Psychological Distress among Women in the Workforce Post COVID-19 Pandemic

by

Michelle Joanna Santiago

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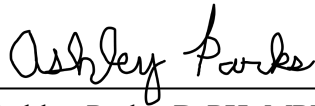The College of Health Science

California Baptist University

Riverside, California

This is to certify that the Master's Thesis of

Michelle Joanna Santiago

has met the thesis requirements
for the degree of
Master of Public Health

Approved by:

Ashley Parks
_____
Ashley Parks, DrPH, MPH
Committee Chair

Janet Bonome
_____
Janet Bonome, DrPH
Committee Member

Lindsay Fahnestock
_____
Lindsay Fahnestock, DrPH
Committee Member

Abstract

The novel coronavirus (COVID-19) can impact an individual's mental health, and the COVID-19 pandemic conditions increased the rates of depression and anxiety. During the pandemic, individuals faced adverse psychological effects, including worrying about contracting the virus and adjusting to the stay-at-home mandates. Former studies showed that women tend to have higher reported levels of depression, anxiety, and psychological distress. The objectives of this study were to determine if there were statistically significant differences in self-reporting psychological distress, emotions interfering with work performance, social life impairment, and self-reported depression related to gender and psychological distress. A cross-sectional study using secondary data from the 2020 California Health Interview Survey (CHIS) was performed. An independent samples t-test and chi-square test of independence were performed. Independent samples t-tests showed that there was a statistically significant difference in self-reported serious psychological distress between men ($m = 3.33$) and women ($m = 4.24$) ($t = -5.474$, $p = .035$) and a statistically significant difference in depression between men ($m = 4.69$) and women ($m = 4.61$) ($t = 2.507$, $p = .012$). A chi-square test of independence found no statistically significant association between gender and emotions interfering with work performance ($X^2(1) = .568$, $p = .451$), and no association was found between gender and social life impairment amongst those experiencing psychological distress ($X^2(1) = 2.336$, $p = .126$).

Keywords: women's health, psychological distress, workplace, depression, social life impairment, COVID-19 pandemic

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Review of Literature

Introduction

Numerous factors can impact the mental health and emotional well-being of individuals in the workplace. Evidence showed excessive demand, low control, lack of support, low recognition, bullying, workplace conflict, and violence are all factors that contribute to an employee's mental health (NSW Government, 2021). The COVID-19 pandemic was a particularly challenging time for many working individuals endeavoring to maintain their psychological and physical health. In December 2019, the novel coronavirus emerged from Wuhan, China, and was identified as SARS-CoV-2 by the International Committee on Taxonomy of Viruses (ICTV) (Batra et al., 2020). The virus began to spread internationally, and within the United States, the number of COVID-19 cases reached 148,838 by March 2020 (Batra et al., 2020). In March 2020, the World Health Organization (WHO) declared the virus a public health emergency and announced a pandemic (Spoorthy et al., 2020).

The novel coronavirus was classified as a communicable disease, and elements relating to the risk of contracting the virus at the workplace have been shown to escalate risks for adverse mental health outcomes (Giorgi et al., 2020). For instance, the lack of personal protective equipment (PPE), the fear of being infected, prolonged working hours, and stigmatization of people working in high-risk environments increased the risk of mental health illnesses (Giorgi et al., 2020). During the pandemic, employees encountered stressors such as concerns regarding the safety of loved ones, the death of colleagues, and ethical concerns about rationing ventilators for the sick in the workplace (Krishnamoorthy et al., 2020). The pandemic constituted a universal hazard for all professional categories, but several occupations were considered high-risk populations (Giorgi et al., 2020). A cross-sectional online survey conducted in Japan during the

timeframe of December 2020 had a 54% response rate from female participants of various

professional occupations (e.g., lawyer, non-profit organization, etc.) who reported feeling

anxious about becoming infected with COVID-19 in the workplace (Eguchi et al.,2021). Anxiety

about contracting a COVID-19 infection in the workplace strengthened the association between

job demands and psychological distress (Eguchi et al., 2021).

Mental Health and COVID-19

Adverse mental health impacts from COVID-19 have been recognized and have

increased rates of depression and anxiety symptoms (Oginni et al., 2020). Previous studies

suggested that depression, anxiety disorders, post-traumatic stress disorder (PTSD), and

increased suicidal tendencies may follow by major economic crises or natural disasters (Hossain,

2020). During the outbreak of the Severe Acute Respiratory Syndrome (SARS), specific

occupations, such as healthcare workers, endured anxiety, emotional distress, and PTSD (Batra

et al., 2020). Disrupting the everyday life of the population as a result of a government-imposed

lockdown or stay-at-home mandates has been shown to significantly affect the mental health of

individuals (Hossain, 2020). COVID-19 infection prevention strategies, such as stay-at-home

mandates, had the following effects on individuals: boredom, inadequate information, isolation

after being diagnosed with the virus, and lack of social support (Hossain, 2020).

Additional attributions of the pandemic's adverse psychosocial effects included worrying

about contracting the infection, especially for those with health conditions associated with

increased risk for COVID-19 (Oginni et al., 2020). The lack of predictability regarding the

pandemic's anticipated duration and consequences were also characterized as risk factors for the

general population's mental health (Silva Junior et al., 2020). The World Health Organization

(WHO) speculated that new measures, including self-isolation and quarantine, affected the daily

activities, routines, and livelihoods of individuals and might have led to an increase in loneliness, anxiety, depression, insomnia, and self-harm or suicidal behaviors (Kumar & Nayer, 2020). The increased risk of infection as the virus spread also triggers psychological symptoms, such as widespread community anxiety (Uehara et al., 2021).

Mental Health and Gender Difference

One in five adults in the U.S. experiences a mental illness each year (52.9 million in 2020) (National Institute of Mental Health [NIMH], 2022). Mental illness is a condition that affects an individual's thinking, feeling, behavior, or mood (National Alliance on Mental Illness [NAMI], n.d.). Research suggested multiple factors cause mental health illnesses (NAMI, n.d.). Individuals with pre-existing mental health conditions were more likely to report higher levels of depressive symptoms (54.2%) (O'Connor et al., 2020). A study conducted by Li and colleagues (medical staff) in Wuhan found that symptoms of insomnia were significantly related to the female gender (OR = 1.379, p = 0.042) (Hossain et al., 2020). Studies conducted in China also showed that the female gender was significantly associated with higher self-reported stress levels, anxiety, depression, posttraumatic stress symptoms, and severe psychological impacts (Alemeida et al., 2020).

Several factors associated with mental health issues and COVID-19 have been found, including age, gender, marital status, education, occupation, and comorbid physical and mental health problems (Hossain et al., 2020; Vloo et al., 2021). Being a woman, a student, and having physical symptoms linked to COVID-19 or prior health problems were substantially associated with higher levels of anxiety, depression, and stress during the pandemic (Silva Junior et al., 2020). For example, women felt a heavy load of parental stress due to school closures and carrying the bulk of childcare (Alemeida et al., 2020; Zamarro & Prados, 2021). Furthermore,

mothers reported feeling more agitated, fearful, and a loss of control from juggling homeschooling and remote work with limited outside help (Alemeida et al., 2020).

Depression and Gender Difference

Mental health illnesses include a plethora of conditions that vary in the degree of severity and range from mild, moderate, and severe (NAMI, 2022). The gender difference in depression is considerable; the prevalence of experiencing major depression among women is nearly double (OR = 1.95) compared to men (Salk et al., 2017). Another consideration is the confluence of hormonal and neurodevelopment changes that vary by sex during the pubertal transition (Salk et al., 2017). A global study showed that the 12-month prevalence of major depressive disorder was 5.8% in females and 3.5% in males (Salk et al., 2017). Another study showed that men reported lower levels of depressive symptoms (17.6%) compared to women (33%) (O'Connor et al., 2020). Studies regarding gender differences in mental health indicated that males have higher self-esteem and less stress, anxiety, and depression compared to females (Gestsdottir et al., 2021).

The COVID-19 Adult Resilience Experiences Study (CARES 2020 Project) was launched to track the health and well-being of young adults in the United States across multiple time points during 2020 and 2021 (Lui et al., 2020). A cross-sectional online study using the CARES 2020 Project data found that in wave 1 (April 13, 2020 to May 14, 2020), female participants reported having higher levels of depression; however, the response rate for female participants was 81.3% (Lui et al., 2020). From this study, predictors that were associated with depression, anxiety, and PTSD included loneliness (OR = 1.98- 2.72), COVID-19-specific worry (OR = 2.87- 5.05), and distress tolerance (OR = 0.22-0.42) (Lui et al., 2020). Women experience a higher prevalence of risk factors that may be intensified during the pandemic, including

chronic environmental strain, preexisting depression, anxiety disorders, and domestic violence (Alemeida et al., 2020).

Postpartum Depression among Women

Postpartum depression is a mood disorder that affects women during pregnancy or after giving birth (NIMH, n.d.). Women's lifetime risk of major depression among women is double that of men (Sundström et al., 2016). The gender difference is partially attributed to pregnancy, childbirth, and parenting (Sundström et al., 2016). Mothers who experience postpartum depression experience feelings of extreme sadness, anxiety, and fatigue that can interfere with their daily tasks, including caring for themselves or others (NIMH, n.d.). Women faced pandemic-related stressors specific to reproductive functioning; key influences included pregnancy, preconception, and fertility issues, and postpartum periods (Alemeida et al., 2020).

A meta-analysis of 43 studies with 28,000 subjects estimated that the paternal depression rate between the first trimester and the first year of postpartum was 23.8% (Sundström et al., 2016). The lack of obtaining prenatal information contributes to increased uneasiness and perinatal anxiety for pregnant women (Iwanowicz-Palus et al., 2022). Furthermore, the perinatal period (pregnancy and the first year postpartum) is a time of vulnerability for mental health issues (Alemeida et al., 2020). Women who have an onset of major depression during pregnancy are more likely to have a prior history of depression and a history of typical risk factors for depression, including abuse and low social support (Altemus et al., 2014). Additional factors include pandemic-related anxiety, length of isolation, restrictions, limitations on the process of childbirth and perinatal care, and the impossibility of being accompanied by a loved one were associated with negative psychological consequences (e.g., fear, anxiety) for future parents (Iwanowicz-Palus et al., 2022).

Anxiety and Gender Difference

Anxiety disorders are one of the most commonly occurring psychological illnesses; nearly one-fourth of adults in the United States meet the criteria for an anxiety disorder (Jalnapurkar et al., 2018). The National Comorbidity Survey (NCS) showcased that women are more likely than men to develop an anxiety disorder, with 30.5% of women being diagnosed versus 19% to 22% of men (Jalnapurkar et al., 2018). The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) conducted a cross-sectional survey with 43,000 participants in the U.S. (Jalnapurkar et al., 2018). The study revealed that men who met the criteria for generalized anxiety disorder (GAD) had significantly higher rates of comorbid alcohol and drug use disorders, nicotine dependence, and antisocial personality disorder than women with GAD (Jalnapurkar et al., 2018). Women with GAD were more likely to report a family history of depression and greater levels of disability (Jalnapurkar et al., 2018). Although relatively few sought treatments in the same report, men were more unlikely than women to pursue treatment for generalized anxiety disorder (Jalnapurkar et al., 2018).

Women have a greater probability of having multiple psychiatric disorders throughout their life compared to men (Anxiety & Depression Association of America [ADAA], 2021). This probability is speculated to be related to the brain chemistry differences among genders (ADAA, 2021). Fight-or-flight response are more active in women and remain activated longer than in men, partly because of estrogen and progesterone hormones (ADAA, 2021). Furthermore, the neurotransmitter serotonin may also have a role in the responsiveness to anxiety; evidence suggested that the female brain is unable to process serotonin as quickly as the male brain (ADAA, 2021).

Work Performance, Workplace, and Mental Health

The work environment, including the arrangements for telecommuting from home, has drastically changed over the last several years; thousands of jobs were lost due to the unprecedented situation caused by the COVID-19 pandemic (Oakman et al., 2020). Working from home poses positive and negative impacts, depending on various moderators, including the demands of the home environment, level of organizational support, and social connections external to work (Oakman et al., 2020). Loss of employment or the transition from working in person to virtually caused many disruptions during the early stages of the pandemic (Lui et al., 2020). For those who were employed, being in the workplace was considered a risk factor for contracting the COVID-19 infection (Uehara et al., 2021).

Individuals can become proactive in monitoring and addressing self-care in the workplace during the pandemic (Cleary et al., 2020). Initiating boundaries between personal and professional commitments is vital to developing and maintaining one's well-being (Cleary et al., 2020). In addition, seeking health services for negative emotions is crucial for self-care (Cleary et al., 2020). Those who have emotional support from family but not from friends or their significant others during the pandemic were associated with lower levels of depression and PTSD (Lui et al., 2020). Moreover, having family support also mediated the effects of stress on health (Lui et al., 2020). Family support may be more meaningful in providing reassurance to young adults, considering the possible concrete needs during the pandemic (Lui et al., 2020).

Occupation Type and Mental Health

Individuals working in a healthcare setting during the COVID-19 pandemic had an increased workload and responsibilities (Kormaz et al., 2020). Healthcare workers are expected to inform and educate their patients, save lives, and accurately and appropriately use medical

equipment (Kormaz et al., 2020). Healthcare workers (e.g., nurses and physicians) were responsible for diagnosing, treating, and caring for patients with COVID-19 and exhibited higher levels of depression, sleep disturbance, and distress symptoms compared to other healthcare workers (Kormaz et al., 2020). Employees with positive emotions have greater work performance and negative emotions can impair service performance at the intra-individual and inter-individual levels (Zhang et al., 2022). While this study does not focus on any particular occupation or field, understanding the stresses faced by health workers is crucial given that seventy percent of the healthcare workforce is composed of women working in front-line roles such as nursing or community health work (Thibaut & van Wijngaarden-Cremers, 2020).

From February 2020 through February 2021, employment losses were highest amongst workers in leisure and hospitality, government, and education and health services industries (Gould & Kassa, 2021). An estimated 55.7% of women who worked in the leisure and hospitality sector experienced a job loss (Gould & Kassa, 2021). Furthermore, those working in service occupations (restaurants), office and administration, or production occupations experienced shortfalls because these occupations require face-to-face interaction (Gould & Kassa, 2021). When businesses were required to shut down, these occupations were affected.

Gaps in Literature

Evidence on the mental health impacts of the COVID-19 pandemic varied due to several reasons (Lindert et al., 2021). Most studies evaluating mental and physical health status during COVID-19 lacked information on health before COVID-19, and data regarding gender differences were scarce (Gestsdottir et al., 2021). Research on general workers is scarce, resulting in limited information on the association between job demands and general workers' psychological distress during the third wave (December 2020 for Japan) of the COVID-19

pandemic (Eguchi et al., 2021). Current studies on COVID-19 and mental health are cross-sectional in nature, which may not illustrate the incremental changes in mental health outcomes among the affected individuals (Hossain et al., 2020).

Purpose of the Study

The purpose of the study was to determine if there were differences in self-reported psychological distress and depression between males and females in the workforce in 2020. This study also explored the relationship between gender and emotions interfering with work performance and social life impairment among the individuals in the workplace during and following the height of the COVID-19 pandemic. The study aimed to determine if women were at higher risk of psychological distress compared to their male counterparts. The results of this study may be utilized to inform the provision of mental health services to workers and to promote and normalize women seeking mental health services. Ultimately, the goal is to improve behaviors toward mental health in the workplace.

Research Questions

1. Is there a difference in self-reported psychological distress between males and females in the past month?

2. Is there a statistically significant difference in self-reported depression between males and females?

3. Is there an association between gender and emotions interfering with work performance for those experiencing some psychological distress?

4. Is there an association between gender and social life impairment amongst those experiencing psychological distress?

Hypotheses

Research question one hypothesized that there is a difference in self-reported psychological distress between males and females in the past month (the past month when the survey was taken). The second research question hypothesized that there is a statistically significant difference in self-reported depression between males and females. The third research question hypothesized an association between gender and emotions interfering with work performance for those experiencing some psychological distress. Lastly, the fourth research question hypothesized an association between gender and social life impairment among those experiencing psychological distress.

Method

Design

A cross-sectional study was used to examine if gender and psychological distress have statistically significant differences in self-reporting psychological distress, emotions interfering with work performance, social life impairment, and self-reported depression. Secondary data from the 2020 California Health Interview Survey (CHIS) were used. CHIS is the largest state-specific health survey in the nation that collects data on various self-reported health and demographic elements. The CHIS survey collects data on various health topics and conditions such as general health status, health conditions, COVID-19, health behaviors, and women's health.

Procedures

Historically, CHIS collects data through random-digital dial sampling and telephone interviewing (CHIS, 2022). With the industry declining telephone interviewing based on response rates and cultural shifts in telephone usage, CHIS has explored alternative sampling and data collection methodologies (CHIS, 2022). There was a transition to a mixed-mode survey (web and telephone) using a random sample of California addresses for the 2019 to 2020 survey period. CHIS collects an annual of 20,000 California residents, and the survey is conducted for 58 counties (CHIS, 2022). CHIS randomly interviews a wide range of age groups, including children (0-11), adolescents (12-17), and adults, and includes individuals of various racial and ethnic backgrounds that represents California's diverse population (CHIS, 2020).

California addresses were randomly sampled, and one adult from each household was mailed invitation letters requesting that they participate in the study online using a secure access code. Trained interviewers attempted to complete phone interviews for addresses that had valid

phone numbers, and households were able to call in to complete the survey with a live

interviewer. About 90% of adult interviews were conducted online, while the remainder were

over the phone (CHIS, 2020). The online survey was available in five different languages:

English, Spanish, Chinese, Korean, and Vietnamese (CHIS, 2020). The CHIS 2019-2020 used

predictive modeling to target specific underrepresented demographic groups, including Asian

households, non-citizens, Latino and Spanish-speaking households, and individuals with low

educational attainment (CHIS, 2020). The independent research organization SQL Server

Reporting Services (SSRS) conducted the CHIS 2019-2020 data collection under contract with

the UCLA Center for Health Policy Research; data was collected from September 2019 through

November 2020. However, this study only incorporates data from the 2020 participants, the

majority of which were captured starting in March 2020 after the onset of the COVID-19

pandemic.

Participants

Every year CHIS collects data from children, adolescents, and adults, with a minimum of

20,000 adults participating each year. The 2020 CHIS public use file included data from 21,949

adults (CHIS, 2020). Using G*Power Software, version 3.192, a medium effect size of 0.30, an

alpha level of 0.05, and a power of 80%, a minimum sample size of 82 was calculated for an

independent *t*-test. A minimum sample size of 108 was calculated for a chi-square test of

independence. In order to include a sufficient sample, 10% of participants were randomly

selected for a final sample size of 2,144. This sample exceeded the sample size of 108 and

therefore met the required minimum sample. The sample size for individual research questions

varied slightly based on the responses to each question, and some variables were only collected

for a subsample of the general population, including those who self-reported experiencing psychological distress.

Independent Variable

This study contained one independent variable: gender. The variable was labeled in the 2020 CHIS adult survey public use file (PUF) as SRSEX. The SRSEX variable is a variable created by the CHIS data collection vendor. The SRSEX variable is dichotomous and is a nominal measurement consisting of two values: males and females. The SRSEX variable was not modified and remained as-is. The variable indicates the self-reported response of the adult participant.

Dependent Variable

This study included four dependent variables. The first was psychological distress, which was labeled in the 2020 CHIS adult survey public use file (PUF) as DISTRESS. The second was feeling depressed in the past 30 days, labeled in the 2020 CHIS adult survey public use file (PUF) AJ32. The third was emotions interfering with work, the worst month in the past 12 months, which was included in the 2020 CHIS adult survey (PUF) as AF69B. The last was emotions interfering with social life, the worst month in the past 12 months, which was labeled in the 2020 CHIS adult survey public use file (PUF) as AF71B.

The DISTRESS variable used the Kessler (K6) scale, which consists of six questions that assess an individual's emotional distress for the general population. The K6 scale consists of questions on worthlessness, hopelessness, nervousness, and depression. The AJ32 variable was an ordinal variable with six values: -2 = Proxy Skipped, 1 = All of the time, 2 = Most of the time, 3 = Some of the time, 4 = A little of the time, and 5 = Not at all. All invalid results with the value of -2 were removed, and the variable was recoded and named AJ32RECODE.

The AF69B variable was an ordinal variable capturing the degree to which emotions interfere with work, including four variable levels: 1 = A lot, 2 = Some, 3 = Not at all, and 4 = I do not work. For this variable, the value of 4 was removed, and non-working adults were excluded from the sample for this study. The recode variable of AF69BRECODE was created. This variable condensed "some" and "a lot" responses into a single variable level compared to those who reported no interference with work. The variable applied to working adults 70 or younger who experienced moderate psychological distress in the past 12 months. The AF71B variable captured social life impairment for working adults as an ordinal variable with six values: -2 = Proxy Skipped, -1 = Inapplicable, 1 = A lot, 2 = Some, 3 = Not at all. The variable applied only to adults who experienced moderate psychological distress. For this variable, the value of -2 and -1 were removed, and a recoded variable of AF71BRECODE was created including only those who were eligible and responded to the question. This variable condensed "some" and "a lot" responses into a single variable level compared to those who reported no social life impairment.

Data Analysis

To answer each of the four research questions, independent samples *t*-test and chi-square test of independence were utilized. For question one, an independent samples *t*-test was used to determine if there was a statistically significant difference in self-reported psychological distress scores on the K6 scale between males and females in the past month. For question two, an independent samples *t*-test was used to determine if there was a statistically significant difference in self-reported depression scores between males and females. For the third question, a chi-square test of independence was used to determine if there was an association between gender and emotions interfering with work performance (Y/N) for those experiencing some

psychological distress. Lastly, for question four, a chi-square test of independence was used to determine if there was an association between gender and social life impairment (Y/N) among those experiencing psychological distress.

Results

Participant Demographics

The 2020 CHIS included 21,949 adult participants; 2,144 were randomly sampled and selected to answer the research questions for this study. The random sample of 2,144 participants was an appropriate sample size for this study. Of the sample participants, 959 (44.7%) were male, and 1,185 (55.3%) were female. Of the sample population, 409 (19.1%) were Hispanic; 1350 (63.0%) were non-Hispanic white; 75 (3.5%) were African American; 7 (0.3%) were American Indian/Alaskan Native; 251 (11.7%) were Asian Only; and 52 (2.4%) were Other/Two or more races. %). From the sample, the following worked in these primary industries: 18 (0.8%) worked in agriculture, forestry, fishing, hunting, and mining; 37 (1.7%) worked in construction; 79 (3.7%) worked in manufacturing; 16 (0.7%) worked in wholesale trade; 82 (3.8%) worked in retail trade; 37 (1.7%) worked in transportation, warehousing, and utilities; 40 (1.9%) worked in information; 80 (3.7%) worked in finance and insurance, real estate, rental and leasing; 196 (9.1%) worked in scientific management, administrative, and waste management services; 355 (16.6%) worked in educational services, healthcare, and social assistance; 62 (2.9%) worked in arts, entertainment, recreation accommodation, and food services; 63 (2.9%) worked in other services, except public administration; 105 (4.9%) worked in public administration; 12 (0.6%) worked in the military; lastly, 8 (0.4%) could not be coded. See Table 1 in the Appendix for full demographic details.

Major Findings

To answer research question one, "Is there a statistically significant difference in self-reported psychological distress between males and females in the past month?", an independent samples t-test was utilized. The analysis revealed a statistically significant difference in self-

reported serious psychological distress between men (m = 3.33) and women (m = 4.24) in the past month (t = -5.474, p = .035). Higher values on the K6 scale for women indicated higher levels of psychological distress reported in this group than in men. The null hypothesis was rejected.

For research question two, "Is there a statistically significant difference in self-reported depression between males and females?", An independent samples t-test was utilized. The analysis revealed a statistically significant difference in depression between men (m = 4.69) and women (m = 4.61) (t = 2.507, p = .012). Higher values for the depression variable indicate a lower occurrence of self-reported depression; therefore, women self-reported slightly higher levels of depression, as reflected in the lower mean score. The null hypothesis was rejected.

Research question three, "Is there an association between gender and emotions interfering with work performance for those experiencing some psychological distress?", a chi-square test of independence was utilized to compare the proportions of individuals reporting emotions interfering with work performance within each gender. The test revealed no statistical significance (X^2(1) = .568, p = .451). The student researcher failed to reject the null hypothesis.

Research question four, "Is there an association between gender and social life impairment amongst those experiencing psychological distress?", a chi-square test of independence was utilized. The test compared the proportions of individuals reporting social life impairment within each gender. The test revealed no statistical significance (X^2(1) = 2.336, p = .126). The student researcher failed to reject the null hypothesis.

Discussion

Summary of Major Findings

This study aimed to establish if there were statistically significant differences between males and females in self-reported depression and self-reported psychological distress. Furthermore, this study aimed to determine if there were associations between gender and emotions interfering with work performance for those experiencing some psychological distress and associations between gender and social life impairment amongst those experiencing psychological distress. This study assessed a random sample size of 2,144 adults who responded to the 2020 CHIS data. Independent samples t-tests and chi-square tests of independence were utilized to answer the research questions posed in this study. Questions one and two showed statistically significant differences, while questions three and four revealed no statistical significance.

The first research question analyzed if there was a statistically significant difference in self-reported psychological distress between males and females in the past month. An independent samples t-test was calculated and revealed a statistically significant difference in self-reported serious psychological distress between males and females, with females experiencing higher levels of self-reported psychological distress as measured by higher mean values on the K6 scale. This study aligns with other findings regarding gender differences in self-reported psychological distress, such as a recent study that indicated that males have higher self-esteem, and less stress, anxiety, and depression than females (Gestsdottir et al., 2021). Another study indicated that certain mechanisms account for the difference in self-reporting, including covariation between estrogen levels and the incidence peak of female depression, gender differences in coping style (e.g., comparative emotional inexpressiveness and non-help-seeking

in males), and gender differences in symptom phenotypes (e.g., atypical symptoms in male depression) (Shi et al., 2021).

The second research question analyzed if there was a statistically significant difference in self-reported depression between males and females. An independent samples *t*-test was utilized to compare mean levels of depression and revealed a statistically significant difference in depression between men and women; women are more likely to self-report depression. These results are consistent with previous studies. Females evidently exhibit substantial tendencies to recognize subtle emotional changes than males; alternatively, they "perceived" more emotional symptoms (Shi et al., 2021). Another study showed that men reported lower levels of depressive symptoms (17.6%) compared to women (33%) (O'Connor et al., 2020).

The third research question analyzed if there was an association between gender and emotions interfering with work performance for those experiencing some psychological distress. A chi-square test of independence was utilized and revealed no statistical significance. Previous studies include results of hierarchical linear modeling analyses, suggesting that an employee's emotional state is highly correlated with their job performance (service outputs) on a daily basis (Zhang et al., 2022). Numerous factors could have contributed to the results, including the CHIS sample only including adult participants who were available to participate in the random-digital-dialing during hours of operation. Moreover, individuals might not have felt comfortable with sharing their personal emotions or mental health information, creating self-report bias. Lastly, participants may not have truthfully answered each question, which also causes bias.

The fourth research question analyzed if there was an association between gender and social life impairment among those experiencing psychological distress. A chi-square test of independence was utilized and revealed no statistical significance. Although this study did not

find any statistical difference, previous studies showed that the lack of social support from one's partner, close relatives, parents, and friends is a risk factor for psychological distress (Viertö et al., 2021). There are indications that it operates in different ways for men and women, such as the fact that emotional support is more protective against depression for women than for men (Viertö et al., 2021). Additionally, women benefit from support more than men in both work and family contexts and have more supportive networks than men (Viertö et al., 2021).

Public Health Implications

The findings from this study showed statistically significant differences in self-reported psychological distress between males and females and self-reported depression between males and females. Although this study failed to show statistically significant differences in the association between gender and social life impairment among those experiencing psychological distress and gender and emotions interfering with work performance for those experiencing some psychological distress, findings from this study are critical for reducing mental health stigma among women and men. Furthermore, this study aimed to normalize men, women, and individuals of all backgrounds seeking mental health services. With further knowledge of psychological distress, gender difference, and the likelihood of self-reports, public health professionals will be better equipped to develop, assess, and implement mental health programs or services for males and females in the workplace.

Stakeholders and policy writers should collaborate with local, state, and federal government agencies and community-based organizations, such as the National Institute of Mental Health (NIMH), the National Alliance on Mental Illness (NAMI), and the Substance Abuse and Mental Health Services Administration (SAMHSA), to develop policies and fund new or existing mental health programs for individuals that have no access to mental health

services. Currently, the Family Medical Leave Act (FMLA) is a law that allows employees to take up to 12 weeks of unpaid leave in case of an illness or to care for an ill family member (NAMI, 2019). The FMLA law can be enhanced by allowing the unpaid leave request to be paid in part or in full; if employees are aware that they can be paid to take time off for their mental health, it can encourage employees to care for their mental well-being.

On March 9, 2022, the Department of Health and Human Services (HHS) through SAMHSA announced that they received $35 million in funding for mental health services and suicide prevention programs for children and young adults (SAMHSA, 2022). Further resources and collaborations are needed for public health professionals to deliver adequate health education on mental health services. Work training and workshops should be implemented in all occupational settings to increase employee awareness and behavioral change. Public health professionals can act as liaisons and assist with any concerns, questions, or discrepancies occurring in the workplace. Moreover, the workplace environment should be a safe haven for employees to seek and receive mental health services.

Although some of the findings in this study did not align with previous studies, it provides further understanding of the intricacy of mental health, psychological distress, gender difference, self-reports, emotions, and social life impairments. It is clear that psychological distress rates are higher in women than in men. Further research needs to be conducted to evaluate why women report minor depressive symptoms and what other factors contributes to their psychological distress. Furthermore, men require the same attention and perhaps even more due to the shame of seeking help for hemogenic masculinity (men's dominant position in society and justifies the subordination of the common male and other marginalized ways of being a man) (Shi et al., 2021; Connell & Messerschmidt, 2005). Men tend to ignore their mental health well-

being by not reporting on time or at all, and that is a gender gap that must be addressed in the public health sector in order to reduce mental health stigma among men. The results of this study can be the groundwork for future research studies. The results can aid public health professionals in developing and teaching adults about self-care tips, how to manage and cope with stress, and recognizing psychological distress symptoms amongst themselves or their co-workers in the workplace.

Study Limitations

This study used secondary data from the 2020 CHIS, which resulted in several limitations. For instance, since CHIS collected the data through online surveys and random-digital-dial telephone sampling, the survey data was likely impacted by self-report bias. Social desirability bias may have transpired due to participants answering questions based on what they felt was socially acceptable or what the agency conducting the survey might want to hear. In addition, recall bias could have contributed to the limitations due to participants' inability to recall past experiences in their daily lives. Many of the questions asked participants to recall the past 30 days. Cultural stigma may have prevented participants from providing truthful or accurate answers because of the sensitivity of questions on psychological distress, social life impairments, and emotions interfering with work performance. Participants might have felt uncomfortable accurately answering questions related to their emotions on the survey, which creates a bias in the emotional aspect of this study. Online surveys pose an automatic limitation on individuals who do not have internet access; those who were technologically savvy were more likely and able to participate. As for the telephone interviews, individuals might not have answered unknown numbers, which could have limited the diversity of the population.

The CHIS data collected information on generalized industry occupations, causing a limitation in specific roles and job types. The roles that were collected included agriculture, forestry, fishing, hunting and mining 37 (1.7%); construction 79 (3.7%); manufacturing 16 (0.7%); wholesale trade 82 (3.8%); retail trade 37 (1.7%); transportation, warehousing, and utilities 40 (1.9%); and finance and insurance, real estate, rental and leasing 80 (3.7%). Gender difference in the CHIS data posed further limitations as the sample was predominantly female (55.3%) and 959 (44.7%) males. This study did not have an equal amount of male and female participants, which might have caused gender bias in the study results. Additionally, the CHIS data only collects information from California residents, which limits the generalizability of the study results to other populations outside of the state.

The telephone interviews (CATI) had a duration of 46 minutes for adult participants. Due to the lengthy interview, participants might have answered inaccurately or left questions unanswered. Further limitations included participants not being engaged or distracted during the survey interview. As for the interviews in non-English languages, these survey interviews took longer to complete; the average length of these interviews was 63 minutes. Lastly, participants were not required to complete the entire survey, which posed limitations on the available data.

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Table 1

Demographic Details for Participants (n=2,144)

		N	%
	Male	959	44.7
	Female	1185	55.3
Ethnicity			
	American Indian or Alaskan Native	7	0.3
	Asian	251	11.7
	Black or African American	75	3.5
	Non-Hispanic White	1350	63.0
	Hispanic	409	19.1
	Other/Two or more races	52	2.4
Main Industries			
	Agriculture, forestry, fishing, hunting and mining	18	0.8
	Construction	37	1.7
	Manufacturing	79	3.7
	Wholesale Trade	16	0.7
	Retail Trade	82	3.8
	Transportation, warehousing, and utilities	37	1.7
	Information	40	1.9
	Finance and insurance, real estate, rental and leasing	80	3.7
	Scientific management, administrative, and waste management services	196	9.1

Educational services, healthcare, and social assistance	355	16.6
Arts, entertainment, recreation accommodation, and food services	62	2.9
Other services, except public administration	63	2.9
Public administration	105	4.9
Military	12	0.6
Unknown	8	0.4