/Pacific Islander ___ Black/African American ___ White ___ Biracial
___ Multi-racial ___ Other (please specify) _____

What is your ethnicity? (check one): ___ Hispanic/Latino(a) ___ White/non-Hispanic

___ Other (please specify) _____

Do you have health insurance? (check one) ___ Yes ___ No

Were you born in the United States? (check one): ___ Yes ___ No

What is your gender? (check one): ___ Male ___ Female ___ Male-to-Female

___ Female-to-Male ___ Queer ___ Decline to state ___ Other (please specify) _____

What is your highest educational level? (check one): ___ Less than high school ___ Some high school

___ High school diploma/GED ___ Associates degree ___ Bachelor's degree ___ Graduate degree

Employment (check all that apply): ___ I am retired ___ I work full time (36+ hours/week)

___ I work part-time ___ I have more than one job ___ I am unemployed

Within the past 6 months, has anyone recommended you receive care from a mental/behavioral health

provider? (check one) ___ Yes ___ No ___ Decline to answer



Hilgeman Coronavirus Response Scale-10 (HCRS-10)

Instructions: The coronavirus and the federal and state recommendations/mandates have affected us all in different ways. Below we ask you to share with us how the recent coronavirus has impacted several areas of your life. Please respond to each question using the scale provided by circling the response that best fits your personal reactions to the coronavirus outbreak.

Since learning about the coronavirus (COVID-19) outbreak:

	A lot less	Less	About the same	More	A lot more
1. My stress is:	1	2	3	4	5
2. My interaction with friends and family is:	1	2	3	4	5
3. My emotional distress is:	1	2	3	4	5
4. My physical activity is:	1	2	3	4	5
5. My use of alcohol and/or illicit drugs is:	1	2	3	4	5
6. My use of prescription medication is:	1	2	3	4	5
7. My pain is:	1	2	3	4	5
8. My fear or worry is:	1	2	3	4	5
9. My effort to cope with stress is:	1	2	3	4	5
10. My overall sense of well-being is:	1	2	3	4	5

Coronavirus Stressor Survey

Below are a number of stressful experiences related to the coronavirus pandemic. For each experience, check one or more of the boxes to the right to indicate that: (a) it happened to you personally; (b) it happened to someone close to you; or (c) it doesn't apply to you.

Experience:	Happened to me	Happened to someone close to me	Doesn't apply
1. Become ill from possible or certain exposure to the coronavirus			
2. Job requires possible exposure to coronavirus			
3. Lost job or lost income due to the coronavirus pandemic			
4. Increased responsibilities at home due to the coronavirus pandemic			
5. Difficulty getting food, medication or other necessities due to the coronavirus pandemic			
6. Difficulty getting needed social support due to the coronavirus pandemic			
7. Lost health insurance due to the coronavirus pandemic			
8. Went on public food assistance due to the coronavirus pandemic			

9. Over the past week, how many hours a day are you exposed to coronavirus information (radio, TV, twitter, Facebook, Instagram, newspapers) (check one)

___ a) less than an hour ___ b) one to two hours ___ c) more than two hours

10. Using the space provided, please describe anything else that concerns you about the impact of Coronavirus on you, your friends, or your family.



Instructions: The following questions are about your romantic relationship.

1. During the COVID-19 pandemic, have you been in a relationship with an intimate partner (boyfriend, girlfriend, husband, wife, etc.)? (check one)

___ No ___ Yes

[SKIP LOGIC: if yes to 1] How satisfied are you with your relationship with your current intimate partner?

Very dissatisfied	Dissatisfied	Neither Satisfied nor Dissatisfied	Satisfied	Very Satisfied
1	2	3	4	5

[SKIP LOGIC: If yes to 1] How much has conflict with your intimate partner changed since the COVID-19 pandemic started?

Conflict greatly decreased	Conflict slightly decreased	Conflict did not change	Conflict slight increased	Conflict greatly increased
1	2	3	4	5

[SKIP LOGIC: If yes to 1] This has been a time of high stress for everyone. Please circle whether you, or your partner, or both have done the following behaviors in a conflict with each other since the COVID-19 pandemic.

	Neither of us did it	I did this toward my partner only	My partner did this toward me only	We both did this to each other
1. Threw something that could hurt; twisted an arm or hair; pushed, shoved, grabbed, or slapped	0	1	2	3
2. Used a knife or gun; punched or hit with something that could hurt; choked; slammed against a wall; beat up; burned or scalded on purpose; kicked	0	1	2	3



PHQ-2

Over the last 2 weeks, how often have you been bothered by the following problems?

	Not at all	Several days	More than half all days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3

PCL-2

The next questions are about problems and complaints that people sometimes have in response to stressful life experiences. Please indicate how much you have been bothered by each problem in the past month. For these questions, the response options are: “not at all”, “a little bit”, “moderately”, “quite a bit”, or “extremely”.

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	1	2	3	4	5
2. Feeling very upset when something reminded you of a stressful experience from the past?	1	2	3	4	5

SIDAS

Instructions: Please circle the response to reach item as it pertains to you. Use the scale provided for each item.

1. In the past month, how often have you had thoughts about suicide?
(0 = Never, 10 = Always)

0 1 2 3 4 5 6 7 8 9 10

SKIP LOGIC NOTE: If you responded zero to item 1, you may skip the rest of the items for the SIDAS (items 2-5).

2. In the past month, how much control have you had over these thoughts?
(0 = No control, 10 = Full control)

0 1 2 3 4 5 6 7 8 9 10

3. In the past month, how close have you come to making a suicide attempt?
(0 = Not close at all, 10 = Made an attempt)

0 1 2 3 4 5 6 7 8 9 10

4. In the past month, to what extent have you felt tormented by thoughts about suicide?
(0 = Not at all, 10 = Extremely)

0 1 2 3 4 5 6 7 8 9 10

5. In the past month, how much have thoughts about suicide interfered with your ability to carry out daily activities, such as work, household tasks or social activities?
(0 = Not at all, 10 = Extremely)

0 1 2 3 4 5 6 7 8 9 10



AUDIT-C

For the following questions, consider a “drink” to be a can or bottle of beer, a glass of wine, a wine cooler, or one cocktail or one shot of hard liquor (like scotch, gin, or vodka). (check one response for each question)

Q1: How often did you have a drink containing alcohol in the past year?

- Never
- Monthly or less
- Two to four times a month
- Two to three times per week
- Four or more times a week

Q2: How many drinks containing alcohol did you have on a typical day when you were drinking in the past year?

- 0 drinks
- 1 or 2
- 3 or 4
- 5 or 6
- 7 to 9
- 10 or more

Q3: How often did you have six or more drinks on one occasion in the past year?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

GAD-7	
Instructions: Over the <u>last two weeks</u> , how often have you been bothered by any of the following problems?	
0-----1-----2-----3 Not at all Several More than Nearly days half the days every day	
_____ 1.	Feeling nervous, anxious, or on edge.
_____ 2.	Not being able to sleep or control worrying.
_____ 3.	Worrying too much about different things.
_____ 4.	Trouble relaxing.
_____ 5.	Being so restless that it is hard to sit still.
_____ 6.	Becoming easily annoyed or irritable.
_____ 7.	Feeling afraid, as if something awful might happen.



BRS

Instructions: Please answer the following on a scale of 1 (strongly disagree) to 5 (strongly agree).

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I am able to adapt to change.	1	2	3	4	5
2. I tend to bounce back after setbacks.	1	2	3	4	5

Brief COPE

These items deal with how you cope with stress in your life. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it and how frequently. Make your answers as true FOR YOU as best you can.

- 1- I haven't been doing this at all**
- 2- I've been doing this a little bit**
- 3- I've been doing this a medium amount**
- 4- I've been doing this a lot**

- | | | | | |
|--|---|---|---|---|
| 1. I've been concentrating my efforts on doing something about the situation I'm in. | 1 | 2 | 3 | 4 |
| 2. I've been taking action to try to make the situation better. | 1 | 2 | 3 | 4 |
| 3. I've been saying things to let my unpleasant feelings escape. | 1 | 2 | 3 | 4 |
| 4. I've been trying to see it in a different light, to make it seem more positive. | 1 | 2 | 3 | 4 |
| 5. I've been looking for something good in what is happening. | 1 | 2 | 3 | 4 |
| 6. I've been expressing my negative feelings. | 1 | 2 | 3 | 4 |



CSE

Instructions: Using the scale provided, please indicate the degree to which you believe you can do the following:

0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10
I cannot do this at all Moderately certain that I can do this I'm certain that I can do this

- 1. Break an upsetting problem down into smaller parts.
2. Sort out what can be changed, and what cannot be changed.
3. Make a plan of action and follow it when confronted with a problem.
4. Leave options open when things get stressful.
5. Think about one part of a problem at a time.
6. Find solutions to your most difficult problems.
7. Make unpleasant thoughts go away.
8. Take your mind off unpleasant thoughts.
9. Stop yourself from being upset by unpleasant thoughts.
10. Keep from feeling sad.
11. Get friends to help you with things you need.
12. Get emotional support from friends and family.
13. Make new friends.

Health Services Needs

Instructions: Please rate your agreement with the following statements using the scale provided.

- 1 = strongly disagree
2 = disagree
3 = no opinion
4 = agree
5 = strongly agree

- 1. I desire mental health or psychological services.
2. I have used mental health or psychological services in the past.
3. I would use in-person individual therapy services.
4. I would use online/telehealth individual therapy services.
5. I would use in-person group therapy services.
6. I would use online/telehealth group therapy services.

Using the space provided, please provide your thoughts on stress, health services needs, and challenges to using services.

1. Tell us about any additional stresses you are experiencing at this time: _____

2. Tell us about what topics (e.g., coping skills) or problems (e.g., financial stress) you would like to see covered in mental health or psychological services: _____



3. Tell us about any challenges that would make it more difficult for you to make use of mental health or psychological services: _____

Note: If you live in the central North Carolina region and need services, please feel free to contact Psychology For All using their [online application](#); they will review your application and be in touch. You can also find a mental health provider using [Psychology Today's psychologist locator](#). If you need immediate support, please call the National Lifeline at 1-800-273-8255. If you prefer text, you can contact the Crisis Text Line by texting "HOME" to 741741.