LGBTI+ Population in El Salvador: An Intersectional Exploration of Minority Stress, Psychological Distress, and Psychosocial Resources

by

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DISSERTATION ABSTRACT

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Title: LGBTI+ Population in El Salvador: An Intersectional Exploration of Minority Stress, Psychological Distress, and Psychosocial Resources

Individuals who identify with marginalized gender and sexual identities (i.e., lesbian, gay, bisexual, transgender, etc.; LGBTI+) experience chronic and repetitive stress related to the stigma attached to these identities. While this stress produces negative impacts on the health and well-being of the LGBTI+ population, there are psychosocial resources known to buffer those effects. However, research on these processes is conducted primarily in Western, middle- to high-income, and predominantly European/White countries. Less is known about these processes within low-income, predominantly non-White countries. Furthermore, there is a dearth of research examining these processes through an intersectional lens. Guided by the minority stress model and intersectionality theory, and using data I collected with the LGBTI+ population in El Salvador, the present study addresses these gaps in the literature by examining: (a) the relationship of intersecting identities and experiences on psychological distress; (b) the possible moderating effects of family support and personal mastery on the relationship between marginalization stress and psychological distress, and (c) group differences between trans and gender nonconforming individuals (TGNC) and cisgender sexual minority individuals (CSM) on the moderating effects of family support and personal mastery. Consistent with prior evidence, results revealed marginalization stress to significantly predict higher psychological distress and psychosocial resources to moderate this relationship. Specifically, the presence of either family support or personal mastery led to a decrease in psychological distress regardless of the level of marginalization stress being experienced. There were no group differences found between TGNC and CSM groups and no intersecting identities and experiences were found to significantly predict

psychological distress. The present study advances our understanding of the applicability of the minority stress model in low-income countries and the impact of psychosocial resources in decreasing the negative outcomes of marginalization stress. Future research should further our understanding of the impact of intersecting identities and experiences on LGBTI+ marginalization stress outcomes and develop culturally congruent adaptations of the minority stress model to reflect specific populations more accurately.

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DEDICATION

Para la comunidad LGBTI+ de El Salvador.

Que sigan marchando, amando y bailando.

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CHAPTER I

INTRODUCTION

Stigma and discrimination negatively impact the health and wellbeing of individuals belonging to marginalized groups, such as those who identify as lesbian, gay, bisexual, transgender, queer, or another diverse gender or sexual identity (LGBTI+[1]; Helminen et al., 2023; Pellicane & Ciesla, 2022). This reality reigns true to varying degrees across the globe. El Salvador, the smallest country in Central America, is home to a precarious yet robust LGBTI+ population. Despite growing attendance at the annual Pride march (Valle, 2018), the Salvadoran LGBTI+ population continues to be victimized by acts of brutal violence, harassment, and discrimination (Georgetown Law Human Rights Institute Fact-Finding Project., 2017). In fact, between 2007 and 2017, 28% of all LGBTI+ asylum seekers in the United States were from El Salvador (Shaw et al., 2021). As recently as February 2024, the newly re-elected president of El Salvador, Nayib Bukele, reported that "gender ideologies in schools and colleges" would not be allowed, including any mention of LGBTI+ populations (Maldonado, 2024).

According to a comprehensive analysis by the Human Rights Watch, LGBTI+ individuals in the Northern Triangle (i.e., El Salvador, Guatemala, and Honduras) face a significant risk of physical violence within the home, by gangs, and by law enforcement (Ghoshal & Cabrera, 2020). The LGBTI+ population is unlikely to be protected in this region due to government corruption, gangs operating with impunity, and because law enforcement often participates in the discrimination and stigmatization of this group (Ghoshal & Cabrera, 2020). The Inter-American Commission on Human Rights (2015) investigated the types of violence experienced by the LGBTI+ population in the region, highlighting the

[1] Currently in El Salvador, the acronym most commonly used to refer to diverse sexual and gender identities is "LGBTI+" (UNHCR Staff, 2020). This text focuses on the Salvadoran population; therefore, this is the acronym that will be used throughout the text as a representation of all sexual and gender identities that fall outside of heterosexual and cisgender norms. Language and identities are ever evolving and an all-encompassing term for this population does not exist. To learn more about specific identities included within the umbrella acronym of LGBTI+ see the following resource: https://lgbtqia.ucdavis.edu/educated/glossary.

cruelty of anti- LGBTI+ violence, including examples of stoning, beheading, burning, and impalement. In addition, they are targeted by gangs as a means of establishing a social order and upholding gang-centered beliefs around public morality (Ghoshal & Cabrera, 2020). As described in a report by the International Human Rights Law Clinic, in El Salvador "...epidemic levels of violent crime and alarming rates of impunity are the backdrop against which LGBTI+ individuals experience violence and harassment" (Fletcher, 2012, p. 7). In this context, violence can be identity-based or escalate significantly upon the perpetrator learning of the individual's LGBTI+ identity (Georgetown Law Human Rights Institute Fact-Finding Project, 2017).

In addition to heinous crimes against this population, Salvadorans who identify as LGBTI+ face discrimination in housing, healthcare, education, employment, and legal protections. Zapata Ventura (2019) found that about 13.7% of LGBTI+ Salvadorans were unemployed in 2019, compared to the national rate of 5.9%, and that 55% earned below the national minimum wage. Collecting data on experiences of violence and discrimination in El Salvador is difficult and rarely pursued, therefore these numbers should be considered estimates that are likely lower than the reality. Despite the harsh, and oftentimes cruel, sociocultural and political realities faced by many LGBTI+ Salvadorans, this population is fervently involved in advocacy and activism across the country (Gardella, 2019). They convene in large numbers at Pride festivities (Valle, 2018), participate in activist collectives, and live passionate, creative, and full lives. Ideally, intersectional research data will begin to capture the complexities of individuals' and groups' lived realities, including the harsh, the beautiful, and the mundane. This is what the present study strives to do.

CHAPTER II

LITERATURE REVIEW

In this section, I first outline the processes and outcomes of minority stress theory, a theory that is used to better understand experiences of LGBTI+ stigma. I also note intersecting experiences of marginalization and protective factors for the LGBTI+ population. Next, I provide an overview of the COVID-19 pandemic and related protective factors within the context of El Salvador's LGBTI+ population. Finally, I introduce the present study and identify the gaps in extant literature that this study aims to address. The present study focuses on adult LGBTI+ populations in El Salvador, however given the dearth of research in this area, I discuss literature throughout the lifespan.

Marginalization Stress and The Minority Stress Model

Minority stress model (Meyer, 1995) is the predominant model to understand the mechanisms and outcomes of marginalization stress[2] among LGBTI+ populations. Marginalization stress is defined by Meyer (1995) as "psychosocial stress derived from minority status" (p. 38), and in its original iteration, was referring to minority stress experienced by cisgender gay men. Since it's conceptualization, the theory has been used to refer to stress experienced by all identities within the LGBTI+ population and in more recent years, it has been expanded to include other marginalized experiences, such as marginalized racial and ethnic identities. Marginalization stress is seen as persistent and unique to people with marginalized or stigmatized identities (Meyer, 1995), and is currently the primary explanation for LGBTI+ health disparities (Flentje et al., 2020; Schuler et al., 2021). It emerges from minority group members' exposure to stigmatizing situations, as well as the overall experience of having a marginalized identity in dominant culture (Meyer, 1995). Meyer (1995) succinctly explained:

[2] The term *marginalization stress* will be used in place of *minority stress* unless referring to the specific minority stress model. Marginalization stress is argued to better describe this phenomenon because "it centers the marginalization that minorities experience rather than simply having a minority identity" (Puckett, et al., 2023).

"at the center of this experience is the incongruence between the minority person's culture, needs, and experience, and societal structures" (p. 39).

When conceptualizing marginalization stress within stress theories, three assumptions are made. First, marginalization stress is considered unique in the sense that it is an additional stressor experienced by stigmatized individuals, who require more effort to adapt to these stressors compared to non-stigmatized individuals. Second, it is viewed as chronic, meaning that it is interconnected with enduring social and cultural frameworks that exhibit a certain degree of stability. Finally, marginalization stress is socially based, meaning it emanates from social processes, institutions, and structures that extend beyond the individual, contrasting with general stressors linked to individual events or biological and genetic attributes of individuals or groups (Meyer, 2003). For example, marginalization stress is experienced from discriminatory public policies, stigmatizing cultural beliefs about a group, or experiences of social exclusion or rejection, as opposed to general stressors experienced by most people, such as stress of high work demands, illness, or loss of a loved one.

Meyer (2003) formulated the minority stress model to demonstrate how marginalization stress operates and leads to unfavorable health outcomes within the LGBTI+ population. The model commences with the wider environment or sociocultural context, which comprises systemic, structural, and cultural heterosexism and cissexism. Within this context, individuals experience distal stressors, which refer to external events or situations that propagate negative associations with LGBTI+ identities. The broader environmental context and the experiences of distal stressors reinforce and amplify proximal stressors, or internal beliefs about one's inferiority. Further elaboration on proximal and distal stressors is provided below. These stressors are in addition to the general stressors experienced by the overall population, contribute to psychological and physiological health issues, and create health disparities between LGBTQ+ and cisgender heterosexual populations (Frost et al., 2015). The minority

stress model concludes with coping and psychosocial resources, which often act as a means of disrupting this pathway and safeguarding the mental and physical health of LGBTI+ individuals.

Physical and Mental Health Outcomes

Evidence indicates that the LGBTI+ health disparities are at least partially attributable to experiences of prejudice, stigma, discrimination, and the internalization of stigma, which create higher levels of stress compared to cisgender heterosexual individuals (Flentje et al., 2020). As a result, LGBTI+ individuals are more likely to experience mental health concerns (Chodzen et al., 2019; Timmins et al., 2017) and poorer overall physical health (Frost et al., 2015).

Marginalization stress is associated with negative mental health outcomes among LGBTI+ individuals (Meyer, 2003). Specifically, higher reported levels of marginalization stress have been shown to lead to higher rates of psychological distress (Timmins et al., 2017), depressive and anxious symptoms (Chodzen et al., 2019), increased engagement in substance use (English et al., 2018), and more eating concerns (Lefevor et al., 2019). Eating disorders are disproportionately high within the LGBTI+ population, especially for gay men and bisexual and transgender individuals (Parker & Harriger, 2020), and appear more frequently in individuals who are exposed to higher rates of marginalization stress (Brewster et al., 2019).

Studies have also found that LGBTI+ individuals experience higher rates of suicidal ideation and suicide attempts than their cisgender heterosexual counterparts (Center for Disease Control and Prevention (CDC), 2016; Garay et al., 2002; James et al., 2016). LGBTI+ youth are three times more likely to have seriously contemplated suicide and five times more likely to have attempted suicide (CDC, 2016) and approximately 40% of transgender adults have attempted suicide in their lifetime (James et al., 2016). Although research on suicide among the LGBTI+ population in El Salvador is

scarce, a study of lesbian women conducted by Garay et al. (2002) found that 45% had attempted suicide and 55% had experienced suicidal ideation.

Marginalization stress also contributes to significant physical health disparities in the LGBTI+ population. For example, when compared to older heterosexual men, older sexual minority men had more angina pectoris, low back or neck pain, cancer, and a weakened immune system (Fredriksen-Goldsen et al., 2017). Moreover, Blosnich et al. (2010) identified higher rates of acute respiratory illnesses such as strep throat, bronchitis, sinus infection, and asthma, in LGBTI+ cigarette smokers compared to cisgender heterosexual cigarette smokers. A systematic review by Katz-Wise et al. (2017) found that LGBTI+ individuals engaged in higher rates of smoking and alcohol use and were at greater risk for chronic diseases such as cardiovascular disease, diabetes, and cancer. While many negative health outcomes are likely a direct effect of physiological stress-responses, many are indirect and result from stress-related health-harming behaviors, such as inactivity, smoking, drug and alcohol consumption, poor nutrition, and circadian disruption (Gonzales et al., 2016; Guidi et al., 2021; Hatzenbuehler et al., 2014; Newcomb & Mustanski, 2010).

The effects of marginalization stress on physical health outcomes may be particularly pronounced in certain subpopulations within the LGBTI+ community. For example, Fredriksen-Goldsen et al. (2017) found that among LGBTI+ older adults, experiencing both victimization and internalized stigma was associated with higher rates of chronic health conditions, functional limitations, and disability. Similarly, transgender individuals may be at elevated risk for certain health conditions due to the combination of marginalization stress and barriers to accessing healthcare (Reisner et al., 2015). Overall, the literature suggests that subpopulations who also experience intersecting forms of discrimination or barriers to access will demonstrate more negative physical health outcomes. The

present study takes an intersectional approach and considers other forms of marginalization that may also be impacting health outcomes.

Categories of Stressors

Marginalization stress theory proposes two categories of stressors experienced by marginalized populations: distal and proximal stressors. Distal stressors refer to perceived and external events of prejudice, stigma, and discrimination. They can take the form of concrete incidents like harassment, physical violence, employment or housing discrimination, and sexual assault, in addition to structural circumstances such as systemic discriminatory policies, practices, and values, or the absence of protective policies for vulnerable populations (Katz-Wise & Hyde, 2012). Another example of a distal stressor is the messaging perpetuated by cissexist and heterosexist societies that identifies LGBTI+ individuals as unwanted, unnatural, and undesirable.

As a reaction to distal stressors, proximal stressors emerge. Proximal stressors are subjective internalizations of attitudes and stigma concerning one's identity, leading to internalized stigma, identity concealment, negative self-regard, rumination, and expectations of prejudice (Meyer, 2003). Even those who are open about their LGBTI+ identity may harbor negative beliefs about themselves and their identities, such as shame. Both shame and negative self-beliefs are experiences that induce stress, and when they emerge in response to a marginalized identity, they are uniquely considered marginalization stress.

Intersecting Marginalized Experiences

Intersectionality theory emerged in the late 20th from the Black feminist movements in the United States (Bow et al., 2017). The theory highlights the interconnected nature of social categories and underscores the investigation of multiple social locations simultaneously (e.g., gender identity, race, socioeconomic position, nationality) with the goal of better understanding social dynamics and

processes (Crenshaw, 1989). Intersecting systems of privilege and oppression manifest in the lives of individuals and groups as distinctive vulnerabilities or advantages to well-being (Bowleg et al., 2003). Intersectionality understands identities not as categories, but rather as proxies for privileged and/or oppressed social locations.

Marginalization stress researchers have begun exploring overlapping marginalized identities and experiences via the perspective of the minority stress model. Moving beyond what is commonly referred to as "multiple minority status[3]" within minority stress model literature, and toward an intersectional lens, is a long overdue and much needed expansion to current research. Intersecting identities and experiences impact how marginalization stress manifests in people's lives and its consequences. Using an intersectional approach addresses stigma and health processes at an individual, interpersonal, and structural level (Watkins-Hayes, 2014). For the purposes of this study, some identities and experiences that often exist on the margins of dominant society (hooks, 2000) will be explored, including low educational attainment, housing instability, financial stress, and marginalized racial and ethnic identity.

Educational Attainment

Education systems present unique challenges for the LGBTI+ population, often including experiences of bullying, harassment, and discrimination, all of which contribute to lower educational achievement. Moreover, LGBTI+ youth are more susceptible to homelessness and poverty which adversely affect their academic success (Ormiston, 2022). Sansone (2019) revealed several concerning trends among LGBTI+ students in the United States: lower high school graduation rates, reduced college enrollment, diminished educational expectations, and decreased sense of belongingness. In a similar vein, Kosciw et al. (2022) found that approximately 76% of LGBTI+ students in the United States

[3] Multiple minority status examines the compounding effects of multiple marginalized identities, while the application of intersectionality theory explores the nuanced positionality of individuals whose identities and experiences result in both privilege and oppression depending on context, culture, and their particular intersectional socio-location.

reported experiencing verbal harassment, while 68% felt unsafe at school due to their sexual orientation or gender identity.

Expulsion rates are also disproportionately higher for LGBTI+ students globally, often resulting from the criminalization of LGBTI+ identities (Okanlawon, 2021), such as non-compliance with gendered uniform policies (Glickman, 2015). It is worth noting that LGBTI+ students who experienced victimization based on their sexual orientation or gender identity were almost twice as likely to face disciplinary action compared to those who encountered lower levels of victimization (Kosciw et al., 2022). The negative consequences of LGBTI+-related discrimination also include higher rates of absenteeism, lower GPAs, diminished self-esteem, and higher rates of depression (Kosciw et al., 2022). Additionally, students who belong to multiple marginalized groups, particularly Black transgender students, face a higher risk of victimization in school and are more likely to be incarcerated in the future (Rosentel et al., 2021).

Education is an integral factor in future income and financial stability, however, experiences of marginalization stress in school negatively impact educational attainment for those with stigmatized identities (Daniels et al., 2019; Sansone, 2019). A longitudinal study completed by Sansone (2019) shared student reports of LGBTI+ identity-based discrimination limiting their educational opportunities. Furthermore, LGBTI+ students' experiences of not belonging to their educational environments leads to educational disengagement and discontinuation (Goldberg et al., 2019). More literature is needed exploring the impact of LGBTI+ marginalization stress on educational attainment, however this relationship has been explored at higher rates among marginalized racial and ethnic populations. Witkow et al. (2015) found racial discrimination to be among several factors that negatively impacted academic persistence and grade point average.

Higher educational attainment can positively impact an individual's health. Higher education level is associated with fewer physical and mental health concerns including suicidality and depression (Yuan et al., 2021). The causality of educational attainment and positive health outcomes is debated within the literature. Arguments are made that early experiences of poor mental health lead to lower educational attainment (Brännlund et al., 2017; Breslau et al., 2008), while others argue that higher education levels influence social and community resources, positively impacting overall health, including mental health (Yuan et al., 2021). Although LGBTI+ students encounter numerous obstacles in their educational journey, several factors can positively influence their educational attainment, such as supportive families, schools, and communities, access to LGBTI+ affirming resources and healthcare, and the development of a positive self-concept. Continued research is needed to understand the potential causal relationships between educational attainment and health. In addition, there is a need within the literature to explore the ways educational attainment may impact the relationship between marginalization stress and mental health concerns. The present study will address this gap by including educational attainment as a covarying and intersecting factor among LGBTI+ populations' experiences of mental health.

Economic Insecurity and Financial Stress

Economic disparities within the LGBTI+ population have been a persistent concern. LGBTI+ adults face significant disparities in poverty rates compared to cisgender heterosexual adults, with a 15% higher likelihood of experiencing poverty (Badgett et al., 2019). Among LGBTI+ individuals, transgender and gender nonconforming (TGNC) individuals have the highest poverty rate at 29.4%, followed by bisexual women, lesbian women, and then gay men (Badgett et al., 2019). It is worth noting that LGBTI+ individuals living in poverty often have additional intersecting marginalized identities,

such as being people of color, young, or experiencing a disability (Badgett et al., 2019), emphasizing the impact of intersectionality on economic inequality.

Several factors contribute to poverty among LGBTI+ individuals. Childhood experiences of economic insecurity, coupled with intersecting marginalized racial identities, play a significant role (Wilson et al., 2020b). Anti-LGBTI+ bias within families and places of employment further exacerbate poverty in adulthood (Wilson et al., 2020b). Additionally, lower educational attainment, low-wage jobs, structural oppression, stress, and barriers to accessing services contribute to economic insecurity (Wilson et al., 2020b). Moreover, Wilson et al. (2020b) underscored that the contributors to poverty differ depending on gender or sexual identity. For instance, trans individuals experience gender identity bias in employment, lesbian women face gender expression discrimination in the workplace, and gay men encounter HIV stigma, all of which can perpetuate economic inequality (Wilson et al., 2020b).

Risk of economic insecurity often varies based on gender or sexual identity. For instance, trans individuals experience gender identity bias in employment, lesbian women face gender expression discrimination in the workplace, and gay men encounter HIV stigma, all of which can perpetuate economic inequality (Wilson et al., 2020b). Current research highlights that TGNC individuals experience the highest rates of poverty within LGBTI+ populations and often experience barriers that their cisgender counterparts do not (Badgett et al., 2019). For example, in El Salvador TGNC individuals encounter unique obstacles to finding employment and accessing financial support. Salvadorans are not legally able to change their gender marker on their identification documents. This often results in TGNC Salvadorans being denied jobs and even having difficulty applying for loans, withdrawing money from their bank accounts, and receiving remittances sent by family abroad because their gender expression does not match their gender marker and their identity is questioned by authorities (Human Rights Watch, 2022).

The relationship between mental health and economic insecurity is complex. Extant research indicates that overall health is influenced by socioeconomic status (SES; McGarrity, 2014; Muscatell et al., 2020). Individuals experiencing poverty have higher rates of psychiatric disorders such as depression (World Health Organization, 2007) and schizophrenia (Holzer et al., 1986). However, literature comments on a cyclical relationship, where mental health concerns arise from experiences related to poverty and mental health concerns lead to or worsen situations of economic insecurity (Mills, 2015). These findings remain consistent in low- and middle-income countries, where poverty has a deleterious effect on mental health (Tampubolon & Hanandita, 2014).

The prevalence of poverty within the LGBTI+ community remains a pressing concern and a contributor to experiences of psychological distress. Various factors, including intersectional marginalized identities, childhood experiences, familial and employment bias, educational disparities, and structural oppression, contribute to economic insecurity. Further research is needed to understand the associations among marginalization stress, economic insecurity, and mental health within the LGBTI+ population in low- to middle-income countries. Within the present study, experiences of financial stress will be included to address this gap.

Housing Instability

The LGBTI+ population disproportionately experiences housing instability, discrimination in housing, and homelessness. Among LGBTI+ youth and young adults, family rejection plays a significant role in housing instability (DeChants et al., 2022). Cusack et al. (2022) revealed that LGBTI+ individuals are more likely to have encountered periods of homelessness and housing challenges due to violence inflicted by family and friends throughout their lives. Moreover, LGBTI+ individuals are less likely to own homes, more likely to be renters, and more frequently face housing unaffordability (Romero et al., 2020). Wilson et al. (2020a) found that sexual minority adults had a lifetime

homelessness rate of 17%, more than double that of the general population. Beltran et al. (2019) highlighted that individuals who face intersecting forms of discrimination, such as anti-trans and racial discrimination, are at a higher risk of experiencing housing instability. During the COVID-19 pandemic, the LGBTI+ population, particularly trans and gender nonconforming individuals, faced even higher rates of housing instability (Felt et al., 2023).

The LGBTI+ population has also been subjected to documented housing discrimination. For instance, housing providers are less responsive to rental inquiries from same-sex couples (Friedman et al., 2013), LGBTI+ elders face higher rates of rejection or discriminatory pricing at assisted living centers (Equal Rights Center, 2014), and mortgage lenders are less likely to approve same-sex couples or may impose higher interest rates and fees (Sun & Gao, 2019). These trends of housing instability and discrimination are not limited to specific regions, as global studies have confirmed their existence (Abbate et al., 2022; Yılmaz & Göçmen, 2016), with detrimental impacts on health outcomes (Baxter et al., 2019; Reid et al., 2008).

There is extensive literature demonstrating how housing instability has negative implications for an individual's overall health and well-being. Among LGBTI+ youth, those who reported experiencing housing instability also reported higher rates of depression and poorer self-rated health (LoSchiavo et al., 2020). In fact, any type of housing disadvantage, including inadequate living conditions, prior evictions, and housing instability, has been shown to lead to disparate levels of mental health concerns (Singh et al., 2019). The documented instances of housing instability, discrimination, and their damaging impact on the well-being of the LGBTI+ population demonstrate the pressing need for inclusive housing policies and practices to ensure equitable access to safe and affordable housing for all individuals, irrespective of their sexual orientation or gender identity. The present study will include

housing instability during a critical time period, the COVID-19 pandemic, and its impact on mental health.

Marginalized Racial or Ethnic Identity

Extensive evidence exists regarding the disparities in mental and physical health outcomes experienced by marginalized populations, including racial and ethnic minorities (O'Brien et al., 2020; James et al., 2017; Lopez et al., 2021). However, there has been limited examination of variations within the LGBTI+ population among individuals who are both LGBTI+ and who identify with a marginalized racial or ethnic identity (Black, Indigenous, people of color; BIPOC). Furthermore, there is a scarcity of studies with sufficiently large samples of LGBTI+ BIPOC participants to thoroughly explore the unique challenges faced by this subgroup. For example, in a study conducted by Boehmer (2002), out of 3,777 articles dedicated to public health that addressed LGBTI+ issues, a striking 85% failed to provide information on the racial or ethnic backgrounds of the participants.

The current body of theory and research surrounding LGBTI+ BIPOC individuals suggests that they encounter distinct stressors due to their dual marginalized identities, which often involves experiencing multiple forms of microaggressions simultaneously (Cyrus, 2017; Bowleg et al., 2003). Instances of exclusion from LGBTI+ community events and spaces have been reported among BIPOC individuals (Le et al., 2022). Ward (2005) highlighted that even racially diverse LGBTI+ organizations may be perceived as predominantly serving the White LGBTI+ population in the eyes of local LGBTI+ BIPOC individuals. Research has also highlighted the prevalence of racism in dating and intimate relationships, particularly among gay and bisexual men. For example, Phua and Kaufmann (2003) found that race was more likely to be mentioned in Internet ads for men who have sex with men (MSM) compared to heterosexual ads. Additionally, beliefs regarding racial/ethnic differences in sexual

behavior can lead to the rejection and sexual objectification of LGBTI+ BIPOC individuals by other members of the LGBTI+ community (Wilson et al., 2009).

Studies exploring the intersection of race and ethnicity among LGBTI+ populations are overwhelmingly conducted in countries with predominately White European populations. There is a significant gap in the literature exploring this intersection within countries with predominantly non-White populations. It is important for literature to move beyond exploring only race and ethnicity dynamics within predominantly European White populations and to consider the existing racial and ethnic diversities and colorism[4] hierarchies within all countries. The present study will seek to address this gap by exploring the experiences of LGBTQ+ Indigenous and Afro-descendent individuals in El Salvador.

In El Salvador there are three main indigenous groups: the Nahuat-Pipil[5], the Lenca, and the Kakawira[6] (Minority Rights Group, 2017). Official numbers estimate the indigenous population to make up about 17% of the Salvadoran population, however actual numbers are argued to be much higher (Minority Rights Group, 2017). El Salvador, like most countries in the Americas, has a long history of persecution of indigenous peoples resulting in a significantly smaller population and stigma related to indigenous identity (Minority Rights Group, 2017). El Salvador also has lesser-known ethnic groups that have arrived in the country via migration and enslavement. Palestinians have a significant presence in El Salvador, in addition to other Arab groups, and there are groups of Asian immigrants, European immigrants, and individuals of Jewish ancestry who have arrived throughout the 18th and 19th century (Alpert, n.a.; Fallas, 2023; Gómez, 2017). Additionally, there are many Salvadorans with African

[4] Colorism refers to privilege held by lighter-skinned people over darker-skinned people. It is a phenomenon that exists globally and is often left out of conversations of racism, however it is particularly important to note when discussing predominantly non-White nations (Hunter, 2007).

[5] Spellings vary for this group and also include “Pipil,” “Nahua pipil,” and “Nahuapipil” (Hernández Moncada, 2016).

[6] Also sometimes referred to as “Cacoapera” (Hernández Moncada, 2016).

ancestry as a result of the forced movement of enslaved peoples from Africa to the Americas (Cruz, 2023). Afro-Salvadorans in El Salvador and abroad have recently begun reclaiming their African ancestry after a century of rhetoric rooted in racism that claimed there are "no Black Salvadorans" (Cruz, 2023). As is the reality around the globe, El Salvador struggles with racism and colorism embedded in the culture, language, and norms (Tojeira, 2023). The intersection of racism and anti-LGBTI+ stigma is a lived reality for many Salvadorans and an experience that warrants further investigation into its impacts on psychological well-being (Luna, 2022).

Variability Between Cisgender and Transgender Experiences

As within any group, there is variability within the LGBTI+ population. Individuals who identify as gender minorities (e.g., transgender, nonbinary, genderqueer, agender; TGNC) may face unique or compounded disadvantages compared to cisgender sexual minorities (CSM; Williams et al., 2018). Understanding this disadvantage first requires consideration of the complexities that TGNC individuals may encounter when navigating sexual identities. For instance, individuals who identify outside of the gender binary (e.g., gender nonconforming or nonbinary) may find the available options for sexual identity labels inadequate for self-identification, as many are rooted in gender binary norms (e.g., the term lesbian refers to a woman interested in other women; Galupo et al., 2016). Moreover, the historical separation between TGNC and CSM and the rejection faced by TGNC individuals from both the LGBTI+ community exemplify additional unique challenges experienced by gender minorities (Weiss, 2008).

Traditional approaches to studying marginalization stress typically involve comparing the experiences of the minority group (e.g., sexual minorities) with those of the majority group (e.g., heterosexuals; Schwartz & Meyer, 2010). However, previous studies conducted within the LGBTI+ population have shown that transgender individuals, compared to sexual minority cisgender individuals,

are more likely to face discrimination and exhibit depressive symptoms (Su et al., 2016). For example, Williams et al. (2020) found that TGNC individuals, compared to CSM, were at a higher risk for mental health concerns due to a higher rate of exposure to marginalization stress. Furthermore, in a study examining rates of sexual violence across different populations, TGNC students overwhelmingly reported higher rates compared to their cisgender heterosexual and CSM peers (Martin-Storey et al., 2018). And finally, according to a study conducted on well-being during the COVID-19 pandemic, sexual and gender minority individuals reported worsening of physical and mental health, financial stability, ability to meet basic needs, and experiences of connectedness compared to CSM individuals and cisgender heterosexual people (Nowaskie & Roesler, 2022). The existing research indicates that individuals who identify as TGNC may experience distinct challenges and disadvantages compared to CSM. Further understanding of the variability within LGBTI+ populations is needed to continue nuancing our understanding of marginalization stress.

Psychosocial Resources

Research indicates that psychosocial resources may act as buffers against the negative effects of marginalization stress (Meyer, 2015). Psychosocial resources are also referred to as protective factors and include coping skills and resilience. They are often categorized as individual resilience and community resilience (Meyer, 2015). Individual resilience includes concepts such as personal mastery and positive LGBTI+ identity, which reflect self-esteem and coping skills (Marshall et al., 2022; Rostosky et al., 2018). Community resilience reflects experiences of belonging and acceptance and include social connectedness from family, peers, and identity-related sources (Gonzalez et al., 2021; Meyer, 2015; Sidiropoulou et al., 2019). Positive LGBTI+ identity, self-esteem, and social connectedness from friends and family have been identified as the most influential psychosocial resources for this population (Hall, 2018; Scandurra et al., 2017). It is crucial to consider that exposure

to stress and available coping resources are determined by the environmental context of the individual, including the systems of oppression and privilege within which an individual operates (Meyer, 2003).

Social Connectedness

Social connectedness has been identified as a significant psychosocial resource for the mental health and well-being of LGBTI+ populations (Lozano-Verduzco et al., 2023; Puckett et al., 2019; Snapp et al., 2015; Tabaac et al., 2015). Social connectedness can come from various groups in an individuals' environment such as family, friends, and LGBTI+ community organizations. Research has shown that familial rejection and lack of identity support are common in the LGBTI+ population (Rosario & Schrimshaw, 2013) and are associated with negative mental health outcomes (Puckett et al., 2015b), suicidality (Klein & Golub, 2016), homelessness (Rhoades et al., 2018), and higher rates of substance use (Ryan et al., 2009). In contrast, family support is one of the strongest types of social connectedness for this population, with studies finding that family support predicts young adult adjustment (Snapp et al., 2015) and protects from internalized stigma (Feinstein et al., 2014). For example, a study by Watson et al. (2017) found that for transgender youth with eating disorders, family support was the strongest protective factor.

Research suggests that social connectedness from friends or peers is also a crucial protective factor for the LGBTI+ population, especially for those who experience family rejection (Parra et al., 2018). Friend support and connectedness has been associated with increased health and well-being, fewer depressive symptoms, lower levels of loneliness, and a decreased risk of suicide (Dowers et al., 2020; McLaren, 2016; Ribeiro-Gonçalves et al., 2019; Tebbe & Moradi, 2016). Greater connectedness to the LGBTI+ community has been linked to lower levels of internalized stigma and a better ability to navigate marginalization stressors (Puckett et al., 2015a; Frost & Meyer, 2009). However, while LGBTI+ community connectedness may act as a buffer against general psychological distress, it may

not consistently protect against suicidality (Carter et al., 2019; Plöderl et al., 2014). Additionally, Rogers et al. (2021) suggest that high levels of connectedness to the LGBTI+ community may be associated with higher levels of marginalization stress due to LGBTI+ individuals seeking community support during times of need. Therefore, while connectedness to the LGBTI+ community may serve as a protective factor against some forms of marginalization stress, its relationship to overall psychological distress is complex and requires further study.

Despite the positive effects of social connectedness on the mental health of LGBTI+ individuals, many experience lower levels of social connectedness compared to their cisgender heterosexual counterparts (Bécares & Kneale, 2022). This is likely due to various factors, such as social stigma, discrimination, and lack of understanding from friends and family members (Goldfried & Goldfried, 2001). Additionally, different forms of social connectedness may not be equally helpful or accessible for all LGBTI+ individuals, as factors such as race, gender, and socioeconomic status can impact the availability and effectiveness of different types of support (Hatzenbuehler et al., 2014). Therefore, it is crucial to identify the specific types of connectedness that are beneficial for different groups within the LGBTI+ community and address the barriers that prevent access to connectedness for some individuals.

Social connectedness is a particularly salient psychosocial resource for Latine[7] populations and familismo[8] and social connections have been identified as culturally significant buffers against negative health outcomes for Latine populations (Barbieri et al., 2023; Pascoe & Richman, 2009). Many studies

[7] The term *Latine* is used as a gender inclusive alternative to Latina/o/x. The "e" creates a term that is pronounceable in Spanish, unlike "Latinx." Moreover, using "e" for gendered terms in Spanish is equivalent to using "they" as a singular pronoun in English and is increasingly used among LGBTI+ populations in Latin American countries. Throughout this text I strive to use specific language when referring to groups of people because too often the language used does not reflect the heterogeneity of the population being referred to. To this end, "Latine" will be used when referring to groups of Latin Americans and Spanish-speakers when multiple nationalities are represented and whenever possible, I will use more specific terms such as "Salvadoran."

[8] Spanish terms will appear throughout this text without italicization. Italicizing non-English words in an English text can inadvertently create a sense of otherness, implying that these words are somehow separate or less integral to the language. Instead, by incorporating non-English words seamlessly without italics, I acknowledge the richness of linguistic diversity.

examining this relationship will focus on familismo, defined as the importance and interdependence of relationships with family members through perceived support and connectedness, loyalty, and obligation (Bostean & Gillespie, 2018; Guzzardo et al., 2017). While positive familial support has been identified as a strong predictor of well-being among diverse Latine samples (Falcón et al., 2009), support and connectedness with individuals outside of the family also positively influence the Latine population's overall well-being (Chang et al., 2014; Guzzardo et al., 2017). The LGBTI+ Latine populations in the United States encounter barriers to building social connectedness, as they may not experience family or neighborhood support due to their LGBTI+ identity and may not experience a sense of belonging in predominantly white LGBTI+ spaces due to their Latine identity (Kim & Fredriksen-Goldsen, 2016). For LGBTI+ Latines, the cultural significance of social connectedness and simultaneous marginalization from spaces that inspire social connectedness is an intersection that requires further research and exploration into its impact.

Personal Mastery

Internal resources play an important role in coping. Personal mastery refers to an individual's sense of control or agency over one's own life, including the ability to adapt to change and cope with stress (Pearlin & Schooler, 1978). Personal mastery has been associated with lower levels of psychological distress (Muruthi et al., 2022) and better physical health outcomes (Lachman & Weaver, 1998). Personal mastery also protects against the negative effects of marginalization stress for LGBTI+ populations (Marshall et al., 2022; Mereish et al., 2022).

Personal mastery has been found to be associated with lower risk of cardiovascular disease among sexual minorities (Mereish & Goldstein, 2020) and positive mental health outcomes among transgender youth (Grossman et al., 2011). Additionally, personal mastery was found to partially mediate the associations between marginalization stress and mental health for midlife and older gay-

identified men (Wight et al., 2012) and fully mediate the relationship between HIV-related stressors and depressive symptoms for HIV-positive immigrants (Noh et al., 2012). Among lesbian and gay young adults, variations in depressive symptoms and low self-esteem were best explained by personal mastery and social connectedness (Spencer & Patrick, 2009). Mereish et al. (2022) found that subtle intersectional marginalization stressors (i.e., microaggressions) had indirect effects on depressive symptoms through lower self-esteem and personal mastery for individuals with multiple marginalized identities.

Extant literature demonstrates that personal mastery can moderate and mediate the relationship between marginalization stress and psychological distress. For example, Rueda et al. (2012) found that personal mastery moderated the relationship between marginalization stress and depressive symptoms for individuals living with HIV. Meanwhile, Marshall et al. (2022) demonstrated mediation, showing that increased marginalization stressors were significantly associated with decreased psychological health through a decline in mastery. Buttram et al. (2014) described the role of other protective factors as aiding in the development of personal mastery. They demonstrated that protective factors such as access to transportation and social connectedness were related to higher levels of personal mastery and therefore lower levels of psychological distress.

Internal coping resources, such as personal mastery, have not been a robust area of study within Latine heath disparity and resiliency research. Emphasis has primarily focused on social and community resiliency areas, which are more directly aligned with common Latine values, such as familismo. However, literature is beginning to emerge exploring this relationship. In a study on individual coping resources among Latine older adults, personal mastery was among those found to be correlated with lower depressive symptoms. In fact, in this study personal mastery stood out as a significant protector against depressive symptoms, even in the absence of other coping resources (Gutiérrez & Thomas

Tobin, 2023). Continued investigation into the role of personal mastery among Latine populations is needed to better understand the role of mastery as an internal resource with this population.

Impact of the COVID-19 Pandemic on the LGBTI+ Population

The COVID-19 pandemic resulted in extensive socio-psychological, health, and economic hardships, in addition to countless fatalities. However, it has affected marginalized populations to a greater extent and the LGBTI+ population was not an exception to this (Tai et al., 2021; van Dorn et al., 2020; Clark et al., 2020). Moore et al. (2021) found that compared to cisgender heterosexual people, the LGBTI+ population reported more physical symptoms, depression, and anxiety during the beginning of the COVID-19 pandemic. Consequences of the COVID-19 pandemic containment measures (i.e., stay-at-home orders) for the LGBTI+ population included a decrease in mental health (Linnemayr et al., 2020), difficulties accessing gender affirming care (Jarrett et al., 2021), increased time spent in non-affirming family environments (Gattamorta et al., 2022; Gonzales et al., 2020), and a decline in overall well-being (Fish et al., 2021).

Context of COVID-19 and the LGBTI+ Population in El Salvador

Similar to the rest of the globe, El Salvador began experiencing the effects of the COVID-19 pandemic around March 2020 and governmental prevention actions soon followed. A militarized lockdown via executive order was applied in El Salvador for approximately three months, between March and July 2020 (Lagarde et al., 2020). Schools transitioned to remote instruction and only essential workers were allowed to present to work in-person. Additionally, restrictions on freedom of movement were applied to the general population. Individuals who ventured out of their houses were regularly stopped by police during this time to verify their identification documents and confirm they were authorized to be outside of their home and within the acceptable radius of their reported residence (Kahn, 2020).

In El Salvador, roughly 31% of the LGBTI+ population works in the informal sector (Zapata Ventura, 2019), which suffered greatly under the lockdown orders. Comcavis Trans, a Salvadoran LGBTI+ rights organization, reported that 48% of the LGBTI+ population in El Salvador was unemployed between 2020 and 2021, which is six times more than the country's unemployment rate (Martínez, 2022). Many Salvadorans were said to have returned to live with family as a result of the loss of income (Valencia & Salmón, 2020). However, violence and prejudice in the home is a common experience of the LGBTI+ population. In 2021, a shelter for LGBTI+ Salvadoran youth was opened, the first of its kind, to provide refuge for this population (Valle, 2021). Using data acquired from local Salvador LGBTI+ groups, Valencia and Salomón (2020) reported an increase in informal allegations of gender- and sexuality-based familial violence, extortion, evictions, homicide attempts, and suicide attempts during the lockdown period. The lockdown also restricted Salvadorans' access to social connectedness networks outside the home, potentially limiting access to safe and accepting places for LGBTI+ individuals (Valencia and Salomón, 2020). The present study asks about participants' experiences during the three-month lockdown period in which they were primarily confined to their homes.

Psychosocial Resources in the Context of COVID-19

Social connectedness is a prominent psychosocial resource for the LGBTI+ population (Lozano-Verduzco et al., 2023). During the COVID-19 pandemic, social distancing, self-isolation, and stay-at-home orders limited access to previously available forms of social connectedness, potentially producing negative psychological consequences. Szkody et al. (2021) described a complex relationship among perceived social connectedness, worry about COVID-19, and psychological health. Namely, they highlight that the group most at risk for poor psychological health were those who experienced lower social connectedness, higher levels of COVID-19-related worry, and spent less days in social isolation.

Moreover, for those with high levels of social connectedness, psychological health was negatively impacted by more days in social isolation. In another study, social connectedness was shown to be a significant protective factor for the LGBTI+ population, but not always for cisgender heterosexual populations (Jacmin-Park et al., 2022).

There is a dearth of literature exploring the role of personal mastery among LGBTI+ populations, however emerging evidence indicates that it is an important factor of individual resilience (Greene & Britton, 2015; Marshall et al., 2021; Weinberg et al., 2023). Research also indicates that personal mastery was negatively correlated, and may have buffer against, negative mental health outcomes during the COVID-19 pandemic (Fitzpatrick et al., 2020; Refaeli & Achdut, 2021). There are currently no studies of which I am aware that interrogate the role of personal mastery among LGBTI+ populations during the COVID-19 pandemic. This is a worthwhile interaction to explore because it is possible that individual types of resilience became more important during the COVID-19 pandemic due to limited access to previously accessible community types of resilience, particularly for LGBTI+ individuals who experience lower social connectedness and family support overall (Bécares & Kneale, 2022).

Present Study

Study Relevance and Literature Gaps

This is the first study, of which I am aware, that seeks to understand how marginalization stress operates within the LGBTI+ population in El Salvador. Several gaps in the literature will be addressed in the present study. First, despite several decades of literature exploring marginalization stress processes, few studies have been conducted outside of Western, middle to high income countries. If arguments are to be made for the universality of the marginalization stress theory, it must be tested among a variety of populations, including those in lower income countries. It is important to understand

how marginalization stress may differ within low-income countries to inform future public policy and research. Second, there is a need for research addressing intersecting marginalized experiences and identities. Recent research has begun to nuance our understanding of marginalization stress and other intersecting experiences, but there is much left to learn. For example, few studies address housing instability and marginalized racial/ethnic identities (outside of predominately White and Western countries) as intersecting marginalized experiences that may interact with the marginalization stress process. Third, there is a need in extant literature to further understand the diverse experiences of the identities included within the LGBTI+ umbrella. This study will address this by exploring the differences between CSM and TGNC minorities within a non-Western context. Fourth, it is imperative that psychosocial resources continue to be explored, as this is one path to improving health outcomes for the LGBTI+ population. Literature is needed on the effectiveness of different psychosocial resources within low-income countries. In summary, the present study will further nuance our understanding of marginalization stress processes, intersecting experiences within marginalization stress, and the efficacy of psychosocial resources within low-income countries.

Research Questions

Aim 1: How do demographic characteristics (i.e., educational attainment, financial stress, housing stability, and racial/ethnic identity) and marginalization stress experiences influence psychological distress for TGNC individuals and, separately, CSM individuals?

> Hypothesis R1: Demographic characteristics that align with increased marginalization (e.g., lower educational attainment, higher financial stress, more housing instability, and belonging to a marginalized racial/ethnic identity) and higher reported experiences of marginalization stress will increase reported psychological distress for both TGNC and CSM individuals.

Aim 2: Are there group differences between TGNC and CSM groups regarding how psychosocial resources (i.e., social connectedness and personal mastery) impact the effect of marginalization stress on psychological distress?

Hypothesis R2: Social connectedness will be significantly associated with marginalization stress and psychological distress and is expected to moderate the relationship between marginalization stress and psychological distress for both groups. Personal mastery will also be significantly associated with marginalization stress and psychological distress and will moderate the relationship for the CSM group and not the TGNC group.

CHAPTER III

METHODS

Procedures

The proposed study utilized data that I collected in 2021 from a larger study exploring the experiences of El Salvador's LGBTI+ population during the COVID-19 pandemic lockdown. This study involved a one-time, self-administered, online Qualtrics survey and recruitment was approached through convenience sampling. Prior to data collection, the study was reviewed and approved by the University of Oregon Institutional Review Board and Research Compliance Service (Study ID: STUDY00000006). Participants were recruited through emails sent to human rights and LGBTI+ organizations throughout El Salvador. They shared the attached informational poster and embedded survey link with the communities and individuals with whom they worked and on their social media platforms (Appendix A). The poster and embedded survey link were also shared on social media platforms including Instagram and Facebook. The survey link brought participants to the Qualtrics survey platform through the University of Oregon and created unidentifiable identification numbers associated with survey engagement. The survey was open for data collection between May and June 2021. Individuals were incentivized to participate in the study. Upon completion of the survey, participants were presented with the option of entering their name and contact information. Identifiable information was not linked with survey data and was deleted once it was no longer needed. Five names were chosen at random, and each individual participant was sent $20 as a money transfer via Western Union.

Participants

A total of 301 adults participated in the study. All participants were of Salvadoran descent, living in El Salvador during the COVID-19 government ordered lockdown (between March and June 2020), and identified within the spectrum of LGBTI+ identities. Participants had the option to select multiple

LGBTI+ identities to best reflect the words they use to identify themselves. For sexual identities, participants indicated identifying as lesbian (18.6%), gay (34.6%), bisexual (31.2%), pansexual (5.3%), queer (7.3%), asexual (2.3%), heterosexual (2%), and other (8.3%). For gender identities, participants indicated cisgender woman (38.2%), cisgender man (30%), trans woman (12.6%), trans man (3.3%), transvestí[9] (2%), nonbinary (14%), other (39.9%). The written entries in the 'other' options for both sexual identities and gender identities indicated several possibilities. First, that participants were not practiced in separating their gender and sexual identities (e.g., "mujer (woman) trans heterosexual" and "trans" in responses for sexual identities), second, that participants used specific terms and preferred to highlight these in addition to selecting the similar provided terminology (e.g., gender identity selection of trans woman and 'other' entry of "chica trans" (trans girl), and third, that participants had other terms of preference to describe their gender or sexual identities (e.g., "marica,"[10] "panromantica,"[11] "omnisexual," "transexual sin expresión de género"[12]).

Participants ranged in age from 18 to 56 years old (Mean = 25.3; SD = 6.1). Reported monthly income demonstrated that about 54% of the participants earned less than minimum wage ($299 per month or less), 36% earned between minimum wage ($300 per month) to $1,000 per month, and about 10% earned more than $1,000 per month. Participants represented all 14 providences in the country and 76% reported living in urban areas. About half of the participants were current students. Approximately 12.6% reported current or past engagement in sex work and 8% reported testing positive for HIV. Approximately 30% of participants identified as belonging to marginalized ethnic groups in El Salvador, including indigenous (13%), Afro-descendent (5%), and other ethnic identities (10%) that participants

[9] Translated to "transvestite," a term that is commonly used among transgender populations in El Salvador.
[10] Translated to "fag," a term that is historically a derogatory term and is being reclaimed by the LGBTI+ population in El Salvador.
[11] Translated to "panromantic."
[12] Translated to "transexual without gender expression."

wrote in, such as mestizo, Palestinian, Spanish, and Arab. The survey was administered about one year after the COVID-19 lockdown order in El Salvador. Approximately 88% of participants knew someone who had tested positive for the COVID-19 virus and about 72% knew someone who had died from the COVID-19 virus. Additional demographic characteristics can be found in Table 1.

Table 1

Demographic Characteristics

Variable Name	N	%	Mean (SD)
Age	301	-	25.3(6.1)
Sexual minority			
Lesbian	56	18.6%	
Gay	104	34.6%	
Bisexual	94	31.2%	
Pansexual	16	5.3%	
Queer	22	7.3%	
Asexual	7	2.3%	
Heterosexual	6	2%	
Other	25	8.3%	
Gender minority			
Cisgender woman	115	38.2%	
Cisgender man	90	30%	
Trans woman	38	12.6%	
Trans man	10	3.3%	
Transvestí	6	2%	
Demographic Characteristics			
Nonbinary	42	14%	
Other	12	39.9%	
Racial and ethnic identities			
Indigenous	39	13%	
Afro-descendent	15	5%	
Other	31	10.3%	
None	211	70.1%	
Educational attainment			
6th grade or less	2	0.7%	
Between 7th-9th grade	14	4.7%	
Some high school, no degree	14	4.7%	
General high school diploma	49	16.6%	

Table 1 Continued

Technical high school diploma	23	7.8%
Some college, no degree	112	38%
College degree	63	21.4%
Some graduate school, no degree	7	2.4%
Master's degree	8	2.7%
Medical degree	3	1%
Doctoral degree	0	0%
Student status		
Full-time	112	37.5%
Part-time	50	16.7%
Not currently a student	137	45.8%
HIV status		
Positive	24	8%
Negative	275	92%
Religious or spiritual practice		
None	85	28.2%
Spiritual, not religious	35	11.6%
Christian (not Catholic)	78	25.9%
Catholic	3	1%
Jewish	0	0%
Islamic	97	32.2%
Other	18	6%
Relationship status		
Single	206	69.1%
Married	3	1%
In a relationship	89	29.9%
Geographic area		
Rural	26	8.7%
Town	18	6%
Semi-urban/semi-rural	28	9.4%
Urban	226	75.8%
Sex work		
No	256	87.4%
Yes, currently	10	3.4%
Yes, not currently	27	9.2%
Monthly income		
Below $299	108	53.7%
$300-$500	40	20%
$501-$1000	32	15.9%
$1001-$3000	20	10%
Above $3000	1	0.05%

Measures

The survey was administered in Spanish at a 6th grade reading level. All items were translated from English to Spanish by a native Spanish-speaker from El Salvador, then reviewed by a Salvadoran psychologist to increase language accuracy, and finally the survey was reverse translated into English to further ensure accuracy in translation.

Demographic Questionnaire. Participants first completed a demographic questionnaire that assessed age, ethnicity, education, employment, income, health insurance status, housing stability, engagement in sex work, type of neighborhood (i.e., rural, urban), relationship status, HIV status, religious affiliation, and gender and sexual identities. To best capture participants' gender and sexual identities, multiple options were provided, and participants were able to choose more than one response. The survey also asked about changes they experienced due to the COVID-19 pandemic, such as changes in income and housing before, during, or after the COVID-19 lockdown period in El Salvador.

Demographic information utilized in the present analysis included education, housing stability, financial stress, and belonging to a marginalized racial or ethnic group (e.g., afro-descendent, indigenous, etc.). Each variable was dichotomized for the purposes of analysis. For educational attainment, '0' denoted an educational level below a high school diploma and '1' denoted having earned a high school diploma or above. For housing stability, '0' denoted housing instability during the COVID-19 lockdown measures and '1' denoted housing stability during this period. Finally, for marginalized ethnic identity, '0' denoted identification with a marginalized ethnic identity and '1' denoted no identification with a marginalized ethnic identity.

Marginalization Stress. Marginalization stress was measured using the Gender Identity Stigma scale (GIS; Gender Identity Stigma, 2002). Marginalization stress experiences of gender minority participants were measured separately from those of CSM participants and modifications were made to

the scales to assess sexual minority experiences (e.g., “I feel ashamed because of my gender identity or expression” versus “I feel ashamed because of my sexual orientation, identity, or expression”). Those who indicated “yes” to both gender and sexual minority identities, completed both scales. A composite variable was created by averaging scale items for the purpose of the current study and the scores were mean centered. An average score was used instead of a sum score to be able to compare between two differently sized groups and avoid possible skewing of the data with outliers (McNeish & Gordon Wolf, 2020). The marginalization stress scales were found to be highly reliable (16 items in each identity category; Gender minority: $\alpha = 0.93$; Sexual minority: $\alpha = 0.94$).

The GIS scale is an *ad hoc* designed scale that combined items from the People Living with HIV Stigma (PLHIV) Index (International Planned Parenthood Federation (IPPF), 2008) and the Everyday Discrimination Scale (Williams et al., 1997). While no validation studies using the GIS scale were able to be identified, the PLHIV and Everyday Discrimination Scale have been validated with clinical and non-clinical populations (Gottert et al., 2019; Kim et al., 2014). The PLHIV demonstrated good psychometric properties, however caution is encouraged when using the Everyday Discrimination Scale to draw conclusions across different social groups (Harnois et al., 2019; Kim et al., 2014).

For the creation of the GIS, item wording was modified to replace “HIV status” with “gender identity” and for the purposes of this study, it this wording was modified further to include “gender identity/sexual orientation.” It was also modified to be in the first person (e.g., “I felt” instead of “you felt”) to match wording in the rest of the survey. Participants were asked to share about their experiences of distal and proximal stressors during the COVID-19 lockdown measures in El Salvador and the following wording was added to each item: “During the COVID-19 stay-at-home orders…” Two items were added to measure enacted violence from non-family members (e.g., “…there were people who physically assaulted me because of my [gender identity/sexual orientation]) and fear of sexual assault

(e.g., "…I was afraid of being sexually assaulted because of my [gender identity/sexual orientation]"). Three items measured experiences of shame (e.g., "…I felt ashamed because of my [gender identity/sexual orientation]"), seven items measured perceived stigma (e.g., "…people acted as if they were better than me because of my [gender identity/sexual orientation]"), and seven items measured enacted stigma (e.g., "…there were people who verbally insulted, threatened, and harassed me because of my [gender identity/sexual orientation]"). A 5-point Likert scale was used (1=*Never* to 5=*Always*) and a higher score indicated higher reported marginalization stress.

Financial Stress. Financial stress was measured using the Family Economic Strain Scale (Hilton & Devall, 1997). Previous studies with Latin American populations and LGBTI+ populations have demonstrated that the scale has good internal consistency (Priyadarshini & Swain, 2021; Shobe et al., 2009). Three items were removed from the 12-item scale due to references to children, leaving a 9-item scale that utilized a Likert scale (1=*never* to 5=*almost always*). Items were modified to ask participants about financial insecurity specifically during the COVID-19 lockdown measures in El Salvador (e.g., "During the COVID-19 stay-at-home orders…"). Sample items included, "…financial problems interfere with my relationships with other people" and "…I worried about financial matters." Higher scores indicated higher reported financial stress. A composite variable was created by averaging scale items and the scale was found to be highly reliable for this population ($\alpha = 0.909$).

Social connectedness. Social connectedness was measured using an unnamed scale developed for a thesis and validated for transgender populations within the context of the thesis (McNeeley, 2009). This scale has not been cited or validated in subsequent studies. For this study, some items were removed or adapted to address both gender and sexual minorities (e.g., "…I received support from others who shared my [sexual/gender] identity"). All items were modified to ask participants about social connectedness during the COVID-19 stay-at-home orders. A total of 16 items were included and a

5-point Likert scale was used (1=*strongly disagree* to 5=*strongly agree*) with higher scores indicating higher reported social connectedness. A composite variable was created by averaging scale items and the scale was found to be strongly reliable for this population ($\alpha = 0.915$).

Personal Mastery. The Pearlin Mastery Scale (Pearlin & Schooler, 1978) was utilized to measure personal mastery, or the extent to which an individual believes they have control over their life versus their life being fatalistically ruled (e.g., "What happens to me in the future mostly depends on me"). This is a 7-item measure that utilized a 5-point Likert scale (1=*strongly disagree* to 5=*strongly agree*) with higher scores indicating higher reported personal mastery. A composite variable was created by averaging scale items and the scale was found to be reliable for this population ($\alpha = 0.725$). The Pearlin Mastery Scale has demonstrated strong psychometric properties with non-English speaking populations when transitional and cultural considerations were considered (Barbosa, et al., 2024). On the other hand, when the standardized Spanish version of the Pearlin Mastery Scale is used with Spanish-speaking populations results suggest that mastery may not be measured consistently across all groups (Gordon et al., 2018). For the purpose of this study, the Pearlin Mastery Scale was translated similarly to all other items, meaning that they were translated into Spanish by a native Spanish-speaker from El Salvador and reviewed by a Salvadoran psychologist to increase language accuracy.

Psychological Distress. Psychological distress was measured using the Patient Health Questionnaire-9 (PHQ-9) and the Generalized Anxiety Disorder-2 (GAD-2). The PHQ-9 is a valid and reliable self-administered measure used widely by physicians and mental health providers in the United States (Kroenke et al., 2001). Additionally, the GAD-2 has demonstrated validity within Spanish-speaking populations (García-Campayo et al., 2012). Both measures use a 4-point Likert scale (1=*not at all* to 4=*nearly every day*) and for both, higher scores indicated higher psychological distress. The PHQ-9 and GAD-2 were combined to measure psychological distress and at the beginning of the section,

participants were asked to specify their experiences of psychological distress during the COVID-19 lockdown orders (e.g., “During the COVID-19 stay-at-home orders, how often were you bothered by any of the following?”). The PHQ-9 and GAD-2 were found to be significantly positively correlated (r = 0.82; $p < 0.05$). When measured separately, both the PHQ-9 and the GAD-2 were found to be highly reliable ($\alpha = 0.909$; $\alpha = 0.937$, respectively). The combined scale was also found to be reliable for this population ($\alpha = 0.937$).

Analysis Plan

The primary analyses investigated (1) the impact of demographic characteristics and marginalization stress on psychological distress among TGNC individuals and CSM individuals, and (2) the impact of psychosocial resources (i.e., social connectedness and personal mastery) on the association between marginalization stress and psychological distress and how the two groups (TGNC and CSM individuals) compare. Alphas were set to $p = 0.05$ and missing data was handled through Full Information Maximum Likelihood (FIML) and Multiple Imputation (MI). Analyses were conducted in RStudio (RStudio Team, 2020).

Aim 1

The first aim was to explore whether reported demographic characteristics and marginalization stress impacted psychological distress for TGNC individuals and CSM individuals. The data was first split into two groups based on how participants identified their gender (survey item D2). Those who selected “cisgender male” or “cisgender female” and no other gender identities, were categorized as CSM, denoted as “1”. Those who selected any other option or any combination of options for gender identity were categorized as TGNC, denoted as “0”. For the analysis with the TGNC group, only the gender marginalization stress scale (Gender Identity Stigma scale) was used and similarly for the CSM

group, only the sexual marginalization stress scale was used. See Appendix B for exact wording of the items and the gender and sexual marginalization stress scales.

Before running the regression, assumptions were tested. Assumptions of multivariate normality were assessed with the Henze-Zirkler test, which is argued to be the most appropriate method of testing normality of data in small to moderate sample sizes (Zhou & Shao, 2014). The result of the Henze-Zirkler test for the TGNC group (n = 103) indicated a test statistic of 2.18 and a p-value of 0. Based on these results, the null hypothesis of multivariate normality is rejected. The Henze-Zirkler test was run again with only the continuous variables and the null hypothesis of multivariate normality was accepted and normality was indicated (hz = 0.93; $p < 0.06$). For the CSM group (n = 193), the result of the Henze-Zirkler test with all variables indicated a rejection of the null hypothesis of multivariate normality (hz = 5.71; $p < 0.05$) and with only continuous variables the null hypothesis was also rejected (hz = 2.06; $p < 0.05$). In response to the majority non-normality results, robust regression was used for this analysis. Robust regression provides a more reliable and robust estimate of the regression parameters, which leads to more accurate and trustworthy statistical inferences (Pek et al., 2018). Results were interpreted using the coefficient estimate, standard error, t-value, and calculation of the p-value based on the t-value. Future studies with this data should utilize multivariate linear regression with the variables that meet normality parameters.

Aim 2

The second aim was to investigate pathway differences between TGNC and CSM groups, including how social connectedness and personal mastery may act as buffers to the effects of marginalization stress on psychological distress. To test the hypothesis, a two-group structural equation model (SEM) with a double moderator was conducted. The purpose of using a two-group SEM was to examine whether the relationship among the predictor, moderator, and response variables vary by group.

Two-group SEM allows for the identification of changes in paths based on group membership. Moreover, the advantage of two-group SEM is that it allows for comparison of associations using path coefficients and uses model fit indices to identify the best fitting paths in the data (Lefcheck, 2019). This method makes it possible to examine whether the underlying pathways are significantly different between the CSM group and the TGNC group. The SEM model was constructed based on the minority stress model (Meyer, 2003).

First, Confirmatory Factor Analysis (CFA) was used to create latent constructs representing psychological distress (Figure 2), social connectedness (Figure 3), and personal mastery (Figure 4). The factor loading of each variable was then assessed and items with "fair" factor loadings of < 0.45 were omitted (Comrey & Lee, 1992). To further improve model fit, higher thresholds were used when possible, including < 0.55 ("good") and < 0.63 ("very good"). Structural invariance (i.e., hypothesized relationships among variables) was then evaluated using modification indices and assessing statistical evidence ($mi > 10$) and theoretical evidence through review of individual items. Model fit was tested using the Comparative Fit Index (CFI), Tucker-Lewis fit index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and the chi-square test. Cut-offs were specified to indicate model fit: CFI > 0.90; TLI > 0.9; RMSEA < 0.08; SRMR < 0.08; and a non-significant chi-square value (Hu & Bentler, 1999).

Second, a correlation matrix was created with all variables to be used in the analysis. Latent variables were converted into composite variables temporarily to use in the correlation tests. Relationship directions and *p*-value significance were noted.

Third, the SEM was constructed and patterns of missingness were analyzed. Missingness was analyzed using Little's MCAR test, visualization tools, and observation of patterns among variables. Finally, the SEM analysis was then conducted. The Chi-square was examined, and significant or

nonsignificant results were indicated based on the *p*-value. Finally, model fit, and path-coefficients were examined, and the model was respecified using a theoretical foundation to guide decision-making. After assessing fit for each group separately, the fit indices between groups was compared to evaluate whether the moderation model holds equally well across groups. Non-normal data were accounted for by using maximum likelihood estimation with robust standard errors estimation (MLR). Missing data was accounted for using Full Information Maximum Likelihood (FIML). Bootstrapping was used to test 95% Confidence Interval (95% CI). Standardized regression (β) coefficients, standard errors, and *p*-values for β were reported in the final model.

CHAPTER IV

RESULTS

Missing Data

Patterns of missingness were assessed using the Little's Missing Completely at Random (MCAR) test. The Little's MCAR test indicated that there was evidence to reject the null hypothesis that the missing data in the dataset occurred completely at random. The test statistic of 278.88 with 194 degrees of freedom yielded a *p*-value of < 0.001, suggesting strong evidence against the null hypothesis. This indicated that there may be systematic patterns in the missing data that cannot be explained by randomness alone. Furthermore, the number of missing patterns identified was 15, indicating that there were distinct patterns in the missing data across variables. Overall, these results suggested that caution should be exercised when analyzing the data, as the missing data mechanism was unlikely to be completely random. Further investigation into the nature of these missing patterns and potential implications for data analysis was warranted. Observation of the raw dataset revealed that the missingness was a result of unfinished surveys, evidenced by observation of consistent responses until a certain point, that differed among participants, and then an absence of any additional responses. Participants averaged 47 minutes completing the survey and it is likely that some lost interest, became bored, or were interrupted mid-survey and did not return to finish. While this is a limitation to statistical power, the data are considered interpretable.

Another cause of non-random missing data patterns is related to the marginalization stress measures. Both gender and sexual marginalization stress measures were included in the analyses, however not all participants completed both measures. Participants completed the measure(s) that corresponded with their identities. For example, a CSM participant would only have completed the items for the sexual marginalization stress measure, while a participant who identifies with both gender and

sexual minority identities would have completed both measures. Therefore, the NAs in the dataset for these two measures did not reflect true NAs but rather the skip-wise logic of the survey.

For the robust regression analyses, missing data was accounted for by using multiple imputation methods. Multiple imputation creates multiple plausible imputed datasets, each capturing the inherent variability and uncertainty of values to support a valid statistical inference (Kang, 2013). Multiple imputation is also the preferred approach to handling missing data when there are violations of normality in the dataset, small sample sizes, and a high number of missing data (Kang, 2013). For the robust regressions, 50 datasets were imputed, and 10 regression iterations were run, following the recommendation that higher numbers of imputations result in better statistical power (Graham et al., 2007).

Missing data in the CFA and SEM analyses were addressed with three approaches. First, before creating the marginalization stress composite variable, the 'NAs' in the gender and sexual marginalization stress measures resulting from skip-logic were changed to reflect a neutral response (e.g., "Neither agree/disagree" and "Sometimes"). This decision ran the risk of biasing the data and future studies should utilize surveys that do not require skip-logic to be used in the same way, or use multiple imputation to handle the missing values (Denman et al., 2018). Second, pairwise deletion was used when computing the CFAs. Upon observation of the data for each CFA, it was determined that the majority (> 50%) of the missing data were a result of unfinished surveys. Therefore, using pairwise deletion was a simplified approach to preserve available sample size and mitigate limitations associated with missing data. Future studies conducted with this data should compare results using alternative approaches, such as multiple imputation, to address the missing data (Shi et al., 2021). Third, and finally, in the SEM analysis, missing data were addressed using Full Information Maximum Likelihood "FIML," which estimates model parameters by accounting for all observed data and estimating

distributions of the missing data (Shi et al., 2021). The FIML approach was combined with the Maximum Likelihood Ratio (MLR) method, which is used to compare the fit of two nested models using maximum likelihood estimation. MLR, in comparison with the Maximum Likelihood (ML) method, is robust to non-normality and adjusts the standard errors accordingly (Shi et al., 2021). The combination of FIML and MLR allowed for missing data to be addressed with the robustness required to account for possible violations of normal distribution.

Aim 1

TGNC Group

Using the multiple imputation data, a robust multiple regression model was employed to investigate the relationship between psychological distress and hypothesized predictors and demographic variables including marginalization stress, financial stress, ethnicity, housing stability, and education level for TGNC individuals. Significance of coefficients was evaluated based on the calculation of *p*-values (Table 2). The intercept term was estimated to be 1.23 ($p < .05$), indicating the expected level of psychological distress when all predictor variables are held at zero. Marginalization stress was found to have a statistically significant positive association with psychological distress ($\beta = 0.40$ $p < .05$), suggesting that higher levels of perceived marginalization stress are related to increased psychological distress. However, financial stress, ethnic minority status, housing stability, and education level did not demonstrate statistically significant associations with psychological distress in this analysis. While the results were not statistically significant, the directionality of the relationships indicated that higher education levels, higher financial stress, stability in housing, and identification with a marginalized ethnic identity were related, though not significantly, to higher levels of psychological distress. Overall, while marginalization stress emerged as a significant predictor, the other variables did not exhibit statistically significant associations with psychological distress.

CSM Group

A replicated model of robust multiple regression was employed for the CSM group after multiple imputation was completed (Table 2). The intercept term was estimated to be 2.05 ($p < .05$). Similarly, the model revealed that marginalization stress had a statistically significant positive association with psychological distress ($\beta = 0.46$, $p < .05$), while financial stress, ethnic identity, housing stability, and education level did not show statistically significant associations with psychological distress. Directionality of the relationships of the covariates with psychological distress varied slightly. Higher education levels, lower financial stress, instability in housing, and absence of ethnic minority identification, were associated, albeit insignificantly, with psychological distress.

Table 2

Robust Regression of Marginalization Stress and Covariates on Psychological Distress

TGNC Group					
Predictor	Coefficient	Std. Error	t-value	*df*	*p*-value
(Intercept)	1.23*	0.35	3.72	51	< .05
Marginalization Stress	0.40*	0.12	3.32	61	< .05
Education Level	-0.21	0.28	-0.73	54	.47
Financial Stress	0.16	0.10	1.59	55	.12
Housing Stability	-0.24	.33	-0.73	66	.47
Ethnic Minority	0.11	.21	0.54	53	.59
CSM Group					
(Intercept)	2.05*	.25	8.07	77	< .05
Marginalization Stress	0.46*	0.14	3.33	53	< .05
Education Level	-0.11	0.28	-0.38	164	.70
Financial Stress	-0.05	0.08	-0.68	73	.50
Housing Stability	0.13	0.22	0.61	128	.54
Ethnic Minority	-0.23	0.22	-1.05	72	.30

Aim 2

Confirmatory Factor Analyses

First, Confirmatory Factor Analyses were run for each latent variable to be included in the SEM analysis. Model fit indicators were documented, and adjustments were made to improve model fit. Standardized items that loaded onto their respective latent factors with values lower than 0.45 (fair), 0.55 (good), or 0.63 (very good), or with *p*-values of > 0.05 were eliminated from the models (Table 3). Modification indices were evaluated, and covariance was indicated based on statistical (*mi* > 10) and theoretical evidence. See Table 3 for model fit details.

Table 3

Fit Estimates for Latent Variable Models

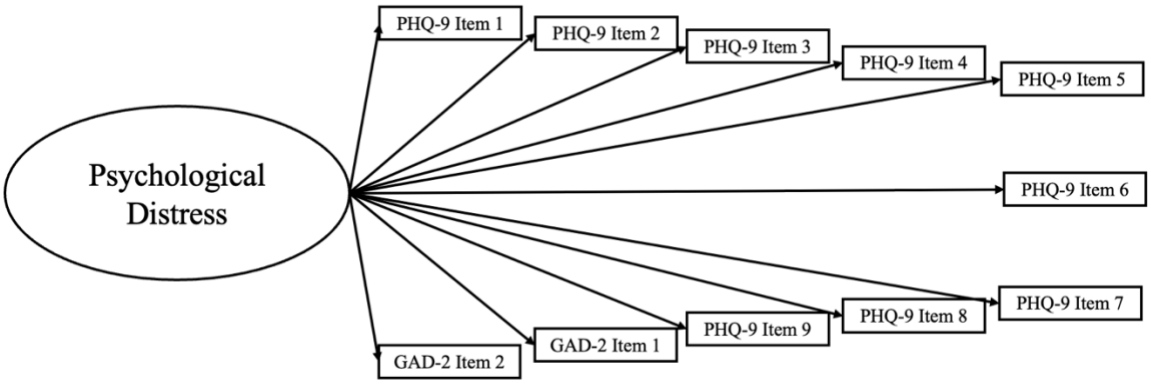
	Model 1	Model 2	Model 3	Model 4
Psychological Distress				
χ^2	166.94*	117.36*		
df	44	42		
CFI	0.92	0.95		
TLI	0.90	0.94		
RMSEA	0.11*	0.09*		
[90% CI]	.09-.13	.07-.11		
SRMR	0.05	0.04		
Personal Mastery				
χ^2	35.53*	11.08*		
df	14	5		
CFI	0.93	0.98		
TLI	0.90	0.96		
RMSEA	0.08*	0.08		
[90% CI]	.05-.12	.001-.14		
SRMR	0.06	0.04		
Social Connectedness				
χ^2	775.54*	439.40*	117.98*	104.44*
df	104	35	21	16
CFI	0.65	0.72	0.93	0.92
TLI	0.60	0.64	0.88	0.86
RMSEA	0.18*	0.23*	0.15*	0.16*
[90% CI]	.16-.19	.21-.25	.12-.17	.13-.19
SRMR	0.11	0.12	0.09	0.08

Note. CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval; SRMR = standardized root mean square residual. * $p < 0.05$.

Psychological Distress. See Figure 1 for the Psychological Distress latent construct. The initial CFA results for the Psychological Distress variable indicated a poor model fit because of the RMSEA measure (χ^2 (44) = 166.94, p < .001; CFI = 0.92; TLI = 0.90; RMSEA = 0.11; SRMR = 0.05), however all other indices indicated good fit. All standardized items loaded onto their respective latent factors at 0.63 or higher with p-values of < .001. Next, modification indices were conducted, and residual correlations were identified via statistical indicators (mi > 10) and theoretical observations (i.e., if the two items were asking about similar constructs). Two residual correlations were identified. See Appendix C. The two residual correlations were added to the second and final model and the model indicated adequate fit (χ^2 (42) = 117.36, p < .001; CFI = 0.95; TLI = 0.94; RMSEA = 0.09; SRMR = 0.04).

Figure 1

Psychological Distress Latent Construct

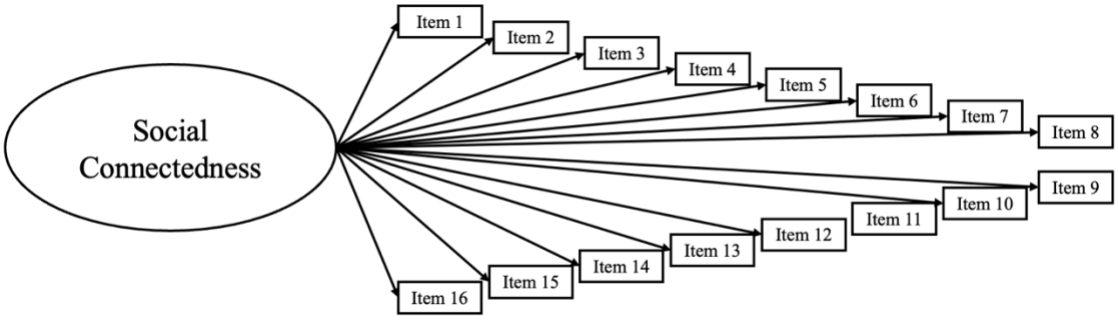


Social Connectedness. See Figure 2 for the Social Connectedness latent construct. The CFA results for the Social Connectedness variable indicated a poor model fit (χ^2 (104) = 775.54, p < .001; CFI = 0.65; TLI = 0.60; RMSEA = 0.18; SRMR = 0.11). All standardized items loaded onto their respective latent factors at 0.55 or higher with p-values of < .001, with the exception of items 1, 2, 4, 5,

6, and 12 (Appendix D). The second Social Connectedness model also demonstrated poor model fit (χ^2 (35) = 439.40, $p < .001$; CFI = 0.72; TLI = 0.64; RMSEA = 0.23; SRMR = 0.12). All standardized items loaded onto their respective latent factors at 0.55 or higher with *p*-values of < .001, with the exception of item 3 (Appendix D). Item 3 was removed, and a third CFA model was conducted (Table 3). This model demonstrated continued poor fit (χ^2 (27) = 429.78, $p < .001$; CFI = 0.71; TLI = 0.61; RMSEA = 0.26; SRMR = 0.14). Modification indices were conducted, and residual correlations were identified via statistical indicators (*mi* > 10) and theoretical observations. See Appendix C for the complete list of residual correlations. A fourth CFA model was run that included the residual correlations (Table 3). The fourth model demonstrated improved, yet still poor fit: (χ^2 (21) = 117.98, $p < .001$; CFI = 0.93; TLI = 0.88; RMSEA = 0.15; SRMR = 0.09). While some fit indices (e.g., CFI) suggest relatively good fit, others (e.g., RMSEA) indicate less than optimal fit.

Figure 2

Social Connectedness Latent Construct



The social connectedness latent variable exhibited consistently poor model fit across multiple iterations of CFA, as evidenced by high chi-square values, low CFI and TLI values, and elevated RMSEA and SRMR values. Despite attempts to improve model fit by removing problematic items and incorporating indicated residual correlations, the final CFA model continued to demonstrate suboptimal

fit to the data. While some fit indices, such as CFI, suggested relatively improved fit, the persistent elevation of RMSEA and SRMR, along with the inconsistency in fit indices across different models, raised concerns about the validity and reliability of the social connectedness latent variable. The lack of convergence in model fit indicators underscored the complexity and inadequacy of the current conceptualization and operationalization of social connectedness within the SEM framework. Therefore, excluding the social connectedness latent variable from the SEM analysis may enhance the model's overall interpretability and reliability, as the inclusion of a poorly fitting construct may compromise the validity of the entire structural equation model.

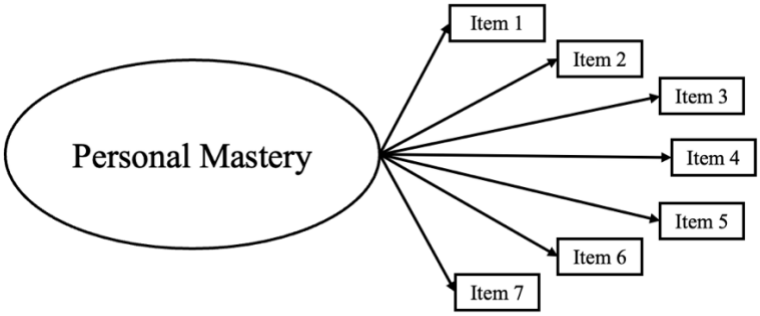
As an alternative to capturing one type of social connectedness, a composite variable was added to the SEM analysis that assesses identity support from family. Family support has consistently been shown to impact mental health outcomes, including lower rates of internalized marginalization stress (Feinstein et al., 2014) and better adjustment outcomes (Snapp et al., 2015). The two items that comprise the composite variable come from the marginalization stress measure and are two of several items that I created and added to the measure to ask specifically about family support. The two items are worded similarly; one refers to gender identity and the other to sexual identity (e.g., “To what extent do you feel supported by your family of origin (parents and/or siblings) regarding your [gender identity / sexual orientation/identity]?). The items used a 4-point Likert scale (1=*not supported at all* to 4=*strongly supported*). The responses to these items were averaged and combined into a composite variable.

Personal Mastery. See Figure 3 for the Personal Mastery latent construct. The CFA results for the Personal Mastery variable indicated a good model fit (χ^2 (14) = 35.53, $p < .001$; CFI = 0.93 TLI = 0.90; RMSEA = 0.08; SRMR = 0.06; Table 3). All standardized items loaded onto their respective latent factors at 0.55 or higher with *p*-values of < .001, with the exception of items 5 and 7 (Appendix D). A second latent model was created that excluded items 5 and 7. The second Personal Mastery model

demonstrated good model fit (χ^2 (5) = 11.08, p =0.05; CFI = 0.98; TLI = 0.96; RMSEA = 0.08; SRMR = 0.04). Modification indices were run and no residual correlations at *mi* > 10 were identified.

Figure 3

Personal Mastery Latent Construct



Correlation Matrix

A correlation matrix was created to examine initial relationships among variables. See Table 4. The outcome variable, psychological distress, demonstrated a significant positive correlation with marginalization stress. Both marginalization stress and psychological distress demonstrated significant negative correlations with personal mastery and family support. No correlation coefficients were above 0.70, which indicated low likelihood of multicollinearity (Young, 2018).

Table 4

Correlation Matrix of Outcome, Predictor, Moderators, and Covariates

	Psychological Distress	Marginalization Stress	Personal Mastery	Family Support
Psychological Distress	-			
Marginalization Stress	0.28*	-		
Personal Mastery	-0.54*	-0.14*	-	

Table 4 continued

Family Support	-0.26*	-0.28*	0.28*	-

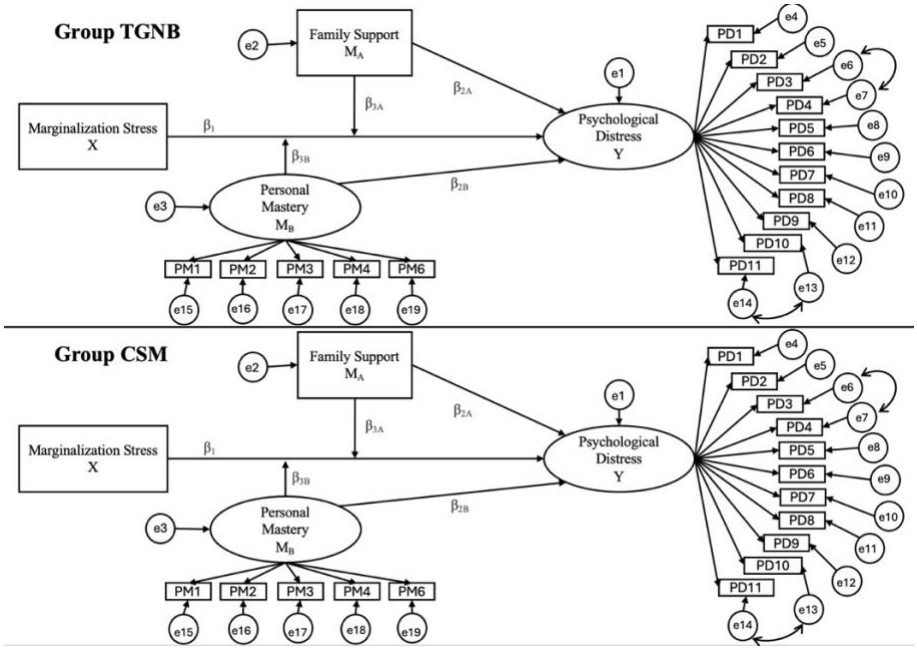
Note: * = *p*-value < 0.05

Structural Equation Modeling

Using the latent variables created with CFA model fitting techniques, a structural equation model was built to test a two-group regression analysis with double moderation (y ~ x + x*m1 + x*m2, group = 0,1, Figure 4). The moderators (i.e., personal mastery and family support) were significantly correlated ($r = 0.28$, $p < .5$), suggesting that they could represent similar processes. To account for this, bootstrapping procedures were conducted to assess the robustness of the findings. Moreover, bootstrapping allows for non-normal sampling distributions, helps increase power, and is more robust to Type I and Type II errors (Hayes, 2017). Model pathways were tested with the bootstrapping procedure using the recommended 5,000 bootstrapped samples to produce 95% bias-corrected confidence intervals and standard errors for all parameter estimates (Banjanovic & Osborne, 2016).

Figure 4

Two-group structural equation model with double moderation



Model 1. The initial model fit was assessed using multiple fit indices (Table 5). Chi-square test of model fit was statistically significant (standard: χ^2 (279) = 472.97 (group TGNC = 230.63; group CSM = 242.78), $p < .001$; robust: χ^2 (279) = 456.25 (group TGNC = 222.48; group CSM = 233.78), $p < .001$), suggesting that there is a significant difference between the observed covariance matrix and the model-implied covariance matrix. The standard CFI and TLI indicated good fit (CFI = 0.91; TLI = 0.90), similar to the robust results (CFI = 0.90; TLI = 0.89). Additionally, the standard RMSEA was 0.07 (90% CI [0.06 - 0.08], $p < .001$) and robust RMSEA was 0.07 (90% CI [0.05 - 0.08], $p < .001$), indicating good fit, and the standard and robust SRMR were 0.14, indicating poor fit. A high SRMR suggests that the model does not adequately reproduce the observed covariance structure in the data, indicating potential issues with model specification, complexity, or fit. However, the SRMR is also sensitive to small sample sizes (Kyriazos, 2018). The high SRMR in this model may be a result of small sample size or could suggest potential issues with model fit, impacting the interpretability of the model.

All items in both groups loaded onto their respective latent factors at 0.63 or higher with *p*-values of < 0.01, indicating no areas for model fit improvement with factor loadings (Appendix E). Modification indices were run and two residual correlations at $mi > 10$ were identified, however neither met theoretical standards, therefore none were added to the model (Appendix F). Of the two residual correlations already included in the model, one did not meet statistical significance ($p > 0.05$). This residual correlation was removed for the second model.

Model 2. The second model demonstrated poorer fit in some areas (Table 5). The test statistic and degrees of freedom increased (standard: χ^2 (281) = 298.82 (TGNC group = 234.12; CSM group = 264.70), $p < .001$; robust: χ^2 (281) = 476.80 (TGNC group = 223.79; CSM group = 253.01), $p < .001$). The CFI, TLI, and SRMR all indicated poor fit in both standard and robust analyses (standard: CFI =

0.89; TLI = 0.88; SRMR = 0.14; robust: CFI = 0.89; TLI = 0.88; SRMR = 0.14), however the RMSEA indicated acceptable fit (standard and robust: RMSEA = 0.07).

Bootstrapping. The bootstrapping procedure involved in the second model of the SEM analysis generated the recommended 5,000 bootstrap samples, indicating a robust resampling process (Banjanovic & Osborne, 2016). Each bootstrap sample was drawn from the observed data with replacement, allowing for the estimation of the sampling distribution. All 5,000 bootstrap draws were drawn successfully, underscoring the reliability of the bootstrapping results and suggesting that the resampling procedure was effectively implemented. This enhances the stability and accuracy of parameter estimates and standard errors and contributes to the overall robustness of the SEM analysis.

Table 5

Model Fit for SEM of Marginalization Stress, Psychological Distress, and Moderators

Model Fit Indices				
	Model 1		Model 2	
	Standard	Robust	Standard	Robust
χ^2	472.97*	456.25*	498.82*	476.80*
Group 1 χ^2	230.63	222.48	234.12	223.79
Group 2 χ^2	242.34	233.78	264.70	253.01
df	279	279	281	281
CFI	0.91	0.90	0.89	0.89
TLI	0.90	0.89	0.88	0.88
RMSEA	0.07	0.07	0.07	0.07
[90% CI]	[.06-.08]	[.05-.08]	[.06-.08]	[.06-.08]
SRMR	0.14	0.14	0.14	0.14
Bootstrapping				
Requested	5000			
Successful Draws	5000			

Note. χ^2 = chi-squared; *df* = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval; SRMR = standardized root mean square residual. * = $p < 0.05$.

TGNC Group. For TGNC individuals, results revealed a non-significant positive relationship between marginalization stress and the psychological distress (β = 0.12, p = .24; Table 6). However, when personal mastery and family support were introduced as moderators of the marginalization stress-psychological distress relationship, significant negative associations emerged. Specifically, for every unit increase in marginalization stress, psychological distress decreased significantly by 0.28 units ($p < .001$) when personal mastery was considered, and similarly decreased by 0.28 units ($p < .001$) when family support was accounted for. Personal mastery and family support moderated the impact of marginalization stress and psychological distress ($p < .001$).

CSM Group. For CSM individuals, results indicated a significant positive relationship between marginalization stress and psychological distress (β = 0.38, $p < .05$). Personal mastery (β = -0.28, $p < .001$) and family support (β = -0.28, $p < .001$) significantly moderated the relationship between marginalization stress and psychological distress (Table 6).

Table 6

Moderation of Psychosocial Resources and Group Comparison

	b	SE	*p*(>|*z*|)	β
Group 1: TGNC				
Direct Effect				
PD → Marginalization Stress	0.12	0.10	0.24	0.13
Specific Interaction Effects				
PD → Marginalization Stress*PM	-0.28*	0.05	< .001	-0.20
PD → Marginalization Stress*Fam	-0.28*	0.05	< .001	-0.31
Group 2: CSM				
Direct Effect				
PD → Marginalization Stress	0.38*	0.12	< .05	0.28
Specific Interaction Effects				
PD → Marginalization Stress*PM	-0.28*	0.05	< .001	-0.24
PD → Marginalization Stress*Fam	-0.28*	0.05	< .001	-0.24

Table 6 continued

Note. PD = psychological distress; PM = personal mastery; Fam = family support; *b* = unstandardized estimate; *SE* = standard error; *p*(>|*z*|) = *p*-value; β = standardized estimate; * = significant *p*-value (< .05)

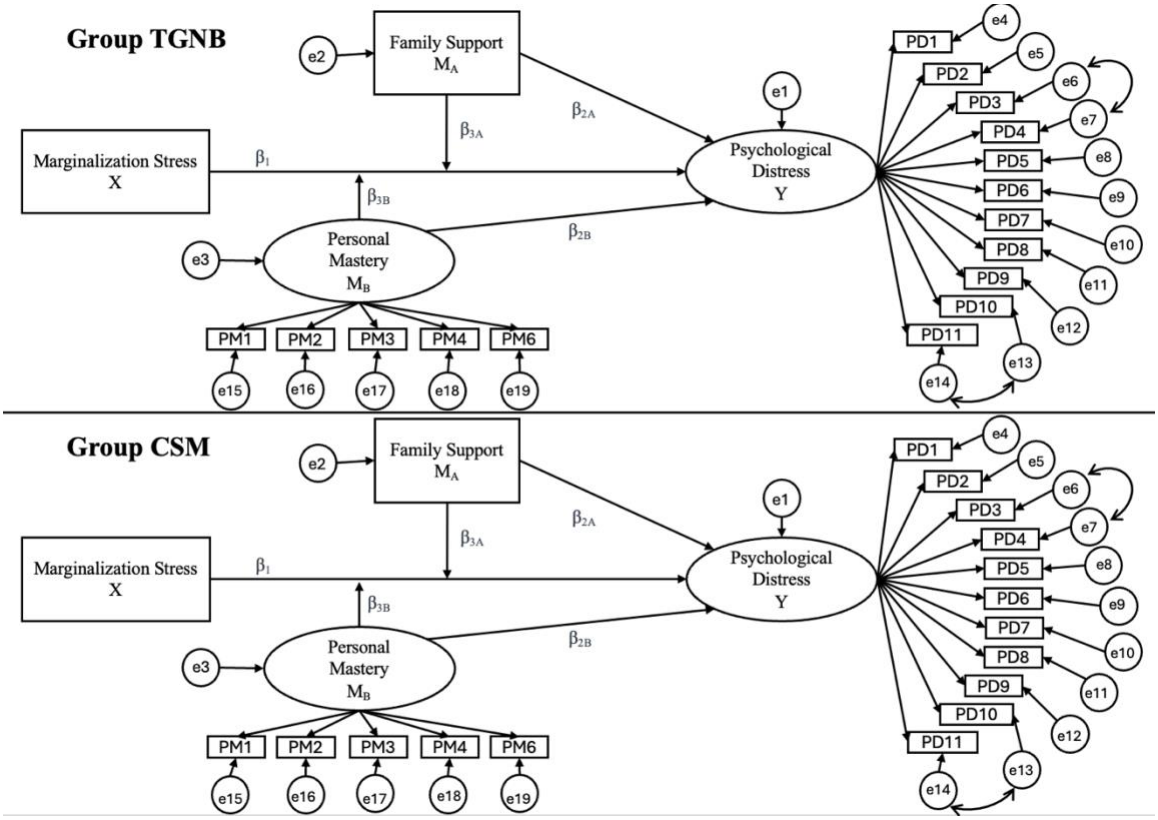
Exploratory Post-hoc Analysis with Composite Variable

Given the challenges with model fit and small sample size, a post-hoc exploratory analysis was performed using a composite variable in place of one of the latent variables. Composite variables, which replace more complex latent variables, reduce model complexity, which is one approach to decreasing the likelihood of a type II error and compensating for small sample sizes (Rosseel, 2020). The two latent variables used in the original model (psychological distress and personal mastery) both demonstrated good fit in CFA results. Psychological distress demonstrated good fit with zero items removed and two residual correlations identified (χ^2 (42) = 117.36, $p < .001$; CFI = 0.95; TLI = 0.94; RMSEA = 0.09; SRMR = 0.04), and personal mastery demonstrated good fit with two items eliminated and no residual correlations (χ^2 (5) = 11.08, p =0.05; CFI = 0.98; TLI = 0.96; RMSEA = 0.08; SRMR = 0.04). In an effort to decrease model complexity, and because personal mastery demonstrated good fit with no residual correlations, the personal mastery latent variable was converted into a composite variable using the items identified in the CFA. The psychological distress latent variable remained the same.

Similar to the original model, a structural equation model was built to test a two-group regression analysis with double moderation (y ~ x + x*m1 + x*m2, group = 0,1). See Figure 5. Model pathways were tested with the bootstrapping procedure using the recommended 5,000 bootstrapped samples to produce 95% bias-corrected confidence intervals and standard errors for all parameter estimates (Russell et al., 2000). Pathways were analyzed and groups were compared.

Figure 5

Post-hoc two-group double moderation structural equation model with an added composite variable



The composite variable model demonstrated improved overall fit (standard: χ^2 (159) = 274.86, p < .001; robust: χ^2 (159) = 258.82, p < .001). All model fit indices indicated a good fit in both standard and robust analyses (standard: CFI = 0.93; TLI = 0.92; RMSEA = 0.07; SRMR = 0.08; robust: CFI = 0.93; TLI = 0.92; RMSEA = 0.07; SRMR = 0.08). See Table 7. All 5,000 bootstrap draws were successful, suggesting that the resampling procedure was effectively implemented. This model is considered interpretable; however, caution should continue to be used due to the small sample size.

All items from the psychological distress latent variable loaded at 0.63 or higher with *p*-values of < 0.01, indicating no areas for model fit improvement within factor loadings (Appendix G). Modification indices were run and three residual correlations at *mi* > 10 were identified, however only

the previously removed residual correlation (psychological distress items 10 and 11) met theoretical standards (Appendix H). It was not added back into the model based on previously not meeting covariance significance thresholds.

Table 7

Post-hoc Model Fit for SEM of Marginalization Stress, Psychological Distress, and Moderators

Model Fit Indices		
	Standard	Robust
χ^2	274.86*	258.82*
Group 1 χ^2	107.98	101.68
Group 2 χ^2	166.89	157.15
df	159	159
CFI	0.93	0.93
TLI	0.92	0.92
RMSEA	0.07	0.07
[90% CI]	[.06-.08]	[.05-.08]
SRMR	0.08	0.08
Bootstrapping		
Requested	5000	
Successful Draws	5000	

Note. χ^2 = chi-squared; *df* = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval; SRMR = standardized root mean square residual. * = $p < 0.05$.

TGNC Group. Results for the TGNC group were similar to the original model's results (Table 8). The predictor variable of marginalization stress demonstrated a non-significant positive relationship with psychological distress ($\beta = 0.10$, $p = .34$). Personal mastery and family support were significantly negatively associated with psychological distress and significantly moderated the relationship between marginalization stress and psychological distress (personal mastery: $\beta = -0.27$, $p < .001$; family support: $\beta = -0.27$, $p < .001$).

CSM Group. Similarly, the CSM group demonstrated results that followed the same pattern of those in the original model (Table 8). A significant positive relationship was found between marginalization stress and psychological distress (β = 0.38, $p < .05$) and personal mastery (β = -0.27, $p < .001$) and family support (β = -0.27, $p < .001$) significantly moderated the relationship between marginalization stress and psychological distress.

Table 8

Post-hoc Moderation of Psychosocial Resources and Group Comparison

	b	SE	*p*(>|*z*|)	β
Group 1: TGNC				
Direct Effect				
PD → Marginalization Stress	0.10	0.10	0.31	0.11
Specific Interaction Effects				
PD → Marginalization Stress*PM	-0.27*	0.04	< .001	-0.22
PD → Marginalization Stress*Fam	-0.27*	0.04	< .001	-0.29
Group 2: CSM				
Direct Effect				
PD → Marginalization Stress	0.37*	0.12	< .05	0.26
Specific Interaction Effects				
PD → Marginalization Stress*PM	-0.27*	0.04	< .001	-0.24
PD → Marginalization Stress*Fam	-0.27*	0.04	< .001	-0.23

Note. PD = psychological distress; PM = personal mastery; Fam = family support; *b* = unstandardized estimate; *SE* = standard error; *p*(>|*z*|) = *p*-value; β = standardized estimate; * = significant *p*-value (< .05)

CHAPTER V

DISCUSSION

Exploration of the processes and protective factors of stigma and discrimination in low-income countries is necessary to accurately tailor interventions and adapt resources to these contexts. Experiences of marginalization stress negatively impact the psychological wellbeing of LGBTI+ populations (Flentje et al., 2020). Few studies explore this relationship, along with the impact of psychosocial resources and intersecting experiences, within low-income countries. Better understanding stress processes and resources for this population will support ongoing efforts to address global LGBTI+ well-being. This study is the first known to explore the impact of marginalization stress among LGBTI+ populations in El Salvador. In this chapter, I begin by summarizing the results of the present study. This is followed by a discussion of the findings and future directions in research and interventions for marginalization stress, intersectionality, and psychosocial resources. Lastly, I address study limitations.

Summary of Results

The present study provides empirical support for the impact of marginalization stress on psychological distress among LGBTI+ populations, specifically LGBTI+ populations in a low-income country during the COVID-19 pandemic. Additionally, results provide evidence for the protective effects of family support and personal mastery on negative psychological distress outcomes. Results indicated that covariates, including educational attainment, financial stress, housing stability, and racial/ethnic identity, did not significantly impact this relationship.

The hypothesis for the first research question posited that demographic characteristics indicating marginalization (e.g., lower educational attainment, higher financial stress, housing instability, and identification with a marginalized racial/ethnic identity) and higher reported experiences of LGBTI+ marginalization stress would predict higher psychological distress for both TGNC and CSM individuals.

In support of the hypothesis, LGBTI+ marginalization stress for both TGNC and CSM groups was found to have a significant positive association with psychological distress. Congruent with extant literature, this result underscores the pervasive influence of discrimination, stigma, and social exclusion experienced by LGBTI+ individuals, contributing to heightened levels of psychological distress. Contrary to the hypothesis, the proposed intersecting covariates did not reach statistical significance for either group.

For the second research question, I hypothesized finding a significant positive association between marginalization stress and psychological distress, and two significant moderators of this relationship, personal mastery and social connectedness. Social connectedness was hypothesized to moderate this pathway within both the TGNC and CSM groups, while personal mastery was hypothesized to moderate this association only for the CSM group.

The social connectedness latent variable demonstrated poor fit, even after several iterations of fitting techniques. Social connectedness was removed from the analysis due to poor fit and to avoid the risk of overfitting the latent terms, which can lead to poor generalization and misleading results. The measure used to capture social connectedness had not previously been validated beyond the dissertation from which it originated. Future studies should further explore the validity and reliability of this measure to understand the nature of the poor fit and make recommendations for modifications. As previously explained, instead of removing the second moderator from the model, it was replaced by a composite variable that captures family support, a type of social connectedness with strong empirical evidence of having a buffering effect of marginalization stress on psychological distress (Feinstein et al., 2014; Snapp et al., 2015).

The structural equation model also demonstrated poor fit, even after model fitting techniques were implemented. However, a post hoc analysis was conducted with personal mastery as a composite

instead of latent variable and the structural equation model demonstrated good fit. The post hoc analysis also exhibited the same pattern of results as the initial SEM analysis. Further elaboration of these results follows.

Regarding the hypothesized impact of marginalization stress on psychological distress, the CSM group aligned with extant literature, demonstrating a significant positive relationship. However, the TGNC group deviated from literature with a non-significant relationship between the two variables. There are several possibilities as to why the impact of marginalization stress on psychological distress was non-significant for the TGNC group. First, this relationship may have been affected by the small sample size. The TGNC group was smaller than the CSM group and sample sizes that are too small can lack the statistical power to detect a significant relationship. A second possible cause is the methodological approach. To account for skip logic in the survey for the marginalization stress measures, all 'NA' responses were changed to a 'neutral' response. Since there were less TGNC participants in the study, there were more 'NA' responses for the gender minority marginalization stress survey. It is possible that this decision created a Type II error. It is recommended that future studies use multiple imputation or a single measure for both groups to avoid this potential error. Third, there may be mediators or other interaction effects that are unaccounted for in this model. Fourth, in any given sample there is always a degree of random variation that can affect the results. Even if there is a true relationship between variables, random fluctuations in the data could obscure it, particularly in smaller samples.

Regarding the moderators, family support significantly moderated the impact of marginalization stress on psychological distress for both groups. This result was aligned with the hypothesis and with extant literature. Personal mastery also significantly moderated this relationship for both groups, deviating from the hypothesis of it only moderating the CSM group.

Marginalization Stress

As evidenced by the present study, LGBTI+ Salvadorans grapple with the weight of marginalization stress. Salvadorans appear to follow the pattern seen in many other countries, in which marginalization stress predicts poorer psychological health (Chodzen et al., 2019; Timmins et al., 2017). Moving forward, it is imperative for research to delve deeper in the specific mechanisms through which marginalization stress affects the mental health of LGBTI+ Salvadorans, both through specifying these experiences within the Salvadoran context and by continuing to advance the generalizability of research that is inclusive of low-income countries. In this section, I propose future directions to explore marginalization stress among LGBTI+ Salvadorans, building on previous research and integrating Salvadoran context and cultural nuances.

In recent years, researchers have begun applying the minority stress model in non-Western, low-income, and predominantly non-White countries across the world (Lozano-Verduzco et al., 2023; Ogunbajo et al., 2020; Peltzer & Pengpid, 2016; Stojanovski et al., 2018; Sun et al., 2021). As this occurs, it is increasingly important to develop cultural, linguistic, and contextual adaptations to how marginalization stress is operationalized.

Qualitative approaches are useful for identifying linguistic nuances that increase the accuracy and accessibility of research with specific populations. For example, in the present study many participants did not have a clear understanding of the difference between sexuality and gender identity. I designed the demographic survey by integrating a variety of sources of information (e.g., written materials, social media, consultation with LGBTI+ Salvadorans, and personal experience in the LGBTI+ Salvadoran community), however qualitative methods could be used to identify the language most accessible and understandable to LGBTI+ Salvadorans and propose future demographic surveys with

increased regional linguistic accuracy and adaptations, such as inclusion of educational content within surveys (Banna et al., 2010).

Future studies can also build on recent literature by conducting comparative investigations of proximal stressors, such as identity concealment and shame, and distal stressors, including violence, discrimination, and societal attitudes. The prevalence and psychological consequences of specific types of stressors are often manifestations of context and culture. For example, identity concealment has been shown to be a risk factor and protective factor depending on country and context (Pachankis & Bränström, 2018). Examining the impact of individual stressors and addressing their cultural context will bring an increasingly comprehensive understanding of the multifaceted nature of marginalization stress in El Salvador.

Marginalization stress can be further adapted to the Salvadoran context by including types of enacted violence. The presence of extreme state and gang violence is currently a reality in a handful of countries (Banning-Lover, 2017; Reid, 2020). However, the intersection of gang and state violence against the LGBTI+ population is a perspective seldomly explored in marginalization stress literature. Within the context of El Salvador, state actors, such as law enforcement and the military, often participate in the stigmatization of and violence against LGBTI+ individuals (Ghoshal & Cabrera, 2020). Meanwhile, gangs in El Salvador are notorious for violently targeting LGBTI+ populations (Garrison, 2024; Ghoshal & Cabrera, 2020). Future research can develop marginalization stress measures that account for the context-specific types of violence and stigma faced by LGBTI+ populations.

Additionally, prior research has noted the impact of public policy and legal protections on cultural beliefs and marginalization stress experiences (Solazzo et al., 2018). Most extant research in this area takes place in countries with existing LGBTI+ legal protections, such as anti-discrimination laws.

The current political climate in El Salvador, aligned with the global trends seen in many other countries (Blanco & García Baroja, 2023), is rallying against LGBTI+ rights and making moves to limit education on LGBTI+ experiences (Maldonado, 2024). There is currently an opportunity in El Salvador and in many other countries to assess the impact of anti-LGBTI+ policies within a country with already limited protection for the LGBTI+ community.

Intersectional Approach to Marginalization Stress

Understanding and addressing the intersectional nature of marginalization and stigma is crucial for promoting well-being and fostering affirming environments. In this section I briefly discuss the implications of the findings related to intersectionality in the present study and then I propose future directions for intersectional approaches to marginalization stress.

The present study asked participants about their identities and experiences related to educational attainment, financial stress, housing stability, and racial/ethnic identity, none of which significantly predicted psychological distress. It is possible that this is an accurate representation of the interplay of these identities and experiences among the Salvadoran LGBTI+ population, however replication of these findings is recommended to rule out a Type II error.

Of the covariates included in the analysis, all but financial stress were binary variables that arguably did not capture the full complexity of the identities and experiences of reference. For example, for racial and ethnic identity, it would be beneficial for future studies to include a measure of racial stress that is adapted to the Salvadoran context to capture those who experience discrimination based on their racial or ethnic background. Colorism and racism are prevalent in El Salvador; however, they are not topics commonly approached in dominant discourse and the general population is not accustomed to discussing them (Tojeira, 2023). Lack of awareness and education on topics of racism and colorism is evidenced in the present study when participants included historically privileged racial identities, such as

"Spanish," in their affirmative responses to identifying with a marginalized racial or ethnic identity. The intersection of racism/colorism and anti-LGBTI+ stigma is a lived reality for many LGBTI+ individuals in predominantly non-White countries, and an experience that warrants further investigation into its impacts on psychological well-being (Luna, 2022). Future studies exploring this intersection could use measures of marginalization stress that include racial stress and regionally specific language that participants will recognize as colorist, racist, and anti-indigenous microaggressions. Future research could also explore LGBTI+ ethnic and racial minority individuals' experiences of racism and colorism within LGBTI+ spaces, building on the evidence of this dynamic elsewhere (Le et al., 2022).

Similarly, housing insecurity was measured by asking about a change in housing during a specific timepoint (i.e., during the COVID-19 lockdown orders). This excludes those who experience housing insecurity but did not move during this time, such as those who are often at risk of losing their housing and those who have experienced housing loss for other reasons such as natural disasters and violence. Caution should be exercised when interpreting the null findings of housing insecurity in the present study based on the ample extant research that indicates poorer psychological wellbeing among those who experience continuous housing insecurity and poverty (Muscatell et al., 2020; Singh et al., 2019; Yuan et al., 2021).

Overall, study replication is encouraged with improved measures that more accurately and comprehensively capture Salvadoran identities and experiences in the identified areas. Additionally, further exploration of socioeconomic status and social class should be explored within the Salvadoran context. The present study utilized two measures, financial stress and housing insecurity, that captured a small portion of socioeconomic status. However, socioeconomic status and social class are notoriously complex phenomena to operationalize and often dependent on local context and financial structures. El Salvador's social classes are characterized by distance and profound inequality (Lungo Rodríguez,

2020). Future research could utilize comprehensive and culturally reflective methods of measuring socioeconomic status and social class to examine how Salvadoran LGBTI+ individuals differently experience their LGBTI+ identity based on social class and other intersecting factors.

Future research directions applying intersectionality theory to LGBTI+ marginalization stress hold immense potential for deepening current understandings of how social categories, cultural factors, and systems of privilege and oppression operate across the globe. Within El Salvador, and Central America as a whole, literature focused on intersectional LGBTI+ experiences is scarce. To build a foundation, future studies can use exploratory approaches, such as qualitative methods and participatory action research, to capture how LGBTI+ Salvadorans report their lives to be impacted by the identities and social locations they hold, and to have research aims guided by those most impacted, the participants (Cornish et al., 2023). Future studies can also incorporate common Latine cultural values, such as familismo (Patrón, 2020) and simpatia (Ma et al., 2014), and assess how these values shape processes of marginalization stress and impact psychological well-being (Noyola et al., 2020). Furthermore, there is a need for longitudinal studies that track the experiences of LGBTI+ individuals over time, particularly in response to social and political changes across the globe. Given the country's complex sociopolitical landscape and ongoing struggles for LGBTI+ rights (Maldonado, 2024), longitudinal research could elucidate how changes in policy, social attitudes, and community support networks impact the well-being of marginalized individuals. By tracking these shifts longitudinally, researchers can better capture the nuanced interactions between intersecting identities and external factors, providing valuable insights for advocacy efforts and policy development. Overall, there are ample opportunities to progress intersectional marginalization stress research and contribute to fostering inclusive environments and psychological well-being among LGBTI+ populations.

Group Comparisons: TGNC and CSM

At the societal level, the notion persists that biological sex is synonymous with gender identity, wherein gender identity is inferred from the sex assigned at birth (Sloan et al., 2017). Similarly, assumptions about sexual orientation often stem from inferred sex assigned at birth, a trend observed in prior studies (Jacobson & Joel, 2019). The conflation of biological sex, gender identity, and sexual orientation tends to align with binary and heteronormative perspectives (Jacobson & Joel, 2019). These assumptions contrast sharply with current research indicating the distinct and multifaceted nature of sexual orientation and gender identity (Savin-Williams, 2016), underscoring the necessity for a more nuanced and inclusive approach.

Emerging literature suggests that TNGC individuals encounter distinct forms of stressors related to their gender identity and expression, which differ qualitatively from those experienced by CSM individuals (Tan et al., 2019). For instance, Su et al. (2016) highlighted that TGNC individuals face a higher incidence of discrimination, depression, and suicide attempts, and prevalence data suggests that they are at a greater risk of experiencing various forms of violence (Tan et al., 2019). While the present study did not find significant between-group differences, the highlighted differences in previous research necessitate further investigation into the unique challenges faced by TGNC individuals.

Psychosocial Resources

A common criticism of marginalization stress research is the lack of emphasis on positive experiences and resiliency-promoting factors (Frost, 2017; Meyer, 2015). In the present study, family support and personal mastery were found to be significant protective factors against psychological distress for both TGNC and CSM groups in the face of marginalization stress. This finding holds important implications for both research and practice. Firstly, it highlights the crucial role of familial acceptance and support in buffering the adverse effects of stigma and discrimination, underscoring the importance of interventions aimed at fostering family acceptance. Additionally, personal mastery as a

significant psychosocial resource suggests that interventions focused on enhancing individuals' sense of control and agency in navigating their identities and experiences of marginalization may be effective in mitigating psychological distress. Overall, these findings highlight the value of multifaceted approaches that address both interpersonal and intrapersonal factors in promoting resilience and well-being among LGBTI+ populations.

Family Support

The significant psychosocial resource of family support aligns with extant literature highlighting family support and acceptance as particularly effective in promoting psychological well-being among LGBTI+ populations (Feinstein et al., 2014; Snapp et al., 2015). The Latine cultural value of familismo also underscores the importance of family support within the context of marginalized communities. Familismo emphasizes strong family ties, mutual support, and loyalty within the family unit (Bostean & Gillespie, 2018; Guzzardo et al., 2017). Within this cultural framework, familial relationships often play a central role in an individual's identity and sense of belonging (Zamudio et al., 2020). Therefore, interventions that leverage and strengthen familial bonds may not only mitigate the negative impacts of marginalization stress, but also may resonate deeply with cultural values. By recognizing and harnessing the complex and protective power of family support, interventions can be tailored to align with cultural values, thereby enhancing their effectiveness and relevance within diverse communities.

However, family dynamics for LGBTI+ individuals can be challenging when an individual's identities do not align with family values or cultural expectations. Patrón (2020) introduced the concept of "precarious familismo" that highlights the sometimes supportive, sometimes adverse and disparate family relationships that can occur when an individual in the family identifies with a gender or sexual minority identity. Moreover, precarious familismo aims to capture the family dynamics of Latine

LGBTI+ individuals, including blood/legal family and chosen family[13] (Patrón, 2020). When considering all types of family compositions for LGBTI+ individuals, the precarious familismo approach can more accurately account for instances of support, acceptance, rejection, and criticism that sometimes occur simultaneously across family members and family groups (Patrón, 2020). Future research can use this theoretical framework to nuance the construct of familismo within the context of LGBTI+ populations and allow for more possibilities in familial relations than only dichotomous positive support versus negative rejection.

Specific to the context of El Salvador, future research could explore the unique dynamics of family and chosen family and their impact on psychological well-being in the face of marginalization stress. Qualitative research could investigate the cultural meanings and expressions of familismo among LGBTI+ individuals in El Salvador, considering factors such as gender roles, religious influences, and social expectations within Salvadoran families. Additionally, studies could examine how migration patterns, socioeconomic disparities, and experiences of violence shape familial relationships and support networks for LGBTI+ Salvadorans. By gaining insights into the specific contextual factors that influence family support in El Salvador, culturally relevant interventions can be developed to strengthen familial acceptance and enhance LGBTI+ well-being.

Broadly, future research could further nuance the role of family in mental health outcomes among LGBTI+ populations. Qualitative studies could delve into the specific forms of support provided by families and chosen families, such as emotional validation, advocacy, and identity affirmation. Additionally, longitudinal research could build on prior studies of social support (McConnell et al., 2016) and investigate the long-term impact of familial support on psychological well-being, tracing its

[13] The term "chosen family" refers to individuals who deliberately choose to support each other, regardless of blood or legal ties. The term originated with LGBTI+ population and reflects a long history of building loving, supportive, and socially rich lives despite familial rejection and lack of legal protections that allow for family creation privileges such as marriage, procreation, adoption, and next of kin legal rights and protections.

effects over time as individuals navigate various stages of their identity development and experiences of marginalization. Furthermore, comparative studies across different cultural contexts could elucidate how cultural norms and familial dynamics influence the availability and effectiveness of family support for LGBTI+ individuals. By gaining a deeper understanding of the nuances of family support, future research can inform how the development of culturally responsive interventions that strengthen family connections can promote resilience among LGBTI+ populations.

Personal Mastery

Personal mastery is not commonly included in research assessing psychosocial resources of Latine populations. This is likely because personal mastery is an internal and individual resource, deviating from the communal resources, such as social support, that are more readily aligned with collectivist cultures. However, emerging research indicates that personal mastery and similar individual resources may continue to be protective among collectivist cultures (Gutiérrez & Thomas Tobin, 2023) and personal mastery has been shown to be a significant protective factor in many populations (Marshall et al., 2022; Mereish et al., 2022). Furthermore, personal mastery underscores many clinical interventions and plays an important role in psychotherapy (Furukawa et al., 2018; Segal et al., 2023). I made the decision to include personal mastery in the present study with the rationale that, due to increased isolation experienced during the COVID-19 lockdown in El Salvador, individual coping resources such as personal mastery may have emerged as equally impactful as community resources. Personal mastery significantly moderated the relationship between marginalization stress and psychological distress for both the CSM and TGNC groups, deviating from the hypothesis of a moderation effect for only the CSM group. This finding has the potential to guide future research toward a deeper understanding of individual versus community psychosocial resources among LGBTI+ Latine

populations and within other collectivist cultures. It also underscores the importance of interventions that promote resilience and holistic well-being on interpersonal, intrapersonal, and community levels.

It would be beneficial for future research in El Salvador to replicate these findings and determine if the moderating effects of personal mastery continue outside of the COVID-19 lockdown period. Furthermore, exploring how personal mastery interacts with communal resources such as social support, LGBTI+ community support, community belonging, and family support could provide valuable insights into the resiliency mechanisms at play within collectivist cultures. Comparative research across different socioeconomic contexts within El Salvador and across cultural contexts within the Latine diaspora could shed light on the universality versus context-specificity of personal mastery's protective effects.

Personal mastery also appears within many psychotherapy approaches. Radical acceptance, a skill within Dialectical Behavioral Therapy, requires a genuine understanding of what is within an individual's control (Segal et al., 2023). Additionally, interventions in Cognitive Behavioral Therapy, such as behavioral activation, rely on the gradual building of mastery, or building of the individual's belief that they are capable enacting behaviors that will create change in their life (Furukawa et al., 2018). Radical acceptance and behavioral activation are two ways, of many, that personal mastery appears within psychotherapy approaches. The clinical implications of this finding point toward the importance of utilizing interventions in psychotherapy that increase personal mastery.

Limitations

The present study is subject to several limitations that warrant consideration. Patterns of missingness due to unfinished surveys may have introduced bias into the data analysis, potentially impacting the reliability and validity of the findings. Relatedly, during the data cleaning process, some missing values were replaced with neutral responses, which may have influenced the results and interpretation of the data. The generalizability may also be limited due to the groupings (TGNC and

CSM) not fully capturing or accurately reflecting how the population understands their identities. Reliance on data collected during a specific period of time, notably the COVID-19 lockdown in El Salvador, may restrict the generalizability of the findings to other contexts and time periods.

Another limitation pertains to the measurement of social connectedness, which could be improved by using previously validated measures or with the development of a new social connectedness measure that corresponds to the specific cultural context. In the future, social connectedness could be approached from an intersectional standpoint, considering how it can be a resource and a source of stress, including for example, those who are working class (Chae et al., 2010), racial and ethnic minorities (Balsam et al., 2011), those with disabilities (Nadal, 2013), and older LGBTI+ individuals (Yang & Levkoff, 2005). Future research could also include religiosity as a possible protective factor. Similar to family support, religiosity within LGBTI+ populations can play a complex role of support and rejection (Thamrin et al., 2022). In the current sample, approximately 25% reported some form of religious or spiritual beliefs. Future studies could explore the role that religiosity plays for this population with an approach that mirrors Patrón's (2020) precarious familismo. There were several items within the demographic survey that could be developed further to more accurately reflect the Salvadoran population, including the items pertaining to housing insecurity and racial/ethnic minority identity. Finally, this study did not account for cohort and age effects. Future studies can acknowledge how different generational experiences and life stages may influence outcomes related to marginalization stress and psychological well-being with LGBTI+ populations and could utilize measures of marginalization stress that are intersectional and capture interactions of marginalized experiences.

Conclusion

This dissertation contributes to the growing body of literature exploring the impact of marginalization stress on the psychological well-being of LGBTI+ populations, particularly within low-income countries. Although the relationship between LGBTI+ marginalization stress and psychological outcomes has been well established, and psychosocial resources of family support and personal mastery have been found to be significant moderators, scant research has examined these relationships from an intersectional lens and within low-income countries. The present study found family support and personal mastery to have significant moderating effects on the relationship between marginalization stress and psychological distress, and that there are no group differences between CSM and TGNC groups in the moderating effects. These results set the stage for further investigation and intervention efforts aimed at addressing the mental health disparities faced by the LGBTI+ population. By highlighting the protective roles of family support and personal mastery, this research emphasizes the importance of fostering supportive environments. Additionally, the findings underscore the necessity of adopting an intersectional lens to understand the varied experiences of LGBTI+ populations, particularly within the context of low-income countries where unique and understudied sociocultural factors may shape lived realities. Moving forward, research can continue to explore the multifaceted nature of marginalization stress and its impacts, while also striving to develop culturally congruent measures and interventions that resonate with the diverse identities and contexts of LGBTI+ individuals. Overall, it is my hope that this research promotes further curiosity and advocacy and lends some insights into the lived experiences of LGBTI+ Salvadorans; an expansive, complex, diverse, and determined population that is simultaneously fighting to survive and simply living their lives.

APPENDICES

Appendix A

DIGITAL RECRUITMENT FLIER

Appendix B

STUDY SURVEY

Demographics

The following questions will ask general demographic information.

D1: Which of the following terms do you use most often to describe your sexual orientation? Mark all that apply.

1. Lesbian
2. Gay
3. Bisexual
4. Pansexual
5. Queer
6. Asexual
7. Heterosexual
8. Other:

D2: Which of the following terms do you use most often to describe your gender identity? Mark all that apply.

1. Woman (cisgender)
2. Man (cisgender)
3. Trans woman (transfeminine)
4. Trans man (transmasculine)
5. Persona transvestí (similar to English: transvestite)
6. Nonbinary (genderqueer, gender fluid)
7. Other:

D3: How old are you? _____

D4: Do you identify as any of the following? Mark all that apply.

1. Indigenous
2. Afrodescendent
3. Other:
4. None of the above

D5: Have you ever tested positive for HIV/AIDS?

1. Yes
2. No

D6: Are you currently a student?

1. Yes, full time
2. Yes, part-time
3. No

D7: What is the highest level of education that you have completed or are currently pursuing?

1. 6th grade or less
2. Between 7th and 9th grade
3. Some high school, no degree
4. General high school diploma
5. Technical high school diploma
6. Some college, no degree
7. College degree
8. Some graduate school, no degree
9. Master's degree
10. Medical degree
11. Doctoral degree

D8: What is your religious or spiritual belief or practice? Mark all that apply.

1. Not religious or spiritual
2. Spiritual, not religious
3. Christian (not Catholic)
4. Catholic
5. Jewish
6. Islamic
7. Other: ____

D9: What is your marital or relationship status?

1. Single
2. Married
3. In a relationship

Housing

The next few questions will ask about your housing during the COVID-19 pandemic.

DH1: <u>During</u> the COVID-19 stay-at-home orders, what was the total number of people living in your home, including yourself?

1. 1 (you lived alone)
2. 2
3. 3
4. 4
5. 5
6. 6 or more

DH2: <u>During</u> the COVID-19 stay-at-home orders, how many people in your home were 65 years old or older?

1. 0
2. 1
3. 2
4. 3

5. 4
6. 5
7. 6 or more

DH3: During the COVID-19 stay-at-home orders, how many people in your home were 18 years old or younger?

1. 0
2. 1
3. 2
4. 3
5. 4
6. 5
7. 6 or more

DH4: During the COVID-19 stay-at-home orders, who did you live with? Mark all that apply.

1. I lived alone
2. A romantic partner
3. Sibling(s)
4. Parent(s)
5. Other family members (aunts, uncles, cousins, grandparents)
6. Children
7. Friends/Roommates
8. Non-family caregiver or employee (nurse, nanny, household employee)
9. Others:

DH5: During the COVID-19 stay-at-home orders, which department did you live in?

1. Auachapán
2. Cabañas
3. Chalatenango
4. Cuscatlán
5. La Libertad
6. La Paz
7. La Unión
8. Morazán
9. San Miguel
10. San Salvador
11. San Vicente
12. Santa Ana
13. Sonsonate
14. Usulután

DH6: During the COVID-19 stay-at-home orders, how would you describe where you lived?

1. Rural
2. Town
3. Semi-urban (semi-urbano / semi-rural)
4. Urban

DH7: During the COVID-19 stay-at-home orders, did you move?
1. Yes
2. No

If yes…

DH8: What was the reason for your move? Mark all that apply.
1. Planned move *unrelated* to COVID-19
2. Economic reasons *related* to COVID-19
3. Health reasons *related* to COVID-19
4. Victimization of violence or threats
5. Victimization of discrimination or anti-LGBTI+ violence
6. Natural disasters (floods, earthquakes, drought)
7. Other

DH9: Who did you live with after the move? Mark all that apply.
a. Continued living with the same people
b. Moved in with parents
c. Moved in with family (i.e., siblings, aunts/uncles, grandparents)
d. Moved in with new roommates
e. Moved in with friend's family
f. Moved in with partner
g. Moved in with partner's family
h. Other

Employment and Income
The following questions will ask about your employment, income, and financial context.

DEI1: Have you engaged in sex work at any point?
1. No.
2. Yes, currently.
3. Yes, but not currently.

DEI2: Before the COVID-19 stay-at-home orders, did you have a job?
1. Yes
2. No
3. Yes, but employment was unstable/intermittent.

DEI3: Before the COVID-19 stay-at-home orders, what was your average monthly income?
1. Below $299 per month
2. $300 - $500 per month
3. $501 - $1000 per month
4. $1001 - $3000 per month
5. Above $3000 per month

DEI4: During the COVID-19 stay-at-home orders, did you have a job?
1. Yes
2. No
3. Yes, but employment was unstable/intermittent.

DEI5: During the COVID-19 stay-at-home orders, what was your average monthly income?
1. Below $299 per month
2. $300 - $500 per month
3. $501 - $1000 per month
4. $1001 - $3000 per month
5. Above $3000 per month

DEI6: During the COVID-19 stay-at-home orders, did you engage in sex work?
1. No
2. Yes

DEI7: After the COVID-19 stay-at-home orders, have you had a job?
1. Yes
2. No
3. Yes, but employment was unstable/intermittent.

DEI8: After the COVID-19 stay-at-home orders, what has been your average monthly income?
1. Below $299 per month
2. $300 - $500 per month
3. $501 - $1000 per month
4. $1001 - $3000 per month
5. Above $3000 per month

Household Economics
During the COVID-19 stay-at-home orders…

DHE1: ...it was hard for me and my household to live on our income.
1. Never
2. Seldom
3. Sometimes
4. Usually
5. Almost Always

DHE2: ...I experienced money problems.
1. Never
2. Seldom
3. Sometimes
4. Usually
5. Almost Always

DHE3: ...financial problems interfered with my work and daily routine.
1. Never
2. Seldom
3. Sometimes
4. Usually
5. Almost Always

DHE4: ...I worried about financial matters.
1. Never
2. Seldom
3. Sometimes
4. Usually
5. Almost Always

DHE5: ...financial problems interfered with my relationships with other people.
1. Never
2. Seldom
3. Sometimes
4. Usually
5. Almost Always

DHE6: ...I worried about having money to celebrate holidays and other special occasions.
1. Never
2. Seldom
3. Sometimes
4. Usually
5. Almost Always

DHE7: ...I felt frustrated because I couldn't afford the education or training I needed to get ahead.
1. Never
2. Seldom
3. Sometimes
4. Usually
5. Almost Always

DHE8: ...I had to put off getting medical care for myself or household members because of the expense.
1. Never
2. Seldom
3. Sometimes
4. Usually
5. Almost Always

DHE9: ...I had to put off getting dental care for myself or household members because of the expense.
1. Never
2. Seldom
3. Sometimes

4. Usually
5. Almost Always

Health Insurance

DHI1: During the COVID-19 stay-at-home orders, what type of health coverage did you have?

1. Public
2. ISSS (employer-provided coverage)
3. Private

COVID-19

The COVID-19 pandemic has impacted people in a number of ways. This section will ask you more details about your experience with the COVID-19 virus.

C1: During the COVID-19 stay at home orders, how strictly did you adhere to COVID-19 guidelines (i.e., maintaining a 3 meter distance, using a mask, leaving the house only for necessities)?

1. Never
2. Sometimes
3. Most of the time
4. Always

C2: After the COVID-19 stay at home orders, how strictly have you continued to adhere to COVID-19 guidelines (i.e., maintaining a 3 meter distance, using a mask, leaving the house only for necessities)?

1. Never
2. Sometimes
3. Most of the time
4. Always

C3: Do you know anyone who has tested positive for the COVID-19 virus? Mark all that apply.

1. No
2. Myself
3. My partner(s)
4. My child/children
5. A family member within my household
6. A family member outside of my household
7. A friend within my household
8. A friend outside of my household
9. An acquaintance outside of my household

C4: Do you know anyone who has died from the COVID-19 virus? Mark all that apply.

1. No
2. My partner(s)
3. My child/children
4. A family member within my household
5. A family member outside of my household
6. A friend within my household

7. A friend outside of my household
8. An acquaintance outside of my household

Q12: Do you identify with a diverse gender identity or expression (i.e., trans, non-binary, gender queer, etc.)? [If no, you will skip the following section.]

1. Yes, I identify with a diverse gender identity or expression.
2. No, I identify as cisgender (I identify with the gender I was assigned at birth).

Gender Identity

The next set of questions will ask about experiences of stigma, discrimination, and pride you may have experienced because of your gender identity.

GIT1: When I think of my gender identity or expression, I feel depressed.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GIT2: When I think about my gender identity or expression, I feel unhappy.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GIT3: Because of my gender identity or expression, I feel like an outcast.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GIT4: I feel that my gender identity or expression is embarrassing.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GIT5: I envy people who do not have a gender identity or expression like mine.

1. Strongly disagree
2. Somewhat disagree

3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GP1: My gender identity or expression makes me feel special and unique.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GP2: I have no problem talking about my gender identity and gender history to almost anyone.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GP3: It is a gift that my gender identity is different from my sex assigned at birth.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GP4: I am proud to have a diverse gender identity.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GP5: I am comfortable revealing my gender identity to others.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

GP6: I'd rather have people know everything and accept me with my gender identity and gender history.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

Indicate how often the following situations occurred during the COVID-19 stay-at-home orders.

GIS1: During the COVID-19 stay-at-home orders, people treated me with less respect because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS2: During the COVID-19 stay-at-home orders, people acted as if I was not intelligent because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS3: During the COVID-19 stay-at-home orders, people acted as if I was dishonest because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS4: During the COVID-19 stay-at-home orders, people acted as if they were better than me because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS5: During the COVID-19 stay-at-home orders, there were people who insulted, threatened, and verbally accosted me because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS6: During the COVID-19 stay-at-home orders, there were people who physically accosted me because of my gender identity or expression.

1. Never

2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS7: During the COVID-19 stay-at-home orders, my family verbally insulted, harassed, or threatened me because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS8: During the COVID-19 stay-at-home orders, my family physically assaulted me because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS9: During the COVID-19 stay-at-home orders, I felt ashamed because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS10: During the COVID-19 stay-at-home orders, I felt guilty because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS11: During the COVID-19 stay-at-home orders, I felt low self-esteem because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS12: During the COVID-19 stay-at-home orders, I felt isolated from my family because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS13: During the COVID-19 stay-at-home orders, I felt isolated from my friends because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS14: During the COVID-19 stay-at-home orders, I was afraid of being the target of gossip because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS15: During the COVID-19 stay-at-home orders, I was afraid of being verbally insulted, harassed, or threatened because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS16: During the COVID-19 stay-at-home orders, I was afraid of being physically assaulted because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time
5. Always

GIS17:During the COVID-19 stay-at-home orders, I was afraid of being sexually assaulted because of my gender identity or expression.

1. Never
2. Sometimes
3. Normally
4. Most of the time

5. Always

GIS18: During the COVID-19 stay-at-home orders, did you experience discrimination in any of the following areas? Mark all that apply.

1. Health (hospital, clinic, private center, doctors, administrative staff, other patients)
2. Education (principals, teachers, school staff, students)
3. Sex work (clients, other sex workers, neighbors, owners of places where you work)
4. Work (non-sex work) (bosses, co-workers, customers, suppliers)
5. Housing (landlords, neighbors, housemates)
6. Security forces (police, military)
7. Government (government employees)
8. Other:
9. None

GIS19: Can you briefly explain the discrimination that you indicated above?

_____

GIS20: To what extent do you feel supported by your family of origin (parents and/or siblings) regarding your gender identity?

a. Not supported at all
b. Somewhat supported
c. Moderately supported
d. Strongly supported

GIS21: Can you briefly share the ways in which your family of origin does or doesn't support your gender identity?

_____

Q15: Do you identify with any sexual orientation that is *not* heterosexual (i.e., lesbian, gay, bisexual, pansexual, queer, etc.)? [If no, you skip the following section.]

a. Yes
b. No

Sexual Identity

The next set of questions will ask about experiences of stigma, discrimination, and pride you may have experienced because of your sexual identity.

SIH1: When I think of my sexual orientation, I feel depressed.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

SIH2: When I think of my sexual orientation, I feel unhappy.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

SIH3: Because of my sexual orientation, I feel like an outcast.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

SIH4: I feel that my sexual orientation is embarrassing.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

SIH5: I envy people who do not have a sexual orientation like mine.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

SP1: My sexual orientation makes me feel special or unique.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

SP2: I have no problem talking about my sexual orientation to almost anyone.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

SP3: My sexual orientation is a gift.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree

4. Somewhat agree
5. Strongly agree

SP4: I am proud to identify with my sexual orientation.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

SP5: I am comfortable revealing to others my sexual orientation.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

SP6: I'd rather have people know everything and accept me with my sexual orientation.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree/disagree
4. Somewhat agree
5. Strongly agree

Indicate how often the following situations occurred during the COVID-19 stay-at-home orders.

SIS1: <u>During</u> the COVID-19 stay-at-home orders, people treated me with less respect because of my sexual orientation, identity, or expression.
1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS2: <u>During</u> the COVID-19 stay-at-home orders, people acted as if I was not intelligent because of my sexual orientation, identity, or expression.
1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS3: <u>During</u> the COVID-19 stay-at-home orders, people acted as if I was dishonest because of my sexual orientation, identity, or expression.
1. Never
2. Rarely

3. Sometimes
4. Usually
5. Almost always

SIS4: During the COVID-19 stay-at-home orders, people acted as if they were better than me because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS5: During the COVID-19 stay-at-home orders, there were people who verbally insulted, threatened and harassed me because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS6: During the COVID-19 stay-at-home orders, there were people who physically assaulted me because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS7: During the COVID-19 stay-at-home orders, my family verbally insulted, harassed, or threatened me because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS8: During the COVID-19 stay-at-home orders, my family physically assaulted me because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS9: During the COVID-19 stay-at-home orders, I felt ashamed because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS10: During the COVID-19 stay-at-home orders, I felt guilty because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS11: During the COVID-19 stay-at-home orders, I felt low self-esteem because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS12: During the COVID-19 stay-at-home orders, I felt isolated from my family because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS13: During the COVID-19 stay-at-home orders, I was afraid of being the target of gossip because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS14: During the COVID-19 stay-at-home orders, I was afraid of being verbally insulted, harassed, or threatened because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS15: During the COVID-19 stay-at-home orders, I was afraid of being physically assaulted because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS16: During the COVID-19 stay-at-home orders, I was afraid of being sexually assaulted because of my sexual orientation, identity, or expression.

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Almost always

SIS17: During the COVID-19 stay-at-home orders, did you experience discrimination in any of the following areas? Mark all that apply.

a. Health (hospital, clinic, private center, doctors, administrative staff, other patients)
b. Education (principals, teachers, school staff, students)
c. Sex work (clients, other sex workers, neighbors, owners of places where you work)
d. Work (non-sex work) (bosses, co-workers, customers, suppliers, etc.)
e. Housing (Landlords, neighbors)
f. Security forces (police, military)
g. Government (government employees)
h. None

SIS18: Can you briefly explain the discrimination that you indicated above?

_____

SIS19: To what extent do you feel supported by your family of origin (parents and/or siblings) regarding your sexual orientation/identity?

e. Not supported at all
f. Somewhat supported
g. Moderately supported
h. Strongly supported

SIS20: Can you briefly share the ways in which your family of origin does or doesn't support your sexuality?

_____

Psychological Distress

We know that the COVID-19 pandemic has resulted in higher levels of stress and psychological distress. The next set of questions will ask about experiences of psychological distress during the COVID-19 stay-at-home orders.

<u>During</u> the COVID-19 stay-at-home orders, how often were you bothered by any of the following?

PD1: Little interest or pleasure in doing things
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

PD2: Feeling down, depressed, or hopeless
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

PD3: Trouble falling asleep, staying asleep, or sleeping too much
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

PD4: Feeling tired or having little energy
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

PD5: Poor appetite or overeating
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

PD6: Feeling bad about yourself - or that you're a failure or have let yourself or your family down
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

PD7: Trouble concentrating on things such as reading the newspaper or watching television
1. Not at all
2. Several days
3. More than half the days

4. Nearly every day

PD8: Moving or speaking so slowly that people have noticed. Or, the opposite, being so fidgety or restless that you have been moving around a lot more than usual.
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

PD9: Thoughts that you would be better off dead or hurting yourself in some way.
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

PD10: Feeling nervous, anxious, or on edge.
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

PD11: Not being able to stop or control worrying.
1. Not at all
2. Several days
3. More than half the days
4. Nearly every day

Social Connectedness and Self-Confidence

Social connectedness and self-confidence are important parts of well-being, and the COVID-19 pandemic has changed many of the ways we interact with our social circles and feel about ourselves. The following questions will ask about your social connectedness and self-confidence during the COVID-19 stay-at-home orders.

SS1: <u>During</u> the COVID-19 stay-at-home orders, I got the emotional support I needed from my family.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS2: <u>During</u> the COVID-19 stay-at-home orders, I got the emotional support I needed from my friends.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS3: During the COVID-19 stay-at-home orders, I felt like a valued member of my neighborhood.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS4: During the COVID-19 stay-at-home orders, I knew of community organizations and/or agencies that support people like me.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS5: During the COVID-19 stay-at-home orders, I received support from others who shared my sexual/gender identity.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS6: During the COVID-19 stay-at-home orders, I felt supported by the larger LGBTI+ community.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS7: During the COVID-19 stay-at-home orders, I had someone to give me good advice about a crisis.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS8: During the COVID-19 stay-at-home orders, I had someone to confide in or talk to about my problems.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS9: During the COVID-19 stay-at-home orders, I had someone to share my most private worries and fears with.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS10: During the COVID-19 stay-at-home orders, I had someone who understood my problems.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS11: During the COVID-19 stay-at-home orders, I had someone to help me if I were to be confined to bed.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS12: During the COVID-19 stay-at-home orders, I had someone to prepare my meals if I was unable to do it myself.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS13: During the COVID-19 stay-at-home orders, I had someone who would hug me.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS14: During the COVID-19 stay-at-home orders, I had someone to have a good time with.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS15: During the COVID-19 stay-at-home orders, I had someone to get together with for relaxation.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

SS16: During the COVID-19 stay-at-home orders, I had someone to do something enjoyable with.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

Family and Friends

SS18: During the COVID-19 stay-at-home orders, who in your life was aware of your sexual and/or gender identity? Mark all that apply.

1. Most people who raised me
2. My mother
3. My father
4. Most of my siblings
5. Most of my grandparents
6. Most of my cousins
7. Most of my aunts/uncles
8. Most of my coworkers
9. Most of my classmates
10. Most of my neighbors
11. Most of my friends

SS19: During the COVID-19 stay-at-home orders, who in your life supported and accepted your sexual and/or gender identity? Mark all that apply.

1. Most people who raised me
2. My mother
3. My father
4. Most of my siblings
5. Most of my grandparents
6. Most of my cousins
7. Most of my aunts/uncles
8. Most of my coworkers
9. Most of my classmates
10. Most of my neighbors
11. Most of my friends

Self-Confidence / Personal Mastery

The next questions do not correspond specifically to the COVID-19 stay-at-home orders, but rather how you feel in general.

PM1: There is no way I can solve the problems I have.

1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

PM2: Sometimes I feel that I am being pushed around in life.

1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

PM3: I have little control over the things that happen to me.

1. Strongly Disagree

2. Disagree
3. Agree
4. Strongly Agree

PM4: I often feel helpless in dealing with the problems of life.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

PM5: What happens to me in the future mostly depends on me.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

PM6: There is little I can do to change many of the important things in my life.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

PM7: I can do just about anything I set my mind to.
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

Appendix C

TABLE 9

Modification Indices > 10 of CFA Residual Correlations

	Item 1	Item 2	Modification Indices
Psychological Distress			
	pd3: Trouble falling sleep, staying asleep, or sleeping too much.	*pd4*: Feeling tired or having little energy.	28.15
	pd10: Feeling nervous, anxious, or on edge.	*pd11*: Not being able to stop or control worrying.	27.75
Social Connectedness			
	sc7: I had someone to give me good advice about a crisis.	*sc8:* I had someone to confide in or talk to about my problems.	10.33
	sc8: I had someone to confide in or talk to about my problems.	*sc9:* I had someone to share my most private worries and fears with.	47.99
	sc9: I had someone to share my most private worries and fears with.	*sc10:* I had someone who understood my problems.	20.46
	sc14: I had someone to have a good time with.	*sc15:* I had someone to get together with for relaxation.	55.18
Personal Mastery			
	n/a		n/a

Appendix D

TABLE 10

Standardized Factor Loadings for Latent Variable Models

	Model 1	Model 2	Model 3	Model 4
Psychological Distress *During the COVID-19 stay-at-home orders, how often were you bothered by any of the following?*				
pd1: Little interest or pleasure in doing things.	0.79	0.80	n/a	n/a
pd2: Feeling down, depressed, or hopeless.	0.83	0.84	n/a	n/a
pd3: Trouble falling sleep, staying asleep, or sleeping too much.	0.78	0.77	n/a	n/a
pd4: Feeling tired or having little energy.	0.82	0.81	n/a	n/a
pd5: Poor appetite or overeating.	0.82	0.83	n/a	n/a
pd6: Feeling bad about yourself- or that you're a failure or have let yourself or your family down.	0.85	0.86	n/a	n/a
pd7: Trouble concentrating on things such as reading the newspaper or watching television.	0.76	0.77	n/a	n/a
pd8: Moving or speaking so slowly that other people have noticed. Or, the opposite, being so fidgety or restless that you have been moving around a lot more than usual.	0.68	0.69	n/a	n/a
pd9: Thoughts that you would be better off dead or hurting yourself in some way.	0.75	0.75	n/a	n/a
pd10: Feeling nervous, anxious, or on edge.	0.84	0.82	n/a	n/a
pd11: Not being able to stop or control worrying.	0.92	0.90	n/a	n/a
Social Connectedness *During the COVID-19 stay at home orders…*				
sc1: I got the emotional support I needed from my family.	0.47	-	-	-
sc2: I got the emotional support I needed from my friends.	0.50	-	-	-
sc3: I felt like a valued member of my neighborhood.	0.57	0.50	-	-
sc4: I knew of community organizations and/or agencies that support people like me.	0.32	-	-	-

sc5: I received support from others who shared my sexual/gender identity.	0.46	-	-	-
sc6: I felt supported by the larger LGBTI+ community.	0.30	-	-	-
sc7: I had someone to give me good advice about a crisis.	0.60	0.60	0.59	0.59
sc8: I had someone to confide in or talk to about my problems.	0.73	0.76	0.75	0.75
sc9: I had someone to share my most private worries and fears with.	0.75	0.81	0.78	0.78
sc10: I had someone who understood my problems.	0.75	0.78	0.79	0.79
sc11: I had someone to help me if I were to be confined to a bed.	0.73	0.75	0.76	0.76
sc12: I had someone to prepare my meals if I was unable to do it myself.	0.53	-	-	-
sc13: I had someone who would hug me.	0.68	0.62	0.59	0.59
sc14: I had someone to have a good time with.	0.73	0.69	0.63	0.63
sc15: I had someone to get together with for relaxation.	0.71	0.66	0.57	0.57
sc16: I had someone to do something enjoyable with.	0.68	0.62	0.54	-
Personal Mastery				
pm1: There is no way I can solve the problems I have.	0.58	0.57	n/a	n/a
pm2: Sometimes I feel that I am being pushed around in life.	0.49	0.50	n/a	n/a
pm3: I have little control over the things that happen to me.	0.68	0.69	n/a	n/a
pm4: I often feel helpless in dealing with the problems of life.	0.70	0.69	n/a	n/a
pm5: What happens to me in the future mostly depends on me.	-0.17	-	n/a	n/a
pm6: There is little I can do to change many of the important things in my life.	0.58	057	n/a	n/a
pm7: I can do just about anything I set my mind to.	0.27	-	n/a	n/a

Appendix E

TABLE 11

Factor Loadings for Structural Equation Models 1 and 2

Group TGNC	Model 1		Model 2	
	b	β	*b*	β
Psychological Distress				
During the COVID-19 stay-at-home orders, how often were you bothered by any of the following?				
pd1: Little interest or pleasure in doing things.	1.00	0.77	1.00	0.77
pd2: Feeling down, depressed, or hopeless.	1.05	0.83	1.06	0.83
pd3: Trouble falling sleep, staying asleep, or sleeping too much.	0.98	0.77	0.97	0.75
pd4: Feeling tired or having little energy.	1.03	0.82	1.03	0.81
pd5: Poor appetite or overeating.	1.04	0.75	1.04	0.74
pd6: Feeling bad about yourself- or that you're a failure or have let yourself or your family down.	1.09	0.76	1.09	0.75
pd7: Trouble concentrating on things such as reading the newspaper or watching television.	0.97	0.70	0.97	0.70
pd8: Moving or speaking so slowly that other people have noticed. Or, the opposite, being so fidgety or restless that you have been moving around a lot more than usual.	0.86	0.63	0.88	0.63
pd9: Thoughts that you would be better off dead or hurting yourself in some way.	0.95	0.62	0.99	0.63
pd10: Feeling nervous, anxious, or on edge.	1.02	0.81	1.07	0.83
pd11: Not being able to stop or control worrying.	1.13	0.85	1.18	0.87
Personal Mastery				
pm1: There is no way I can solve the problems I have.	1.00	0.61	1.00	0.61
pm2: Sometimes I feel that I am being pushed around in life.	0.85	0.50	0.85	0.50
pm3: I have little control over the things that happen to me.	1.11	0.79	1.11	0.70
pm4: I often feel helpless in dealing with the problems of life.	1.15	0.72	1.15	0.72
pm6: There is little I can do to change many of the important things in my life.	0.91	0.56	0.91	0.56
Group CSM	Model 1		Model 2	
	b	β	*b*	β
Psychological Distress				
During the COVID-19 stay-at-home orders, how often were you bothered by any of the following?				
pd1: Little interest or pleasure in doing things.	1.00	0.77	1.00	0.76

pd2: Feeling down, depressed, or hopeless.	1.05	0.81	1.06	0.81
pd3: Trouble falling sleep, staying asleep, or sleeping too much.	0.98	0.66	0.97	0.64
pd4: Feeling tired or having little energy.	1.03	0.78	1.03	0.77
pd5: Poor appetite or overeating.	1.04	0.71	1.04	0.70
pd6: Feeling bad about yourself- or that you're a failure or have let yourself or your family down.	1.09	0.80	1.09	0.69
pd7: Trouble concentrating on things such as reading the newspaper or watching television.	0.96	0.66	0.97	0.66
pd8: Moving or speaking so slowly that other people have noticed. Or, the opposite, being so fidgety or restless that you have been moving around a lot more than usual.	0.86	0.59	0.88	0.59
pd9: Thoughts that you would be better off dead or hurting yourself in some way.	0.95	0.61	0.99	0.62
pd10: Feeling nervous, anxious, or on edge.	1.02	0.76	1.07	0.79
pd11: Not being able to stop or control worrying.	1.13	0.79	1.18	0.82
Personal Mastery				
pm1: There is no way I can solve the problems I have.	1.00	0.67	1.00	0.67
pm2: Sometimes I feel that I am being pushed around in life.	0.85	0.64	0.85	0.64
pm3: I have little control over the things that happen to me.	1.11	0.77	1.11	0.77
pm4: I often feel helpless in dealing with the problems of life.	1.15	0.76	1.15	0.76
pm6: There is little I can do to change many of the important things in my life.	0.91	0.60	0.91	0.60

Appendix F

TABLE 12

Modification Indices > 10 of Structural Equation Model 1

	Item 1	Item 2	*mi*
Psychological Distress			
	pd9: Thoughts that you would be better off dead or hurting yourself in some way.	*pd10:* Feeling nervous, anxious, or on edge.	17.51
Personal Mastery			
	pm2: Sometimes I feel that I am being pushed around in life.	*pm4:* I am often helpless in dealing with the problems of life.	13.53

Notes. mi = modification indices

Appendix G

TABLE 13

Post-hoc SEM Factor Loadings

	b	β
Group TGNC		
pd1: Little interest or pleasure in doing things.	1.00	0.77
pd2: Feeling down, depressed, or hopeless.	1.06	0.83
pd3: Trouble falling sleep, staying asleep, or sleeping too much.	0.97	0.76
pd4: Feeling tired or having little energy.	1.03	0.81
pd5: Poor appetite or overeating.	1.04	0.74
pd6: Feeling bad about yourself- or that you're a failure or have let yourself or your family down.	1.09	0.76
pd7: Trouble concentrating on things such as reading the newspaper or watching television.	0.97	0.70
pd8: Moving or speaking so slowly that other people have noticed. Or, the opposite, being so fidgety or restless that you have been moving around a lot more than usual.	0.88	0.64
pd9: Thoughts that you would be better off dead or hurting yourself in some way.	0.99	0.63
pd10: Feeling nervous, anxious, or on edge.	1.07	0.83
pd11: Not being able to stop or control worrying.	1.18	0.87
Group CSM		
pd1: Little interest or pleasure in doing things.	1.00	0.77
pd2: Feeling down, depressed, or hopeless.	1.06	0.82
pd3: Trouble falling sleep, staying asleep, or sleeping too much.	0.97	0.65
pd4: Feeling tired or having little energy.	1.03	0.78
pd5: Poor appetite or overeating.	1.04	0.71
pd6: Feeling bad about yourself- or that you're a failure or have let yourself or your family down.	1.09	0.70
pd7: Trouble concentrating on things such as reading the newspaper or watching television.	0.97	0.67
pd8: Moving or speaking so slowly that other people have noticed. Or, the opposite, being so fidgety or restless that you have been moving around a lot more than usual.	0.88	0.60
pd9: Thoughts that you would be better off dead or hurting yourself in some way.	0.99	0.63
pd10: Feeling nervous, anxious, or on edge.	1.07	0.80
pd11: Not being able to stop or control worrying.	1.18	0.83

Notes. pd = psychological distress

Appendix H

TABLE 14

Post-hoc Modification Indices > 10 of SEM

	Item 1	Item 2	*mi*
Psychological Distress			
	pd3: Trouble falling sleep, staying asleep, or sleeping too much.	*pd11*: Not being able to stop or control worrying.	10.54
	pd9: Thoughts that you would be better off dead or hurting yourself in some way.	*pd10:* Feeling nervous, anxious, or on edge.	15.02
	pd10: Feeling nervous, anxious, or on edge.	*pd11*: Not being able to stop or control worrying.	23.01

Notes. mi = modification indices

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