THE COPING STRATEGIES AND RESILIENCE OF TRANS AND NON-BINARY PEOPLE IN RESPONSE TO IDENTITY-BASED DISCRIMINATION

by

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(Under the Direction of Nathan Hansen and Anneliese Singh)

ABSTRACT

Trans and non-binary people face high rates identity-based discrimination, presenting as unfair employment termination, eviction, violence and harassment, and rejection for example. Researchers hypothesize that these frequent experiences of discrimination are one of the drivers of higher rates depression, anxiety, suicidality, and substance use. While there has been a significant increase in the number of studies examining risk factors and negative health outcomes among TNB people, there is still a lack of research examining protective factors and positive health outcomes, such as facilitative coping and resilience. This exploratory study aims to fill this gap by exploring how TNB individuals cope with discrimination and build resilience in response. For this study, 109 TNB people were recruited to participate in a 30-day, twice-a-day, ecological momentary assessment. All participants also completed a baseline and post-survey. Participants were asked about experiences of discrimination, coping strategies, resilience and their mental health. Individuals who reported higher levels of resilience at baseline, were less likely to report discriminatory events and maladaptive coping techniques. Additionally, using a mentorship coping style was associated with increasing scores of resilience over time. Findings

from this study can be used to inform future research and interventions on building resilience in response to discrimination.

INDEX WORDS: Transgender, Mental Health, Coping, Resilience

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EXPLORING THE COPING STRATEGIES AND RESILIENCE OF TRANS AND NON-BINARY PEOPLE IN RESPONSE TO IDENTITY-BASED DISCRIMINATION

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DEDICATION

To Oskar, who grew alongside this dissertation. May this lead to a better world for you.

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CHAPTER 1

Introduction

Problem

About 0.6% of the United States population (or 1.4 million people) identifies as transgender or non-binary (TNB) (The Williams Institute, 2017). TNB people identify with a gender that differs from their sex assigned at birth. This still is likely to be an underestimate due to the stigma of identifying as TNB, or inaccurate surveying techniques when asking about gender, such as not offering options other than "man/male" or "woman/female" (American Psychological Association, 2017).

When compared to their cisgender peers, TNB people experience significantly higher rates of mental health problems such as depression and anxiety, suicidality, self-harm, eating disorders and substance use (Benotsch et al., 2013; Bockting, Miner, Romine, Hamilton, & Coleman, 2013; dickey, Reisner, & Juntunen, 2015; Pflum, Testa, Balsam, Goldblum, & Bongar, 2015; Santos et al., 2014). For example, one study focused on TNB youth, found that trans youth were two to three times more at risk of having depression, anxiety, suicidal ideation or attempt, or self-harm (Reisner et al., 2015). Another study that surveyed 1093 trans adults found that 44.1% had clinical levels of depression, and 33.2% had clinical levels of anxiety (Bockting et al., 2013). In comparison, NIMH reported that the national prevalence of depression and anxiety are 6.7% and 19.1% respectively (NIMH). Even when compared to cisgender lesbian, gay and bisexual individuals, TGNC people are over two times more likely to experience depression or suicidal ideation (Su et al., 2016).

Most researchers and practitioners agree that the increased burden of mental health problems among TNB people is at least partially because of the systemic stigma, discrimination and violence they experience (Reisner, White Hughto, et al., 2016). Multiple studies have explored the relationship between experienced stigma and mental health. Bockting et al. (2013) found that both felt and enacted stigma, including discriminatory events such as verbal harassment, problem accessing health resources, and losing employment or housing, were associated with higher general levels of psychological distress. Clements-Nolle (2006) found that gender-related discrimination was associated with a 2.39 times higher likelihood of attempted suicide among trans men and trans women. Researchers have shown that even policies at the state level, which endorse trans-based discrimination (such as lack an anti-discrimination policy that includes trans and nonbinary identities) are associated with worse health outcomes (Du Bois, Yoder, Guy, Manser, & Ramos, 2018). Additionally, Bradford et al. (2013) found that 26.9% of their sample experienced trans-related discrimination when seeking healthcare services, including those for mental health and substance use needs, illustrating how discriminatory stress impacts both mental health and help-seeking behaviors.

Current public health interventions and research for TNB people focus heavily on HIV, sexual risk behaviors, self-harm and suicidality. Research on these risk behaviors among TNB people has tended to explore protective factors such as support from friends, family, and health care providers. However, decision making, especially when considering behaviors such as alcohol and drug use, unsafe sexual behaviors, and medical adherence, is often influenced by outside environmental influences and stressors. For example, individuals who are experiencing housing insecurity often experience a concurrent loss of stability in terms of medication and/or relationships. This can influence TNB people to take part in survival sex work or in avoidant

coping mechanisms such as substance use (Singh, Truszczynski, White, Estevez, Bockting, & LeBlanc, In progress). Understanding "risky behaviors" as consequences of environmental factors and systemic, interpersonal, and internalized stigma, allows for a more compassionate and realistic assessment of the predictors of health behaviors like unsafe sex, and substance use. Currently, interventions and research ignore how chronic discriminatory stress can influence decisions when considering "risky" choices. There is a significant gap in our current understanding of how TNB people appraise and then cope with chronic stress, as expressed through either macro- (e.g. losing a job because of gender identity) or micro- events (e.g. someone using transphobic language). In fact, there are only four published articles on coping with social stress in relation to mental health outcomes for TNB people (Valentine & Shipherd, 2018).

Significance

Transgender and non-binary (TNB) individuals are still an under-researched population. Previously, TNB people's health outcomes were extrapolated from research of and theories on lesbian, gay, and bisexual (LGB) individuals. However, TNB people, often because of their non-conforming gender expression, generally experience more overt and severe discrimination and can additionally face unique health challenges because of medical gatekeeping, lack of access to gender affirming surgery and hormone treatment, and difficultly finding providers who can provide trans competent care (Clements-Nolle, Marx, & Katz, 2006; Hendricks & Testa, 2012; Horvath, Iantaffi, Swinburne-Romine, & Bockting, 2014; Reisner, White Hughto, et al., 2016). As researchers have begun focusing on these additional components of minority stress and

barriers associated with TNB health, there has been a significant push to study the TNB population separately from LGB people (Hendricks & Testa, 2012; Reisner, Deutsch, et al., 2016).

Overall data on mental health and resilience

In recent years, several studies have been published illustrating the higher burden of negative mental health and substance abuse outcomes in TNB populations (Benotsch et al., 2013; Bockting et al., 2013; Clements-Nolle et al., 2006; Fredriksen-Goldsen et al., 2014; Keuroghlian, Reisner, White, & Weiss, 2015; Olson, Schrager, Belzer, Simons, & Clark, 2015; Reisner et al., 2015; Santos et al., 2014). Studies have found rates of depressive symptoms among TNB individuals ranging between 23.7% - 62% (Bockting et al., 2013; Budge, Adelson, & Howard, 2013; dickey et al., 2015; Horvath et al., 2014; Keuroghlian et al., 2015; Olson et al., 2015; Reisner et al., 2015; Reisner, White Hughto, et al., 2016). Compared to the general population, TGNC people are about three times more likely to report depressive symptoms (Flentje, Heck, & Sorensen, 2014; Reisner et al., 2015). Additionally, TNB people also report high rates of stress and anxiety symptoms, with the literature reporting rates of anxiety from 33.2% to 47.5% (Bockting et al., 2013; Stephanie L. Budge et al., 2013; Fredriksen-Goldsen et al., 2014; Horvath et al., 2014; Reisner et al., 2015).

Considering self-destructive behaviors, TNB people reported higher rates than the general population, specifically with non-suicidal self-injury (16.7% - 41.9%), suicidal ideation (31.1% - 83%), suicide attempts (12% - 41%), and drug use (7.0% - 62.0%) (Benotsch et al., 2013; Bockting et al., 2013; Stephanie L. Budge et al., 2013; Clements-Nolle et al., 2006; dickey et al., 2015; Flentje et al., 2014; Fredriksen-Goldsen et al., 2014; Horvath et al., 2014; Keuroghlian et al., 2015; Mizock & Mueser, 2014; Moody, Fuks, Peláez, & Smith, 2015;

Reisner et al., 2015; Santos et al., 2014). While researchers have established that there is a significantly higher burden of mental health problems among TNB people when compared to the general population or their LGB counterparts, and corresponding risk (stigma, discrimination) and protective factors (social support), little is known about the specific ways that people cope with experiences of stigma and discrimination and how they seek help from tangible and intangible resources. Further research into this area could lead to a better understanding of how TNB people cope with their chronic minority stress and develop resilience.

Meyer's (2015) revision of the minority stress model included the construct of resilience as a protective factor. He defined resilience as the ability to survive and adapt in the face of stress, specifically mentioning minority stress. Despite the historic conceptualization of resilience as an individual factor, Meyer called for the reconceptualization of resilience as a multi-level construct, with both individual and community level factors, based on previous qualitative research done in the field. Qualitative research has identified individual-level factors of resilience among trans and non-binary people, such as the ability to define one's identity and asserting oneself (Bry, Mustanski, Garofalo, & Burns, 2018; Budge et al., 2018; Singh, Hays, & Watson, 2011). Community level factors include taking part in advocacy and activism, social support, and accessing community resources (Breslow et al., 2015; Singh et al., 2011).

While qualitative researchers have identified these resilience factors, there is little quantitative research published looking at how resilience impacts the relationship between discriminatory/minority stress and mental health outcomes. Most quantitative research pulls out a few resilience factors, such as social support and activism/advocacy, and looks at each independently in relation to health outcomes. This leads to a narrow understanding of resilience and can lead to misinterpreting the relationships among stress, resilience and mental health. As

our theoretical understanding of resilience has evolved from an individual-level trait to a multi-level, complex construct, we need to adjust the way we measure resilience in quantitative research.

Purpose

This study explores how discriminatory stress impacts the mental health, substance use and resilience of trans and non-binary people. I will measure resilience as a multi-level, multi-factor construct, using the Trans Resilience Survey (Singh, Truszczynski, Meng, Hansen, & Estevez, In Progress) in an effort to reflect the new theoretical understanding of resilience in historically marginalized communities. Additionally, this study will be longitudinal to help clarify the directional relationships among stress, resilience and mental health. This study will also explore how TNB people appraise and cope with these experiences, what resources they used to cope with the experience, and how this impacts their mental health.

CHAPTER 2

Literature Review

Understanding Resilience and Coping Research in TNB Populations

Qualitative research has identified seven mostly agreed upon themes of resilience among transgender and non-binary (TNB) people (Moody et al., 2015; Singh et al., 2011; Singh & McKleroy, 2010; Singh, Meng, & Hansen, 2014). They are: 1) evolving definition of self (defining one's own identity), 2) embracing self-worth (often conceptualized as identity pride), 3) awareness of oppressions, 4) connection with a supportive community (usually one that is a group of peers that share an identity; commonly conceptualized as community connectedness or social support), 5) cultivating hope for the future (sometimes conceptualized as optimism), 6) social activism (also sometimes talked about as community advocacy and activism) and 7) being a positive role model (this is specifically for someone who is also a member of the same historically marginalized group) (Moody et al., 2015; Singh et al., 2011; Singh & McKleroy, 2010; Singh et al., 2014).

The themes of resilience represent individual processes that exist within the context of an individual's built community and resources. Resilience, as conceptualized for minority groups in response to minority stress, exists on the community level, where it cannot exist without the presence of the community, and community-based, affirming resources (Ilan H. Meyer, 2015). While to be resilient, the person must take part in individual resilient processes, it is not solely dependent on these processes, making it different from coping strategies. Additionally, resilience

has been described as successful coping (Ilan H. Meyer, 2015). Whereas coping can be adaptive or maladaptive, resilience is by definition adaptive.

The community context of resilience is a key element in trans (and other minority identity) resilience, and is what differentiates it from the original conceptualization of resilience at the individual level. Because TNB individuals experience chronic stress based on their community identity, it would be unrealistic to claim that the response to the community stress is individualistic (Ilan H. Meyer, 2015). Thinking about resilience on the community level allows for resilience to rely on the presence of resources such as community centers, affirming clinic and other healthcare providers, support groups, networking, and organizations that provide opportunities to both provide advocacy and needed resources (Ilan H. Meyer, 2015). It is within the context of the community provided resources that individuals can participate in individual resilience processes (Ilan H. Meyer, 2015; Singh et al., 2011).

For example, considering the first two themes of resilience, self-defining identity and identity pride, the language that people use to define themselves and the language that people find affirming is often the result of community activism and community presence. The TGNC community provides support and raises awareness about gender identity and expression, so it is easier for individuals to acknowledge and define their own identities (Ilan H. Meyer, 2015; Singh et al., 2011). Self-defining identity is an important resilience process in response to minority stress and stigma because it allows individuals to name their "otherness" and embrace it as valued within themselves. This allows individuals to switch the point of blame from themselves, with could lead to shame, to society and other structural systems. These processes are similar to the positive reframing process discussed in coping research (Carver, 1997; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

The three themes of awareness of oppression, cultivating hope for the future and participation in activism/advocacy also depend on the presence of community (Ilan H. Meyer, 2015; Singh et al., 2011). Laws and policies, discrimination, and stigma exist at the societal level against a specific community; this forms the systems of oppression. To be aware of the oppression that an individual may experience, they have to understand how a society views their specific community, and therefore what protections are not afforded to them, and what discrimination they may face in place of protection. Again, communities provide tangible resources such as advocacy organizations where individuals may seek services if they feel as if they have been discriminated against or want to protect themselves from future discrimination. Additionally, at community organizations and within community groups, other people can provide support and empowerment that allows the individual to understand the issues, and feel capable of surviving, fight back, and improve not only their life but their community's wellbeing as well (Singh et al., 2011; Singh & McKleroy, 2010; Singh et al., 2014). Trying to tie these processes back into coping, they correspond well with the adaptive coping strategies of confrontive coping and planful problem solving (Carver, 1997; Folkman et al., 1986).

The last two themes of resilience, connection to supportive community, and positive role models, are closely connected to the other themes of resilience mentioned previously, and can be viewed as the themes that tie the individual process to the community resources (Singh et al., 2011; Singh & McKleroy, 2010; Singh et al., 2014). Community support is a mechanism through which individuals can find out about available resources, learn how to use resources (increase self-efficacy and environmental mastery), and find peers to express their feelings to, knowing they share the same experiences (Singh et al., 2011; Singh & McKleroy, 2010; Singh et al., 2014). The key part of these social support processes in resilience is that they offer not only

emotional support or peer-to-peer support, but also social support within the framework of resilience, providing access to a network of resources that can increase people's ability to cope with minority stress. Conceptually, these themes are similar to the creation of a caravan passageway in the framework of Hobfoll's Conversation of Resources theory.

Another resilience factor that has emerged in recent research is asserting oneself or confrontation (Bry et al., 2018; Budge et al., 2018). Qualitative research with youth has found this factor to be especially important in building confidence and dealing with microaggressions and other forms of discriminatory stress (Bry et al., 2018; Budge et al., 2018). Researchers found that the act of standing up for oneself and expressing one's opinion allowed the participants to feel heard, and feel like they took action, even if it did not result in the person changing their mind (Bry et al., 2018; Budge et al., 2018). This resilience factor seems to combine other previously identified factors, such as self-defining identity and participation in activism/advocacy.

Throughout the literature exploring conceptualizations of resilience, there has been some confusion surrounding the definitions of coping and resilience. When resilience is described as a process it can be difficult to differentiate it from the appraisal and behaviors inherent in coping based on Lazarus's coping theory (Folkman & Lazarus, 1980). However, multiple researchers have tried to separate the two by defining resilience as the product of what happens when someone learns to appraise situations well and cope effectively. For example, while one would consider someone who uses substances as using maladaptive coping strategies in regards to their stress, one would not consider it a resilient process to that stressor. We do not consider the individual resilient because substance abuse is not a realistic, long-term strategy, as the individual cannot rely on using substances again to help them successfully move through

future adversity. Additionally, substance use, or other maladaptive coping mechanisms such as denial, self-blame, etc., do not help individuals actually "bounce back" to their pre-stressor level of functioning.

Resilience also depends on availability of and access to affirming resources, which, while mentioned in Hobfoll's Conservation of Resources theory, is not usually considered a key component of coping (Hobfoll, 2001). However, resilience can be conceptualized as a multi-level construct, with individual, community, and societal processes that all play a role in its development. To foster resilience in a community, there need to be trans-affirming or supportive community resources available. Often, in a historically oppressed group, these resources are not created by the greater public; instead communities create these resources for themselves or help create a network of knowledge, where they can share trusted and safe providers (Ilan H. Meyer, Schwartz, & Frost, 2008). This shows one way that resilience is reliant on resources and based at the community-level of society.

Coping, on the other hand, is almost entirely based on the individual level. Individuals appraise the stressor themselves, make decisions independently, and then select coping strategies, whether facilitative or maladaptive. While decisions are often influenced by the surrounding environment, researchers still view coping as a more individual task of assessing the surrounding environment, and a choosing response that works best for them (Ilan H. Meyer et al., 2008). Coping is based on appraisal of the stressor, and individual decision-making (Folkman & Lazarus, 1980; Folkman et al., 1986). Instead, resilience focuses on choosing how to best use the available resources, whether tangible (such as community organizations) or intangible (social support).

Current research in the field of resilience among trans and non-binary (TNB) individuals has focused on describing the processes of resilience and providing conceptual and theoretical frameworks. Most studies that examine resilience do not directly tie it to any outcomes other than to hypothesize that it increases survival and decreases mental health issues (Moody et al., 2015; Singh & McKleroy, 2010). However, some researchers have examined how specific components of resilience are associated with health outcomes among TNB people, mainly mental health outcomes (Bockting et al., 2013; Stephanie L. Budge et al., 2013; Mizock & Mueser, 2014; Sánchez & Vilain, 2009; White Hughto, Pachankis, Willie, & Reisner, 2017).

Bockting (2013) examined how the resilience processes of peer support (specifically from other trans individuals) and identity pride moderate the impact of stigma on mental health outcomes (Bockting et al., 2013). They collected data for this research study online using self-report. They divided the population into trans men and trans women. Overall, the sample had high rates of depression and anxiety, 44.1% and 33.2% respectively. Both felt and enacted stigma were associated with poorer mental health outcomes and psychological distress (Bockting et al., 2013). Peer support *moderated* the relationship between stigma and mental health outcomes by reducing the impact of stigma on depression and anxiety (Bockting et al., 2013). However, identity pride did not moderate these relationships (Bockting et al., 2013). One reason that an association with identity pride was not observed was that it was measured as a trait rather than a process. Additionally, identity pride may have to work in interaction with other resilience processes, such as awareness of oppression, advocacy and access to affirming resources.

Budge, Adelson and Howard (2013) examined the role of the resilience factor of social support in buffering the stress of transitioning and chronic stress because of identity (Stephanie L. Budge et al., 2013). In the same study, high rates of depression and anxiety were found,

48.3 – 51.4% and 40.4 - 47.5% respectively (Stephanie L. Budge et al., 2013). Social support successfully buffered the stress of transition and reduced the association with depression and anxiety (Stephanie L. Budge et al., 2013). Interestingly, Budge et al. (2013) also examined the role of avoidant coping on mental health. Avoidant coping can be thought of as the opposite of resilience. Avoidant coping was evaluated using the Ways of Coping questionnaire (Stephanie L. Budge et al., 2013). The researchers ran a factor analysis and grouped together the facilitative and avoidant coping strategies. Avoidant coping was associated with higher depression scores and anxiety scores (Stephanie L. Budge et al., 2013). The researchers then ran a path model and found that social support and type of coping interacted together to predict depression and anxiety (Stephanie L. Budge et al., 2013). This is significant because it aligns with the resilience theory that states resilience is based on the combination of availability of community resources and individual skills.

Another study examined the mediating role of avoidant coping in the association between victimization and depressive symptomology (White Hughto et al., 2017). This cross-sectional, quantitative study among transgender adults looked at how victimization (which was a latent variable created from the constructs of everyday discrimination, bullying, physical assault by family, verbal harassment by family, childhood sexual abuse, and intimate partner violence) impacted depressive symptomology, as mediated by avoidant coping. They measured avoidant coping using the avoidant subscale of the Ways of Coping questionnaire. Unlike in the Budge et al. (2013) study, they measured only avoidant coping, and the researchers used the existing subscale. White Hughto et al. (2017) found that avoidant coping did significantly mediate the relationship between victimization and depressive symptomology. This is important to consider because while avoidant coping is not a resilience process, it can mimic as the opposite of

resilience. Understanding the outcomes of when people are not displaying resilience is equally important as understanding the outcomes of resilience.

Another study done by Mizock and Mueser (2014) explicitly used coping as a proxy for resilience. The Mizock et al. noted in the introduction that coping is not resilience, however adaptive coping mechanisms, along with resources and other community-specific process, form resilience (Mizock & Mueser, 2014). Therefore, they justified using coping as a way of studying how resilience helps moderate the association between transphobia and mental health. They measured coping using the Coping Skills Inventory, which measures different types of coping skills to a generic stressor rather than specific coping styles. The study found that higher levels of coping skills were associated with better psychiatric medication uptake and adherence (Mizock & Mueser, 2014). This finding is important considering the relevance of medical adherence in improving quality of life among individuals with chronic illnesses, HIV, and mental health issues. This provides justification for further inquiry into developing resilience based interventions to improving accessing and using care, leading to overall better health outcomes for this population.

To the best of my knowledge, there have been no studies that look at how the processes of resilience (including both the community and individual factors) affect the health of transgender individuals. Some resilience processes have been studied, mainly social support; however, this is not sufficient to understand the impact of resilience. First, while research has regularly shown the protective nature of social support, this construct is measured differently than the social support process in resilience. Social support in resilience is dependent on support from other community members that share the same historically marginalized identity. Additionally, the community support process described in resilience is also a key way that individuals develop pride in their

identity and access affirming resources. However, when being measured in current studies, most researchers use a standard social support measure, asking if they feel supported by their friends, family, and partner.

Second, the majority of resilience processes have not been explored. Facilitative coping is often used as a proxy for resilience. While this can be justified as a facilitative coping measures whether he individual can access and use resources, problem solve and reappraise the stressor it is not a like for like substitution because it does not account for the role of the participants' identity. These previous studies allow us to make guesses on how resilience may impact health outcome; however, they only offer justification for further exploratory studies, rather than frameworks for specific interventions.

There has been a push in the field to create a scale that would measure trans resilience. Two specific scales have been developed by Testa and coworkers (Testa, Habarth, Peta, Balsam, & Bockting, 2015). However, Testa's scale focuses mainly on experiences of stigma, with only three of the nine subscales focusing on protective processes. The other scale, Singh's Trans Resilience Survey, focuses on resource availability, safety, affirmation and self-worth (Singh et al., In progress). The Trans Resilience Survey is a more accurate reflection of the resilience processes used by TNB people. However, this scale is new and has not been used in many studies, reducing the ability to compare and generalize results. While other resilience measures exist, they measure individual levels of resilience, which is not applicable to the conceptualization of resilience within the theoretical framework of the minority stress model (Ilan H. Meyer, 2015). Until a resilience measure is created, validated, and generally used within this research, there will be limitations in understanding how resilience may moderate the effect of chronic minority stress on the health outcomes of TNB individuals.

From the research described above we can extrapolate that resilience helps reduce the negative consequences of minority stress, and could be a key factor in reducing disparate rates of depression, anxiety, suicidality, HIV, and other illnesses among TNB individuals. Additionally, we can extrapolate that resilience would lead to positive mental health outcomes, such as self-esteem, happiness, emotional regulation, and confidence. As stigma and minority stress have been shown to cause mental health issues such as depression and anxiety, shame, and suicidality, we can logically infer that the presence of resilience to these stressors would lead to the opposite outcomes. We would also expect behaviors such as better medical adherence, care utilization, and increased physical activity, based on the previous research mentioned examining the impact of resilience factors on health (Ilan H. Meyer, 2015; Mizock & Mueser, 2014; Reisner, White Hughto, et al., 2016). Last, physical health outcomes such as higher overall quality of life, lower obesity, pain, and gastrointestinal issues would likely result from improved resilience, as these physical health outcomes have all been associated with chronic stress.

Stress and Coping Theories

My study is informed by Hobfoll's Conservation of Resources Theory and Meyer's Minority Stress Model (Hobfoll, 2001; Ilan H. Meyer, 2013). The Conservation of Resources Theory describes coping with chronic stressors and also incorporates the role of resources. This coping theory is most aligned with resilience and allows my study to theorize about the potential relationship between resilience and coping. Additionally, the Minority Stress Model is used as it best describes the type of stress that TNB people face and the potential impact on mental health.

Hobfoll's Conservation of Resources Theory

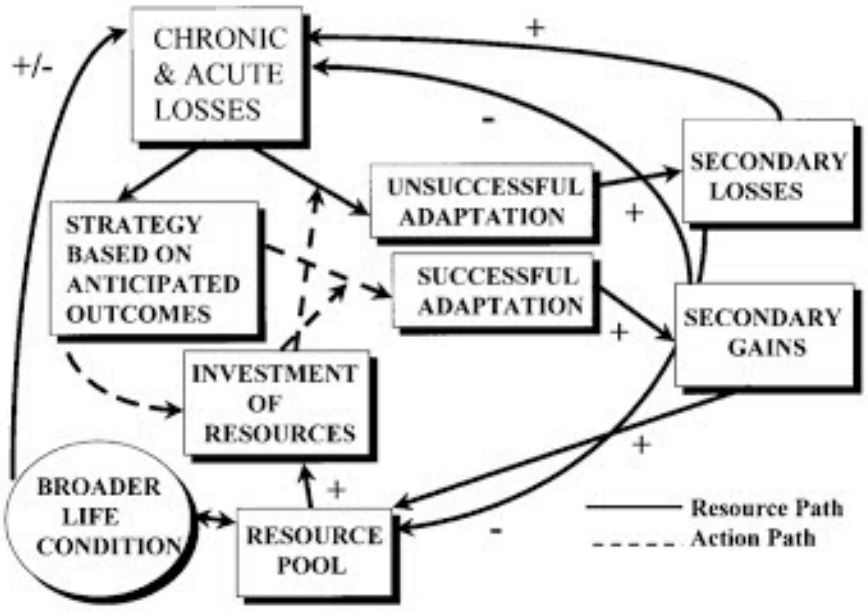

Figure 1. Hobfoll's Conversation of Resources Theory (2001)

One of the major theories within the field of stress and coping is Hobfoll's Conservation of Resources Theory. This theory accounts for appraisal and environmental circumstances like Lazarus's popular Stress and Coping Theory, but in addition also focuses on resources use and allocation (Hobfoll, 2001; Lazarus & Folkman, 1984). Additionally, Hobfoll's theory illustrates how chronic stress or chronic loss of resources impacts the stress process over time. Hobfoll explains that the Conservation of Resources (COR) Theory shows how the loss of resources is the most important "ingredient" in the stress process (Hobfoll, 2001). Overall, as shown in Figure 1, "resource conservation," the desirable outcome, occurs when individuals respond adaptively to stress and can "save" some of their accessible resources for future instances of

stress. Hobfoll describes the conditions that can lead to either chronic resource loss or gain in addition to acute stress events.

Hobfoll (2001) claims that stress will occur in three circumstances: 1) when individuals are threatened with the loss of accessible resources, 2) when individuals' resources are actually lost, or 3) when individuals fail to gain enough resources after attempting to invest resources. Some examples of resource loss include going into debt, getting diagnosed with illness, losing a family member or no longer perceiving life as peaceful (Hobfoll, 2001). Within Hobfoll's paper, he lists goals and values that can be considered resources. The resources included are not just tangible resources that can be seen such as wealth or family members, but also intangible resources such as feelings of peace or optimism. This allows for a stressor to occur in a variety of situations or circumstances. While resources such as feelings of optimism appear to be subjective, Hobfoll claims they are actually objective within the individual's cultural group (Hobfoll, 2001). For example, applying this to trans people, when another trans woman of color is murdered, this could commonly be appraised as a stressor among trans women of color due to their loss of feelings of peace or safety. However, white cisgender women may not appraise this situation as a loss of resources because they do not face the same identity-based threat.

The COR model focuses on resources rather than appraisal. Rather than discussing stress and coping directly in the model, it discusses resource loss (stress) and resource gain (functional or facilitative coping). Because of this, appraisal focuses on evaluating resource loss. Appraisal, similar to Lazarus's theory, is based on a person's values and goals. However, Hobfoll focuses on the role of culture in assessing circumstance within the framework of values and goals. While Hobfoll speaks of culture instead of identity, it is easy to make the adaptation to include the role of identity.

The other stressor mentioned by COR theory is when individuals cannot invest resources in order to protect themselves from future resource loss and to gain more resources (Hobfoll, 2001). This is an interesting addition to COR theory, which separates it from other stress and coping theories. With the idea that people need to consistently invest resources for themselves, this model begins to better illustrate the potential chronic health outcomes and chronic stress processes. Hobfoll notes that those with fewer resources **to begin with** are more vulnerable to resource loss and less capable of resource gain (Hobfoll, 2001). This is especially important when considering trans and nonbinary people. TNB people often have fewer resources because of family rejection, difficulties finding employment and staying in housing. Therefore, part of resilience to stress for TNB people must include cultivating ways to access and develop resources. Otherwise, TNB people will consistently be at higher risk for stressful events and corresponding chronic health problems.

Hobfoll mentions that individuals can gain resources from what he calls resource caravans (Hobfoll, 2001; Lazarus & Folkman, 1984). Resource caravans are people or circumstances that share resources and foster skills to help individuals develop resources and teach them how to maintain resources (Hobfoll, 2001). Again, resource caravans address both tangible (e.g., wealth, family structure) and intangible (e.g., self-efficacy, worldview) resources. Resource caravans also highlight the need for healthy community ties to help buffer against stressful events. While Hobfoll never mentions historically marginalized groups through his description of COR theory, its framework allows it to be easily be applied to marginalized communities. For example, in Meyer's Minority Stress Model, building community ties and support is considered one of the buffering techniques against minority stress (Ilan H. Meyer,

2013). Here, we can view resource caravans as the specific ways that marginalized communities use community support to build and provide resources.

Another important thing to consider with resource caravans is caravan passageways. Caravan passageways are conditions that either support and sustain the resources of individuals and groups or that detract from the individuals' resources. Caravan passageways are the environmental factor in Hobfoll's model. They are created and preserved through the mechanism of inheritance (Hobfoll, 2001). Passageways are inherited through either cultural capital or family processes, or both. Hobfoll usually describes differences in outcomes based on wealth. However, we can adapt caravan passageways to historically marginalized groups; individuals who are trans may inherit passageways that do not foster resource gain and maintenance. For example, where discrimination against trans people is legal, it is difficult for trans people to find jobs and housing (ways that people could gain resources such as wealth and security).

A key limitation of COR theory, when considering this study, is that it does not specifically include the role of identity. However, unlike other stress and coping theories, it seems easier to apply to historically marginalized groups due to the constructs of resource caravans and caravan pathways. COR theory accounts for chronic stress and resource depletion, which can be used to mimic lifelong minority stress. To the best of my knowledge, there have been no research studies done applying the COR theory to minority populations that could expand on the conceptualization of COR theory for historically marginalized groups.

The Minority Stress Model

The Minority Stress Model was synthesized from multiple social psychology theories that claimed negative social conditions, such as prejudice and stigma, or alienation from the social norm, could have adverse health effects on individuals (Ilan H. Meyer, 2013). Previous

psychologists theorized that interaction with society shapes the way individuals view themselves. Therefore, if individuals' interactions with society were negative, due to stereotyping and transphobia, or rejection because minority status, then they would experience more stress and have a more negative view of themselves (Ilan H. Meyer, 2013). Additionally, psychologists posed that individuals could feel discordance with dominance in society, and the resulting feeling of uneasiness could lead to stress (Ilan H. Meyer, 2013). The combination of these ideas helped form the Minority Stress Model.

There are three assumptions of minority stress: it is unique, chronic and socially based (Ilan H. Meyer, 2013). It is unique in the sense that minority stress occurs on top of the general pressures that everyone faces in day-to-day life. Therefore, minorities, such as TNB people, must cope with an additional level of stress. Minority stress is chronic because it is rooted in social and cultural factors. Since it is rooted in society, minority stress is stable and will not disappear as long as the individual holds the minority identity salient. This makes it different from most of the other stress that resilience researchers have typically studied. Most resilience research has been done with acute stressors, which led to the development of the trait model of resilience. However, faced with chronic stress, such as minority stress, the process model of resilience makes more sense. Finally, minority stress is socially based because the additional pressure comes from social norms and institutions that hold up these norms rather than just individual relationships. To qualify as minority stress, the stress must come from the social and community level rather than from the individual level. Meyer created the Minority Stress Model to describe how enduring stress specific to someone's minority identity can create negative health outcomes (Ilan H. Meyer, 2013).

The Minority Stress Model is comprised of eight constructs that influence mental health outcomes. These constructs are: circumstance in the environment, minority status, minority identity, general stressors, distal and proximal minority stress processes, characteristics of minority identity and coping and social support.

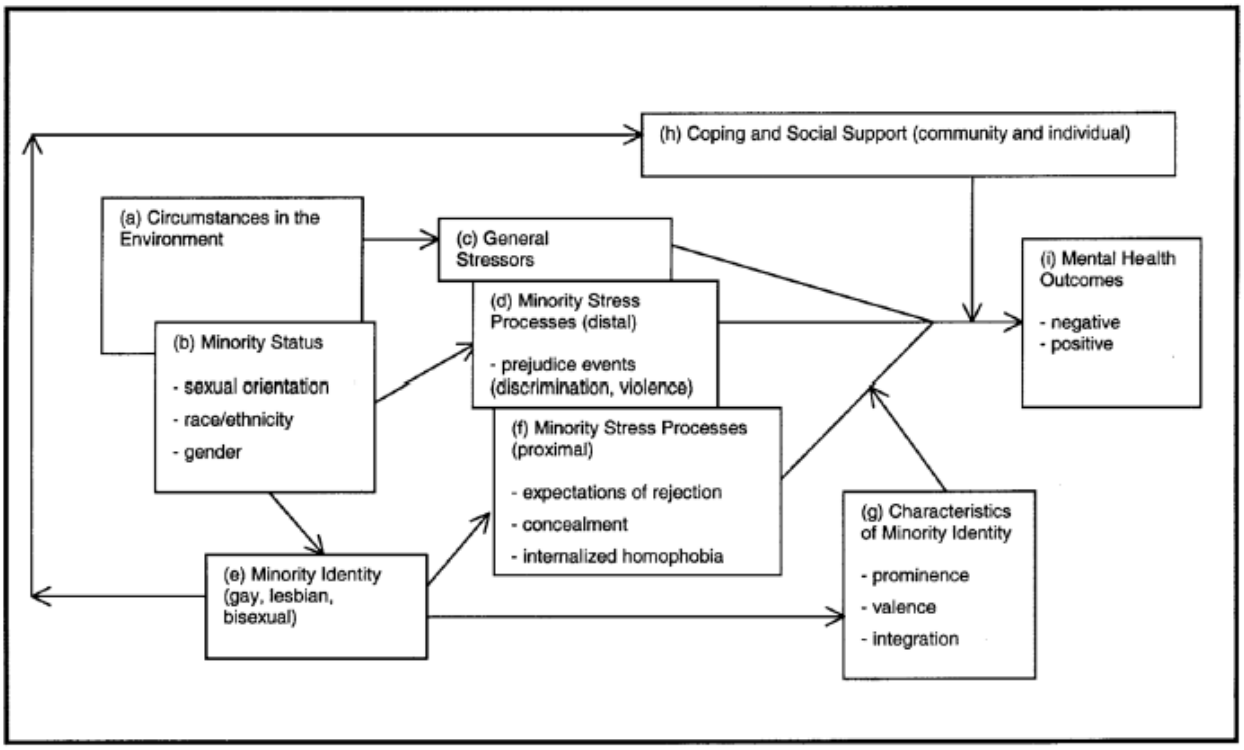

Figure 2. Minority Stress Model (2003)

Circumstances in the environment is the general position that a person has in their society. It covers their socio-economic class, the area they live in, the schools they go to, etc. These circumstances create *general stressors* that exist outside of minority identity. However, *minority status* is nested into circumstances in the environment. It is extremely difficult to try to separate out someone's minority status from the rest of their life. For example, TNB people are more likely to also be impoverished and achieve less education because of the employment and housing discrimination they face. Therefore, the Minority Stress Model accounts for minority status within environmental circumstances. *Minority identity* is nested within minority

status. Someone holds a minority status but identifies with a specific identity within that status. For example, an individual holds a minority status because of their gender identity, but their individual identity within that minority status, would be a transgender woman.

Minority status and minority identity lead to the three key constructs of the minority stress model. Minority status directly leads to *distal minority stress processes.* Distal minority stress processes are *interpersonal* stressors that occur because of minority status. These stressors may come in the form of workplace discrimination, familial rejection, or more extreme events such as hate crimes. Minority identity leads to *proximal minority stress processes* and *coping and social support***.** Proximal minority stress processes are stressors from within the individual, e.g. internalized transphobia, fear of rejection, and a need to conceal their identity. The internalized stressor can cause stress due to the burden they create within the individual. The proximal and distal processes are stressors that would not occur if the individual did not hold a minority status.

Minority identity can also lead to coping and social support. Coping is a positive construct that can help moderate the relationship between minority stress and negative mental health outcomes. Meyer theorized that minority identity can also lead to coping and social support as a result of the sense of community that comes from shared minority status. The community that the minority members create is often a source of resilience and coping that reduces negative mental health outcomes. In these communities, individuals create their own set of values and expectations, which can lessen the rejection they feel from not fitting in mainstream society. Social support is a significant protective factor among minorities.

The last construct of the Minority Stress Model is *characteristics of minority identity*. This construct also moderates the relationship between minority stress processes and mental

health outcomes. Characteristics of minority identity include prominence and valence. If someone's minority identity is very prominent (or salient), either visibly to others or within themselves, that can increase the stress they experience due to their minority status. Also, individuals with a salient minority identity are more likely to have a strong emotional reaction to stressors. Valence is tied to how the individual evaluates their identity. If the individual is negatively evaluating their identity, then they have a higher likelihood for poor mental health.

As this is fundamentally a model of stress, the model does not illustrate the process of coping and appraisal. Instead, Meyer only mentions that coping and social support will moderate the effects of minority stress on mental health outcomes. He does not go through the specific process needed to appraise and cope with minority stress. However, this may be because of the type of stressor that minority stress is. As mentioned earlier, minority stress is chronic and is based on one's minority status. Due to its chronic and persistent presence, perhaps appraisal of this stressor appears differently than acute or short-term stressors. Meyer has since proposed an idea of minority coping and resilience; however, he still does not describe the appraisal process (Ilan H. Meyer, 2015).

Whereas the model does not illustrate appraisal, it does a great job of showing how minority status can mean that the environment and circumstances themselves are stressors, which was a limitation of Hobfoll's theory. The Minority Stress Model is more specific and should not be applied to the general public; however, it is highly useful when trying to describe the stressful experiences of historically marginalized identities. One thing that the model struggles to do is to illustrate how, when an individual experiences a stressor that is not related to their minority identity, their minority identity may still impact how they appraise and cope with the stressor. This may be due to the fact that Meyer chooses to only discuss stress processes in the model.

However, I believe it would be important to include how all stress processes are affected by minority status, no matter the stressor.

Gaps in the research

Multiple studies have explored resilience factors in TNB populations and how TNB people cope with general stress. However, there are significant limitations when attempting to draw conclusions from these studies. Most resilience research has used certain individual traits (such as identity pride and social support) as proxies for the broader construct of resilience. However, looking at individual traits, rather than the whole multi-level construct, removes the complexity of resilience and can diminish or skew the relationship. Because we have not fully measured resilience among TNB people, no strong associations between resilience and health outcomes can be confirmed. However, the results are compelling enough to provide the justification for further exploration of how the complete construct of resilience (using Singh's Trans Resilience Survey measure) impacts mental health.

Additionally, to the best of my knowledge, all research that has examined coping strategies among TNB people has asked about how people cope with discrimination, transition, and other trans-specific stress. The Brief COPE and the Ways of Coping Questionnaire have been used to ask participants how they coped with a stressful event that has happened in the past weeks, months or year. This is an ineffective way of exploring coping. Due to recall and selection bias, participants often under-report maladaptive and over-report facilitative coping behaviors (Livingston, Flentje, Heck, Szalda-Petree, & Cochran, 2017). Additionally, participants have a hard time remembering what resources and specific strategies they used. Finally, there is often not a specific stressor that is measured. Coping strategies depend on the

type of stressor that the individual has experienced. Without accurately measuring the stressor and the method of coping, the information is not complete.

The proposed research aims to fill these gaps in the literature. Building on existing research that has shown a strong association between coping and mental health factors among TNB people, this study will use ecological momentary assessment to assess how TNB people cope with daily discrimination based on identity. Ecological momentary assessment allows for close to real time surveys of how participants react to a stressor. In these surveys, I will ask them to report the type of discriminatory event, what coping mechanism and resources they used, and how they felt in the moment. Secondarily, the study attempts to explore the relationship between coping and resilience, specifically looking at how coping and resource use can develop resilience.

Theoretical Model

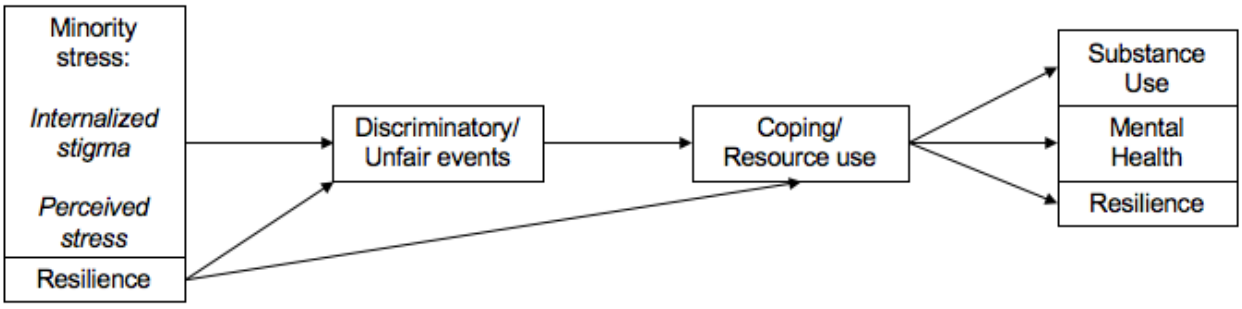

Figure 3. Proposed Theoretical Model

Based on the Minority Stress Model, and the Conservation of Resource Theory, I am proposing the model in Figure 3 to test the relationships among stress, discrimination, coping and resilience. The Minority Stress Model was used as a framework to describe the type of stress experienced, both internalized stigma (proximal stressor) and general perceived stress (distal stressor) and to predict the outcomes of stress (substance use, mental health and resilience). The conservation of resources theory was used as the framework for describing the coping processes

in response to chronic minority stress. I placed resilience at the beginning and end of the model to illustrate how existing resources impact coping processes and how adaptive coping can lead to more resource development while maladaptive coping can remove resources.

CHAPTER 3

Methods

Research Questions

My study aims to answer six exploratory questions, in effort to help researchers understand the experiences of resilience and discrimination among trans and non-binary people.

1. How do resilience and coping self-efficacy influence the coping strategies used in response to unfair and discriminatory events?
2. How do resilience and coping self-efficacy impact the number of discriminatory events experienced and the appraisal of the discriminatory/unfair events?
3. How does minority stress influence the coping strategies used in response to unfair and discriminatory events?
4. How does minority stress impact the number of discriminatory events experienced and the appraisal of the discriminatory/unfair events?
5. What is the impact of discriminatory and unfair events on mental health?
6. What is the impact of different coping strategies on mental health?

Transgender and non-binary (TNB) people experience systematic oppression, discrimination, and violence. Despite the striking prevalence of discrimination and violence, little research has examined how TNB people develop resilience to the stress related to these experiences or resulting mental and physical health consequences. Informed by the Minority Stress Model and the Conservation of Resources Theory, the proposed study aims to examine how minority stress and resilience impact the coping strategies used in response to

discriminatory stress. The proposed study will explore how different coping strategies in response to discriminatory stress impact mental health outcomes and the development of resilience.

The Conservation of Resources Theory explains the long-term impacts of coping with stress. Depending on how individuals cope with a certain stressor, whether adaptively or maladaptively, resource pathways can be created. For example, if someone experiences discriminatory stress and successfully copes with the experience by sharing their feelings with a co-worker, they are building a new resource pathway. Later, when the individual feels a similar stress, when appraising the situation, they can account for more available resources, they can feel less threatened by resource loss and be readier to access available resources. Over time, as people cope with chronic stress, such as discriminatory stress, they can build resource pathways and caravans that increase access to resources (both tangible and intangible), to make them more resilient to the same stress in the future. This project aims to explore the relationship between coping with chronic discriminatory stress, and resource access and resilience, using the conceptualization of the Conservation of Resource Theory.

The short-term goal of these research questions is to 1) better understand the systemic stressors that TNB experience, 2) explore how TNB people cope with chronic stress and resulting mental health outcomes, and 3) understand the relationship between coping and resilience. This study will address two major gaps in the literature: 1) the lack of stress and coping research on stressors other than transition for TNC people and 2) the lack of stress and coping research on chronic, systemic stressors, such as discrimination.

The long-term objective of these research questions is to inform interventions that will help transgender and non-binary people better cope with systemic stress based on their specific

experiences. For example, I aim to identify the most effective coping strategies for people who cannot readily access resources, or the strategies most effective for people who also have other marginalized identities (e.g. race, class, HIV status). Understanding what strategies and resources are most effective at improving the emotional response to stressors and reducing participation in risky behaviors can help public health professional tailor interventions for TNB people based on their unique lived experiences.

Study Design

I recruited participants for the study through social media (Instagram, Facebook) and email list-serves. On social media, images were posted that described the study, incentive, and provided the link to the baseline survey. After clicking on the baseline survey link, participants answered questions that included eligibility criteria of: 1) living in the United States, 2) being over the age of 18, 3) self-identifying as trans or nonbinary and 4) had a functioning cellphone with text messaging and data. If participants met none of the eligibility criteria, they were redirected to the end of the survey, and were informed that they did not qualify for the rest of the study (the daily surveys and post-survey).

Recruitment for the study was closed after one week, after 111 people had taken the baseline survey and 109 were deemed eligible for the study.

After participants were recruited into the project, they completed a baseline assessment that included measures of stress, trauma, social support, mental health, and HIV status and care along with demographic information. The specific measures used for the baseline survey are listed in Table 1.

Table 1. Baseline Survey Measures

Baseline Constructs	**Measures**
Demographics	
Stress Measures	Trans Identity Survey
	Perceived Stress Measure
Social Support	Multidimensional Scale of Perceived Social Support
Trauma	PTSD Checklist for DSM-V
Mental Health	Brief Symptom Inventory
Substance Use	Alcohol Use Disorder Identification Test
	Drug Abuse Screening Test
Resilience	Trans Resilience Survey
Self-efficacy	General Self-Efficacy Scale
HIV Status and Care	Project AFFIRM

After the baseline information was collected, participants were enrolled in the daily survey portion of the study, where they were asked to fill out two time-contingent assessments a day for 30 days. Participants received a message through a text message asking them to complete the survey once in the morning (between 9:00 am and 10:00 am), and once in the evening (between 6:00 pm and 7:00 pm). The online computer program, TextMagic, was used to send the link to the daily surveys to the participants. The text of the morning message read, “It’s time for your first mini coping survey of the day! [Survey Link]”. The evening message read, “It’s time for your second mini coping survey of the day! [Survey Link]”. Participants who had questions about the survey, the overall study or wanted to be removed from the survey could text the number that sent the message to get in contact with me.

When completing the micro-surveys, participants answered: how they currently feel, whether they have experienced any discriminatory stress or “unfair events”, how they felt after experiencing the stressor, how they appraised the stressful experience, how the participant reacted, what coping strategies were utilized and resources were used, how many drinks they

have had today, how many times they used drugs, and whether they took their medication as prescribed. The questions asked in the daily surveys are listed in Table 2.

Table 2. Questions asked on daily surveys

Daily Survey Constructs	**Questions Asked**
Discrimination	*Have you experienced any of these [discriminatory] events today?* *Since the last assessment, how many times were you treated unfairly today?* *What do you think was the main reason for these experiences?*
Appraisal	*Rate how stressful the event was for you.* *Did you feel threatened?* *Did you feel challenges?* *Did you feel in control?* *Did you feel like you had the resources need to deal with the situation?*
Resource Use	*What resources did you use to help deal with the stressful event(s)?*
Coping	Adapted WAYS Coping Survey
Emotion and Health Behaviors	*How do you current feel?* *How did you feel right after the unfair/stressful experience happened?* *How many alcoholic drinks did you have today?* *How many times did you use marijuana today?* *How many cigarettes did you smoke today?* *Did you miss any doses of the following medications today?*

At the end of the 30-day period of micro-surveys, participants completed the post-survey. The participants were probed to complete the post-survey via a text message using the TextMagic software. They were sent a message the morning of the 31st day of the study, with the text, "Thank you for participating! The last survey you have to fill out is the post-survey: [Survey Link]."

The post-survey included the same questions as the baseline survey. However, it did not include the questions from the baseline survey that were not expected to change or, if could change, would not be captured in the daily surveys. The excluded measures were: demographic questions, the PTSD checklist, HIV status and care, and social support.

Participants were incentivized for completing the survey, with a maximum incentive of $50.00. Participants received $10.00 for completing the pre-survey and $10.00 for completing the post-survey. If participants completed at least 80% of the micro-surveys, participants received another $30.00. Participants had the choice to receive their incentive through a mailed Visa gift card or an emailed Amazon gift card.

Measures

In the pre-survey, participants completed questions measuring demographic information, stress, social support, trauma history, mental health, substance use and HIV status and care. The post survey included all the same measures with the exception of the trauma history, HIV status and care, and demographic questions since those were not be expected to change during the 30-day study period.

Participants were asked about their gender identity, age, race/ethnicity, sexuality, relationship status, level of education, employment status, income, and housing. The same demographic questions as the TransPop study were used (I.H. Meyer, Bockting, Herman, Reisner, & Choi, 2016). The TransPop study is a national survey of transgender population health. Most current research on trans health uses the demographics from the TransPop study to allow standardization.

Two stress measures were used as a way of assessing the participants' internalized stress and perceived stress from the environment. These two measures were used to understand the

baseline level of distal and proximal stress that a participant experiences. To measure internalized (distal) stress, the Transgender Identity Survey (TIS) was used (Bockting 2010, unpublished data). The TIS is 28-items, assessing internalized stigma based on trans identity. The items are answered on a seven-point Likert scale from *Strongly Agree* to *Strongly Disagree*. Sample items include: *Being perceived as transgender by others is okay for me* and *When interacting with members of the transgender community, I often feel like I don't fit in.* The perceived stress scale measures general levels of stress that the participants have experienced in the past month (Cohen, Kamarck, & Mermelstein, 1983). The scale has 10 items, and was answered on a five-point scale, with answer choices: *Never*, *Almost Never*, *Sometimes*, *Fairly Often* and *Very Often*. Sample items from the scale include: *How often have you felt nervous and stressed* and *How often have you been able to control irritations in your life.*

Social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1994). The MSPSS is a 12-item measure, answered on a seven-point Likert scale from *Strongly Agree* to *Strongly Disagree*. Sample items include, *There is a special person who is around when I am in need* and *My family is willing to help me make decisions.* The scale can be separated into three subscales measuring social support from a special person, from friends and from family. This scale was used to measure social support, which is considered a key intangible resource that people can use when coping with stress.

Trauma symptoms were measured using the PTSD Checklist for DSM-V (PCL-5) (Weathers et al., 2013). This measure has 20 items, and is answered on a five-point Likert scale from *Not at all* to *Extremely.* The stem for all items is: *In the past month, how much were you bothered by.* Sample items include, *Trouble remembering important parts of the stressful*

experience and *Blaming yourself or someone else for the stressful experience or what happened after it.* This scale measures symptoms of PTSD as they appear in the DSM-V.

One of the measured outcomes of the study is mental health. To measure this outcome, the Brief Symptom Inventory (BSI-18) was used (Derogatis & Melisaratos, 1983). The BSI-18 is an 18-item measure that tests symptoms of depression, anxiety, and somatization. Each item can be answered with the range of responses of *Not at all, A little bit, Moderately, Quite a bit,* and *Extremely.* All items were asked with the prompt: *Indicate how much have you been feeling any of the following ways over the last week (last 7 days)?* Sample items for depression include *Feeling no interest in things* and *Feelings of worthlessness*. Sample items for anxiety include *Nervousness or shakiness inside* and *Feeling fearful*. Sample items for somatization include *Faintness or dizziness* and *Feeling weak in parts of your body*.

Substance use was another measured outcome from the study. The Alcohol Use Disorder Identification Test (AUDIT), self-report version, was used to measure alcohol use (Babor, de la Fuente, Saunders, & Grant, 1992). The Drug Abuse Screening Test (DAST) was used to measure drug use (Yudko, Lozhkina, & Fouts, 2007). The AUDIT is comprised of 10 questions evaluating how often individuals drink, and when they do drink, how many drinks they have. Additionally, the AUDIT attempts to evaluate the participants' attitudes towards their alcohol use. Sample items include, *How often do you have a drink containing alcohol (Never, Monthly or less, 2-4 times a month, 2-3 times a week, 4 or more times a week), How often do you have six or more drinks on one occasion (Never, Less than monthly, Monthly, Weekly, Daily or almost daily)*, and *How often during the last year have you had a feeling of guilt or remorse after drinking (Never, Less than monthly, Monthly, Weekly, Daily or almost daily).*

The DAST is a 10-item dichotomous scale (*Yes*/*No*) that evaluate whether the participant uses drugs, how often they use drugs, co-occurring drug use and perceptions of their drug use. Sample items include, *Have you used drugs other than those required for medical reasons, Do you ever feel bad or guilty about your drug use,* and *Have you ever experience withdrawal symptoms when you stopped taking drugs.*

Resilience will be evaluated using the Transgender Resilience Survey (TRS) (Singh, Truszczynski, Meng, Hansen, & Estevez, In progress). The TRS is a 47-item scale, made up of five subscales: 1) Self-advocacy, 2) Access to economic resources, 3) Sense of Worth, 4) Affirmation, and 5) Resilience threats. All items are answered on a five-point Likert scale from *Strongly Disagree* to *Strongly Agree*. Sample items from each subscale include: 1) *As a trans person, I have found ways of asking for what I need at school/work,* 2) *I have enough money for my basic needs (e.g. shelter, food),* 3) *I make an effort to make things better for other people who are trans*, 4) *I can talk about my gender using my own words,* and 5) *One or more people have threatened to hurt me because of my gender.* When the study was initiated, the scale had not yet been validated. However, once the study was completed, the resilience measure was computed based on the validated items described above.

Coping self-efficacy is a measured predictor at baseline. Coping self-efficacy was evaluated using the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). The Self-Efficacy Scale is a 10-item measure, with the answer choices: *Not at all true, Hardly true, Moderately true, Exactly true.* Sample items from the scale include: *I can always manage to solve difficult problems if I try hard enough* and *I am confident that I could deal efficiently with unexpected events*.

HIV status and care is the last measured outcome on the pre/post surveys. Questions on HIV testing, status, care and adherence were taken from Project AFFIRM. Seven questions will be used that cover how often the participant gets tested for HIV, what their HIV status is, whether they take PrEP (if HIV-negative), whether they received care, and their ART use and adherence (if HIV-positive).

The daily assessments were used to test the model in Figure 4.

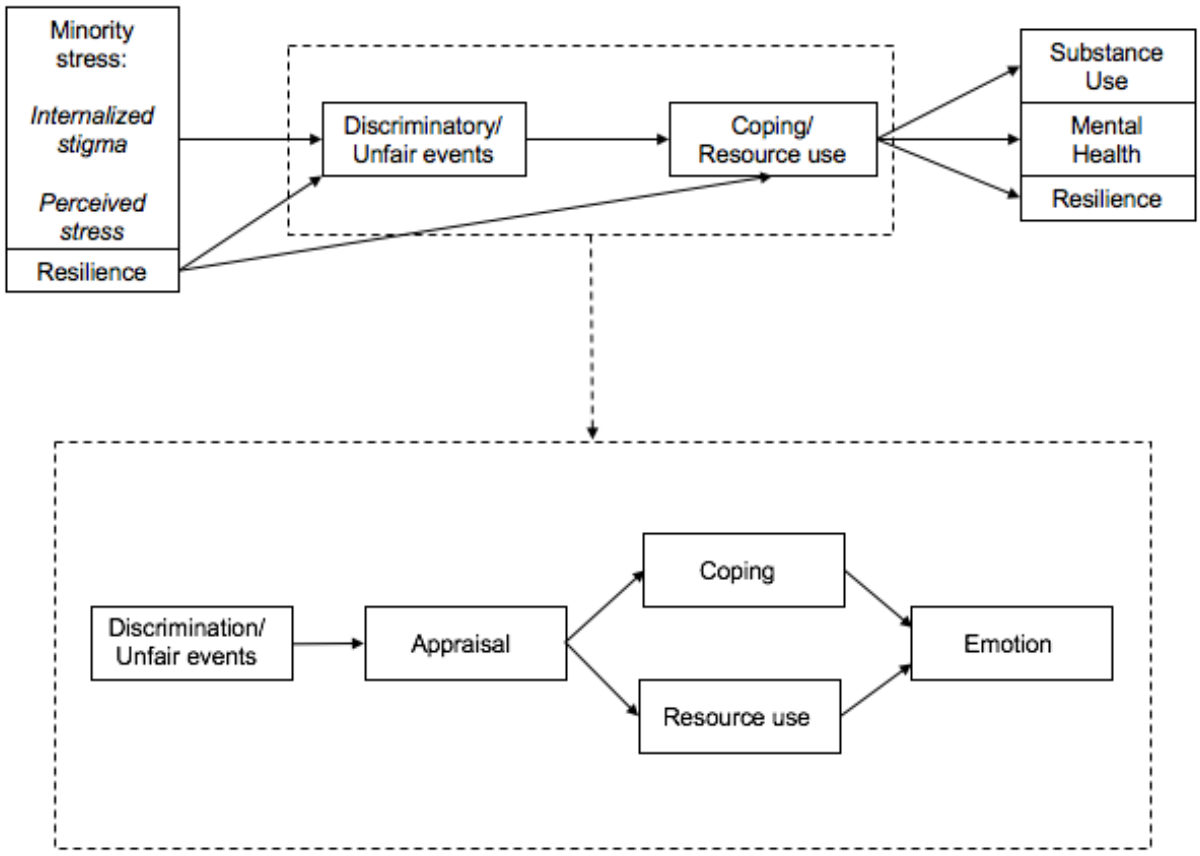

Figure 4. Model for daily assessments

To measure discrimination, the following questions were asked:

Table 3. Questions and Responses Evaluating Discrimination on Daily Surveys

Questions	**Response Options**
Have you experienced any of these [discriminatory] events today?	Loss/denial of employment Loss/denial of housing Loss of/rejection by family/friends/partner Physically threatened or attached Police harassment Sexual harassment/violence Refusal to use correct pronouns/name Verbally harassed Asked to leave public bathroom Misgendered Heard transphobic language Someone expressed discomfort/disapproval
Since the last assessment, how often were you treated unfairly?	0, 1, 2, 3, 4+
What do you think was the main reason for these experiences?	Ancestry/nation origin Gender Race Age Religion Appearance

	Sexual orientation Socioeconomic status Ability or disability
Was there any stressful event that you experience that was not listed above?	Open answer

To measure appraisal, the following questions were asked:

Table 4. Questions and Responses Evaluating Appraisal on Daily Surveys

Questions	**Response Options**
Think of the most stressful event that happened to you since the last assessment. Rate how stressful the event was for you.	1 (Not Stressful) – 5 (Very Stressful)
Did you feel threatened?	Yes/No
Did you feel challenged?	Yes/No
Did you feel in control of what was going on?	Yes/No
Did you feel like you had the resources needed to deal with the situation?	Yes/No

To measure resource use, the following question was asked:

Table 5. Questions and Responses Evaluating Resource Use on Daily Surveys

Question	Response Options
What resources did you use to help deal with the stressful event(s)?	Support from friends/family/partner Money from checkings/savings

	Community center/resources Police or other law enforcement Healthcare providers None

To measure coping, the following questions were asked:

Table 6. Adapted WAYS measure

Theme of Coping	**Question**
Avoidant	Pretended nothing happened
	Tried to forget about it
	Made fun of the situation
Support Seeking	Asked for advice
	Talked to someone I trust
	Accepted sympathy from someone
Self-Destructive	Used alcohol/drugs to forget
	Avoided being with people
	Did something risky/reckless
Spiritual	Prayed or meditated
	Read religious writings
	Talked to a religious or spiritual advisor
Solution Focused	Made a plan of action
	Concentrated on what to do next
	Changed something so things would turn out
Mentorship	Asked a mentor for help
	Spent time with a role model
	Talked to a mentor

To measure emotion and health behaviors, the following questions were asked:

Table 7. Questions and Responses Evaluating Emotion and Health Behaviors on Daily Surveys

Questions	**Response Options**
How do you feel right now?	Angry/upset Stressed Sad Hopeful Calm/relaxed Happy No reaction/feeling Other (please describe)
How many drinks of alcohol did you have today?	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10+
How many times did you use marijuana today?	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10+
How many cigarettes did you smoke today?	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10+
Did you miss any doses of the following medications today?	ART: Yes/No PrEP: Yes/No Mental Health medications: Yes/No
How did you feel right after the stressful experience happened?	Angry/upset Stressed Sad

	Hopeful Calm/relaxed Happy No reaction/feeling Other (please describe)

Statistical Analysis

For this study, the preliminary analysis was completed to answer the six exploratory questions. Further analysis will be completed later utilizing the longitudinal data. The analysis for each is described below.

1. How do resilience and coping self-efficacy influence the coping strategies used in response to unfair and discriminatory events?

To answer this question, the baseline measures of resilience and self-efficacy were used as predictors and the WAYS coping scale from the daily surveys was used as the outcome variable. Before the WAYS coping scale could be computed, an exploratory factor analysis for categorical variables was done to confirm the specific subscales of coping. Rather than the six subscales that I initially wrote (avoidant, support seeking, self-destructive, spiritual, solution focused and mentorship), the factor analysis identified four subscales. The original subscales of support seeking, and solution focused stayed the same; however, the subscales of spiritual coping and mentorship were combined as were avoidant and self-destructive. A linear regression was used to estimate the predictive impact of resilience and self-efficacy on the type of coping strategy used.

I hypothesize that higher levels of resilience and self-efficacy will be associated with higher levels of adaptive coping and lower levels of maladaptive coping. Based on previously published research, resilience has been associated with more participation in protective behaviors such as support seeking and less participation in risky health behaviors.

2. How do resilience and self-efficacy impact the number of discriminatory events experienced and the appraisal of the discriminatory/unfair events?

For this question, baseline measures of resilience and self-efficacy were used as the predictor variables, while the variables of discriminatory events, unfair events and a rating of how stressful the event was from the daily surveys were used as the outcome variables. The number of discriminatory events will be computer by adding up all reported discriminatory events and then dividing it by the number of days that the individual completed the daily surveys. The number of unfair events was computed in the same way. A linear regression was used to independently estimate the predictive power of resilience and self-efficacy on the number of reported discriminatory and unfair events. Appraisal was kept as an ordinal variable, and a linear regression was used to independently estimate the relationship between resilience and self-efficacy on appraisal.

I hypothesize that higher levels of resilience and self-efficacy will be associated with a lower reported number of discriminatory and unfair events. Based on the Conservation of Resources Theory, individuals who have access to more resources, and have participated in adaptive coping to similar events in the past, are less likely to experience high levels of stress.

3. How does minority stress influence the coping strategies used in response to unfair and discriminatory events?

To answer this question, the baseline measures of internalized stigma and general perceived stress were used as predictors and the WAYS coping scale from the daily surveys was used as the outcome variable. As with question one, the results from a factor analysis confirming the specific subscales of coping were used to compute the coping strategy variables. A linear regression was used to estimate the predictive impact of resilience and self-efficacy on the type of coping strategy used.

I hypothesize that higher reported levels of minority stress will be associated with higher reported rates of maladaptive coping. Previous research has repeatedly found a link between higher levels of minority stress and higher reported alcohol and drug use. Alcohol and drug use are often considered maladaptive coping strategies.

4. How does minority stress impact the number of discriminatory events experienced and the appraisal of the discriminatory/unfair events?

For this question, baseline measures of internalized stigma and general perceived stress were used as the predictor variables, while the variables of discriminatory events, unfair events and a rating of how stressful the event was from the daily surveys were used as the outcome variables. The number of discriminatory events was computed by adding up all reported discriminatory events and then dividing it by the number of days that the individual completed the daily surveys. The number of unfair events was computed in the same way. A linear regression was used to independently estimate the predictive power of resilience and self-efficacy on the number of reported discriminatory and unfair events.

I hypothesize that higher levels of minority stress will be associated with a higher number of reported discriminatory and unfair events. Based on the Conservation of Resources Theory, individuals who experience higher levels of stress are at higher risk for experiencing more future

stressful events, because of their available resources and resilience sources being depleted from previous stressful events.

5. What is the impact of discriminatory and unfair events on mental health?

To answer this question, the number of discriminatory events and unfair events were used as predictor variables, while the post-survey scores as well as a difference score between baseline and post-survey for the mental health variables of depression, anxiety, somatization and Global Severity Index (all from the BSI) as well as alcohol and drug use were used as outcome variables. Discriminatory events and unfair events were computed in the same way as in question four. A linear regression was used to estimate the predictive impact of discriminatory and unfair events on mental health outcomes.

I hypothesize that individuals with a higher reported number of discriminatory events and unfair events will also report higher levels of negative mental health symptoms and decreases in reported resilience. This is based on the minority stress model, which illustrates how individuals who experience higher levels of discrimination are more likely to report depression and anxiety and other mental health problems.

6. What is the impact of different coping strategies on mental health?

To answer this question, the coping strategies used in response to unfair events were used as predictor variables, while the post-survey scores as well as a difference score between baseline and post-survey for the mental health variables of depression, anxiety, somatization and Global Severity Index (all from the BSI) and alcohol and drug use were used as outcome variables. Each individual coping strategy (avoidant coping, support seeking, self-destructive coping, solution focused coping and mentorship) was used as a predictor. To complete the analysis, the average number of times each coping strategy was used per day was used as the

predictor variable. Additionally, the overarching categories of maladaptive coping (avoidant and self-destructive) and adaptive coping (support seeking, solution focused, and mentorship) were also tested. A linear regression was used to estimate the predictive impact of coping on mental health outcomes.

I hypothesize that the overarching adaptive coping categories, and the individual adaptive coping strategies, will be associated with lower levels of reported mental health symptoms, and an increase in resilience. Additionally, I hypothesize that the opposite relationship will be found with maladaptive coping strategies. These hypotheses are based on previously published research that has found a relationship between mental health outcomes type of coping strategy.

CHAPTER 4

Results

Demographics

A total of 111 people completed at least the baseline survey for the study. The final sample size was 109, after two people were excluded for being under the age of 18. The mean age of the sample was 26.37 years old. The majority of the sample identified as non-binary (62.4%), White (73.4%), partnered (74.3%) and queer (61.5%). The study population was well educated, with 94.5% of the sample having completed at least some college. However, 82.6% of the sample had an income below $36,000. The full demographics of the sample can be found in Table 4. There were no significant differences in the demographics of individuals who completed at least 60% of the daily surveys (n = 85), and those who completed less (n = 24). The 60% limit was based on the targeted participation rates in the study and on methodology used in previously published ecological momentary assessment focusing on coping (Sadia et al., 2017; Veilleux et al., 2018).

Table 8. Baseline Demographics of Study Sample

	Range	Mean	SD
Age	18 – 48	26.37	5.77
		N	**%**
Gender Identity	Trans woman	15	13.8
	Trans man	26	23.9
	Non-binary	68	62.4
Race	White	80	73.4
	Non-White	29	26.6
Personal Income	Under $720	19	17.4
	$720 - $5,999	15	13.8
	$6,000 - $ 11,999	12	11.0
	$12,000 - $23,999	23	21.1
	$24,000 - $35,999	21	19.3
	$36,000 - $47,999	9	8.3
	$48,000 - $59,999	4	3.7
	$60,000 - $89,999	2	1.8
	$90,000 - $119,999	2	1.8
	$120,000 - $179,999	2	1.8
Education	High school graduate/GED	6	5.5
	Some college	41	37.6
	College graduate	28	34.9
	Technical/vocational school	3	2.8
	Graduate/professional school	21	19.3
Relationship Status	Single	28	25.7
	Partnered	81	74.3
Sexual Orientation	Straight	6	5.5
	Lesbian	8	7.3
	Gay	3	2.8
	Bi/Pansexual	22	20.2
	Queer	67	61.5
	Same-gender loving	1	0.9
	Asexual	2	1.8

Overall, participants experienced a mean of 0.397 unfair events per day over the month-long assessment period. Unfair events were any type of event where the participant felt that they were treated unfairly due to some aspect of their identity. They did not have to define what the unfair event was. Unfair events were on average appraised at a mean of 3.243 on a scale from one (not at all stressful) to five (very stressful). Participants also reported experiencing a mean of 1.198 discriminatory events per day. Discriminatory experiences were any type of negative experience due to transphobia. This included: loss of employment, loss of housing, loss of friends/family/partner, physical assault, police harassment, sexual violence or harassment, refusal to use the correct pronouns, verbal harassment, harassment in public bathroom, misgendering, heard an anti-trans news story, heard transphobic language and shows of discomfort. Types of discrimination were grouped into four categories: passive transphobia, active transphobia, community-level transphobia and rejection events. Participants experienced a mean of 0.467 passive transphobic events per day, 0.610 active transphobic events per day, 0.063 community level transphobic events per day and 0.058 rejection events per day.

Table 9. Descriptive Statistics of Discriminatory and Unfair events

	N	Min	Max	Mean	SD
Unfair Events/Day	102	0.00	2.84	0.397	0.614
Discrimination Events/Day	102	0.00	5.50	1.198	1.157
Passive Transphobic Events/Day	102	0.00	2.00	0.467	0.475
Active Transphobic Events/Day	102	0.00	4.00	0.610	0.691
Community Level Transphobic Events/Day	102	0.00	1.10	0.063	0.173
Rejection Events/Day	102	0.00	1.00	0.058	0.130
Appraisal	77	2.00	5.00	3.243	0.728

Overall, all measured mental health outcomes improved between the pre and post survey. Participants reported fewer symptoms of anxiety, depression and somatization. They also scored lower on the global severity index – indicating improved mental health. Levels of perceived

general stress also decreased. Participants reported higher levels of resilience at the post survey compared to the pre-survey.

Table 10. Descriptive Statistics of Mental Health Outcomes

	Baseline		Post		Difference		
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	†
Anxiety	2.625	1.037	2.424	0.902	0.201**	0.698	2.620
Depression	2.743	1.022	2.484	0.980	0.259**	0.787	3.000
Somatization	2.008	0.840	1.799	0.708	0.209***	0.578	3.293
Global Severity Index	2.459	0.853	2.236	0.752	0.223***	0.557	3.643
Perceived Stress	3.358	0.637	3.234	0.340	0.124*	0.528	2.150
Resilience	3.456	0.418	3.539	0.411	0.083**	0.248	2.951

$*p \leq 0.05;$ $**p \leq 0.01;$ $***p \leq 0.001$
†Paired t-test

Despite there being no demographic differences between individuals who completed more daily surveys, there were some differences in outcomes. The sample was divided into high (≥ 90% daily surveys completed, n = 62) and low responders (< 90%, n = 47). High responders were more likely to report significantly lower levels of perceived stress and depression at the post-survey compared to their pre-survey responses. Additionally, high responders were more likely to report positive changes in resilience between the pre- and post- survey.

Table 11. Differences in Means of Changes in Mental Health Scores between High Responders and Low Responders

		Sum of Squares	df	F	p-value
Perceived Stress	Between groups	1.531	1	5.867	0.018
	Within groups	21.141	81		
	Total	22.672	82		
Global Severity Index	Between groups	0.604	1	1.968	0.164
	Within groups	24.874	81		
	Total	25.478	82		
Somatization	Between groups	0.004	1	0.010	0.919
	Within groups	27.377	81		
	Total	27.380	82		
Depression	Between groups	3.355	1	5.736	0.019
	Within groups	47.381	81		
	Total	50.736	82		
Anxiety	Between groups	0.313	1	0.640	0.426
	Within groups	39.673	81		
	Total	39.987	82		
Resilience	Between groups	0.192	1	3.205	0.077
	Within groups	4.550	76		
	Total	4.742	77		

Question 1

For question one, I examined how resilience and self-efficacy influenced the coping strategies used in response to what participants perceived as "unfair events". First, an exploratory factor analysis of the adapted WAYS of coping survey was conducted to identify the subscales of the instrument. Using a minimum loading factor of 0.4, four latent variables in the scale were identified, which were labeled 1) maladaptive, 2) support seeking, 3) mentorship, and 4) solution

focused. One item was removed ("Made fun of the situation"), as it did not make theoretical sense with the rest of the items loading on the factor (support seeking).

Table 12. Factor Structure Matrix for Coping Strategies

	Factor			
	1	**2**	**3**	**4**
1. Pretended nothing happened	0.495			
2. Asked for advice			0.493	
3. Used alcohol/drugs to forget	0.841			
4. Prayed or meditated				0.463
5. Made a plan of action		0.722		
6. Asked a mentor for help				0.716
7. Tried to forget about it	0.653			
8. Talked to someone I trust			0.844	
9. Avoided being with people	0.603			
10. Read religious writings				0.546
11. Concentrated on what to do next		0.606		
12. Made fun of the situation*			0.564	
13. Spent time with a role model				0.803
14. Accepted sympathy from someone			0.899	
15. Did something risky/reckless	0.610			
16. Talked to a religious or spiritual advisor				0.933
17. Changed something so things would turn out		0.499		
18. Talked to a mentor				0.750
**Removed from measure due to theoretical issues*				

After the coping subscales were computed, a linear regression was used to estimate the impact of resilience and self-efficacy on different coping strategies. Both high resilience and self-efficacy significantly predicted a decrease in reported maladaptive coping behaviors. There was no significant association between resilience and adaptive coping strategies or self-efficacy and adaptive coping strategies.

Table 13. Regression of Baseline Resilience and Self-efficacy on Coping Strategies in Response to Daily Unfair Events

Resilience			
	b	B	*t*
Maladaptive Coping	-0.147***	0.888	-3.063
Support Seeking	0.121*	-0.012	1.761
Solution Focused Coping	0.101	-0.061	1.418
Mentorship	-0.021	0.121	-0.777
Adaptive Coping (Composite)	0.056	0.051	1.277
Self-Efficacy			
	b	B	*t*
Maladaptive Coping	-0.101***	0.686	-2.795
Support Seeking	0.010	0.370	0.184
Solution Focused Coping	0.038	0.173	0.700
Mentorship	-0.012	0.079	-0.638
Adaptive Coping (Composite)	0.002	0.231	0.076
$*p \leq 0.1$; $**p \leq 0.05$; $***p \leq 0.01$			

Question 2

For question two, I examined how resilience and self-efficacy influence the number of unfair and discriminatory events that individuals experienced. First, an exploratory factor analysis of the types of discrimination experienced was conducted to identify the factors of the question. Using a minimum loading factor of 0.4, four latent variables in the question were identified, which were labeled 1) rejection (loss of family/friends/partner and verbal harassment), 2) active transphobia (physical assault, sexual violence, and harassment in public bathrooms), 3) passive transphobia (refusal to use correct pronouns, misgendered and shows of discomfort), and 4) community level transphobia (police harassment, heard anti-trans news, and heard transphobic language). Two items were removed (loss of housing and loss of employment), as they did not load well on any factors.

Table 14. Factor Structure Matrix for Discriminatory Events

	1	2	3	4
Loss of employment*				
Loss of housing*				
Loss of family/friends/partner	0.896			
Physical assault		0.914		
Police harassment				0.495
Sexual violence/harassment		0.396		
Refusal to use correct pronouns			1.091	
Verbal harassment	0.569			
Asked to leave public bathroom		0.920		
Misgendered			0.470	
Heard about anti-trans news				0.480
Heard transphobic language				1.019
Shows of discomfort			0.665	
**Removed from measure*				

After the discrimination types were computed, a linear regression was done to estimate the impact of resilience and self-efficacy on the numbers of unfair and discriminatory events experienced. Both resilience and self-efficacy significantly predicted a lower number of unfair events. Unfair events were any event that the individual experienced where they were treated unfairly due to any aspect of their identity. Resilience was additionally associated with fewer discriminatory events experienced, including the groups of events labeled as passive transphobia, active transphobia, community level transphobia and rejection. Significant associations between resilience and individual types of discrimination can be found in Table 10. Self-efficacy was significantly associated with decreases in total reported discriminatory events and passive transphobic events. Significant associations between self-efficacy and individual types of discrimination can also be found in Table 16. There was no significant relationship between resilience and appraisal of unfair events or self-efficacy and unfair events (refer to Table 17).

Table 16. Regression of Baseline Resilience on Discriminatory and Unfair Events per day

Resilience			
	b	B	*t*
Total Unfair Events	-0.673***	2.740	-4.862
Total Discriminatory Events	-0.959***	4.543	-3.502
Passive Transphobia	-0.507***	2.370	-3.054
Refusal to use correct pronouns	-0.174**	0.726	-2.910
Misgendered	-0.171*	0.977	-1.840
Shows of discomfort	-0.162***	0.666	-3.918
Active Transphobia	-0.142***	0.556	-3.454
Physical assault	-0.018**	0.066	-2.686
Sexual violence/harassment	-0.016***	0.063	-3.301
Harassed in public bathroom	-0.013**	0.051	-2.530
Community Level Transphobia	-0.243*	1.322	2.095
Heard anti-trans news	-0.058	0.473	-0.839
Heard transphobic language	-0.185**	0.849	-2.942
Police Harassment	-0.001	0.004	-0.890
Rejection	-0.067*	0.291	-2.107
Loss of friends/family/partner	-0.054*	0.231	-1.790
Verbal harassment	-0.094**	0.377	-2.745
Items that did not load			
Loss of housing	-0.005	0.023	-1.050
Loss of employment	-0.008	0.037	-0.933

Table 15. Regression of Baseline Self-efficacy on Discriminatory and Unfair Events per day

Self-Efficacy			
	b	B	*t*
Total Unfair Events	-0.383***	1.493	-3.393
Total Discriminatory Events	-0.419*	2.402	-1.895
Passive Transphobia	-0.232*	1.279	-1.759
Refusal to use correct pronouns	-0.041	0.243	-0.868
Misgendered	-0.158*	0.837	-2.199
Shows of discomfort	-0.033	0.199	-0.969
Active Transphobia	-0.053	0.216	-1.607
Physical assault	-0.009^{+}	0.029	-1.668
Sexual violence/harassment	-0.003	0.015	-0.732
Harassed in public bathroom	-0.006	0.020	-1.351
Community Level Transphobia	-0.097	0.744	-1.061
Heard anti-trans news	-0.037	0.371	-0.696
Heard transphobic language	-0.060	0.374	-1.187
Police Harassment	0.000	0.000	0.074
Rejection	-0.036	0.162	-1.436
Loss of friends/family/partner	-0.041*	0.161	-1.744
Verbal harassment	-0.036	0.152	-1.317
Items that did not load			
Loss of housing	0.004	-0.008	1.168
Loss of employment	0.000	0.009	0.034
p ≤ 0.05; **p ≤ 0.01;*p ≤ 0.001*			

Table 17. Regression of Baseline Resilience and Self-efficacy on Appraisal of Daily Unfair Events

Resilience			
	b	B	*t*
Appraisal	0.02	3.167	0.093
Self-Efficacy			
	b	B	*t*
Appraisal	0.204	2.667	1.279
p ≤ 0.05; **p ≤ 0.01;*p ≤ 0.001; +p ≤ 0.1*			

Question 3

A linear regression was completed to estimate the impact of internalized stigma and general stress on different coping strategies. Results can be found in Table 18. Baseline internalized stigma was associated with more reported maladaptive coping strategies and fewer solution focused coping strategies in response to unfair events. General stress was significantly associated with more utilization of maladaptive coping strategies.

Table 18. Regression of Baseline Internalized Stigma and General Perceived Stress on Coping Strategies in response to Daily Unfair Events

Internalized Stigma			
	b	B	*t*
Maladaptive Coping	0.106***	0.018	4.076
Support Seeking	-0.015	0.458	-0.385
Solution Focused Coping	-0.121**	0.713	-3.109
Mentorship	-0.005	0.065	-0.344
Adaptive Coping (Composite)	-0.045^{+}	0.4	-1.873
General Perceived Stress			
	b	B	*t*
Maladaptive Coping	0.059*	0.191	1.905
Support Seeking	0.049	0.233	1.123
Solution Focused Coping	-0.004	0.299	-0.086
Mentorship	0.015	-0.004	0.869
Adaptive Coping (Composite)	0.029	0.143	1.068
$*p \leq 0.05$; $**p \leq 0.0$; $***p \leq 0.001$			

Question 4

A linear regression was used to estimate the impact of baseline internalized stigma and general perceived stress on the number of report unfair and discriminatory events per day (Table 19, Table 20). There were no significant associations between baseline internalized stigma and the number of unfair and discriminatory events reported per day. However, general perceived stress was significantly associated with more reported total unfair events per day and more

reported total discriminatory events per day. General perceived stressed was also associated with more reported experiences of active transphobia, community level transphobia, and rejection per day.

Table 19. Regression of Baseline Internalized Stigma on Number of Unfair and Discriminatory Events per day

Internalized Stigma			
	b	B	*t*
Total Unfair Events	-0.037	0.517	-0.463
Total Discriminatory Events	-0.116	1.592	-0.756
Passive Transphobia	-0.063	0.821	-0.707
Refusal to use correct pronouns	0.004	0.105	0.119
Misgendered	-0.069	0.623	-1.372
Shows of discomfort	0.001	0.093	0.054
Active Transphobia	-0.023	0.142	-0.990
Physical assault	0.000	0.005	-0.125
Sexual violence/harassment	-0.002	0.012	-0.660
Harassed in public bathroom	0.001	0.001	0.303
Community Level Transphobia	-0.015	0.516	-0.233
Heard anti-trans news	-0.007	0.288	-0.177
Heard transphobic language	-0.008	0.228	-0.235
Police Harassment	0.000	0.002	-0.783
Rejection	-0.014	0.110	-0.816
Loss of friends/family/partner	-0.006	0.067	-0.385
Verbal harassment	-0.021	0.124	-1.131
Items that did not load			
Loss of housing	-0.002	0.014	-0.931
Loss of employment	-0.006	0.029	-1.158

Table 20. Regression of Baseline General Perceived Stress on Number of Unfair and Discriminatory Events per day

General Perceived Stress			
	b	B	*t*
Total Unfair Events	0.230**	-0.370	2.530
Total Discriminatory Events	0.409**	-0.168	2.384
Passive Transphobia	0.165	0.057	1.590
Refusal to use correct pronouns	0.016	0.068	0.434
Misgendered	0.109*	0.020	1.927
Shows of discomfort	0.040	-0.031	1.495
Active Transphobia	0.052*	-0.112	2.033
Physical assault	0.007*	-0.021	1.766
Sexual violence/harassment	0.006*	-0.015	2.112
Harassed in public bathroom	0.006*	-0.017	1.990
Community Level Transphobia	0.142*	-0.007	2.001
Heard anti-trans news	0.063	0.056	1.504
Heard transphobic language	0.079*	-0.063	2.027
Police Harassment	0.000	0.001	0.006
Rejection	0.049**	-0.107	2.554
Loss of friends/family/partner	0.050**	-0.122	2.768
Verbal harassment	0.032	-0.059	1.512
Items that did not load			
Loss of housing	0.001	0.000	0.489
Loss of employment	-0.002	0.016	-0.346
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

There were no significant associations between baseline internalized stigma or general perceived stress and appraisal of unfair events (Table 21).

Table 21. Regression of Baseline Internalized Stigma and General Stress on Appraisal of Daily Unfair Events

Internalized Stigma			
	b	B	*t*
Appraisal	-0.066	0.476	-0.522
General Stress			
	b	B	*t*
Appraisal	0.185	2.607	1.423
*$p \leq 0.05$; **$p \leq 0.01$;***$p \leq 0.001$; +$p \leq 0.1$			

Question 5

Table 22. Correlations between Unfair and Discriminatory Events per Day and Changes in Mental Health Outcomes from Pre- to Post-Survey

	Unfair Events/Day	**Discrim Events/Day**	**Rejection Events/Day**	**Active Events/Day**	**Passive Events/Day**	**Community Level Events/Day**
Perceived Stress	0.123	0.068	0.001	0.025	0.111	0.121
Global Severity Index	0.0107	0.000	0.240*	0.128	0.017	0.140
Somatization	0.027	0.025	0.054	-0.019	-0.012	0.077
Depression	0.068	0.021	0.327***	0.200*	-0.033	0.081
Anxiety	0.158	-0.045	0.162	0.096	0.089	0.181
Resilience	0.085	-0.163	-0.286**	0.044	0.133	0.047
*$p \leq 0.05$; **$p \leq 0.01$;***$p \leq 0.001$						

Table 23. Regression of Type of Discriminatory Event/Day on Change in Mental Health Outcomes between Pre- and Post-Survey.

Rejection Events/Day			
	b	B	*t*
Depression	3.300**	0.113	3.114
Resilience	-0.890*	-0.043	-2.606
Active Transphobia/Day			
	b	B	*t*
Depression	1.043*	0.198	1.839
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

There was a significant difference in the reported symptoms of all mental health outcomes between the pre and post survey (Table 22). However, only rejection events and active transphobic events were associated with any significant changes in mental health outcomes between the pre- and post- survey (Table 23) Individuals who reported more rejection events per day, reported an increase in resilience between the pre-and post-survey and a decrease in depression. Additionally, individuals who reported more active transphobic events per day also reported a decrease in depression from pre to post survey. This may be due to the overall positive changes in mental health outcomes from pre- to post- survey (Table 10).

However, when comparing results from the 30-day assessment to the outcomes reported on the post-survey, there were some significant relationships. Using a linear regression, the number of unfair events per day were associated with more reported anxiety, depression and somatization symptoms at the post-survey as well as more perceived stress and less resilience (Table 24).

Table 24. Regression of the Number of Unfair Events per day on Mental Health Outcomes

Number of Unfair Events per day			
Post Survey	b	B	*t*
Anxiety	0.426**	2.268	2.667
Depression	0.338*	2.36	1.908
Somatization	0.400***	1.653	3.248
Global Severity Index	0.388**	2.094	2.938
Alcohol Use	0.478	10.331	0.405
Drug Use	1.008	4.945	0.972
General Stress	0.134*	3.184	2.192
Resilience	-0.321***	3.652	-4.387
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

When examining the impact of the total number of discriminatory events on mental health outcomes at the post-survey using linear regression, several significant associations were found (Table 25). More reported discriminatory events per day was associated with more reported symptoms of depression, general negative mental health, drug use and perceived stress. The number of discriminatory events per day was also associated with lower levels of resilience.

Table 25. Regression of the Number of Discriminatory Events per day on Mental Health Outcomes

Number of Discriminatory Events per day			
Post Survey	b	B	*t*
Anxiety	0.186*	2.208	2.011
Depression	0.144	2.317	1.420
Somatization	0.086	1.699	1.173
Global Severity Index	0.139*	2.075	1.795
Alcohol Use	0.497	9.931	0.742
Drug Use	1.131*	4.003	1.954
General Stress	0.075*	3.144	2.177
Resilience	-0.165***	3.734	-4.242
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

Using a linear regression, multiple significant relationships were found between passive transphobic events and mental health outcomes reported at the post-survey (Table 26). More reported passive transphobic events per day was associated with lower scores of resilience, as well as higher score of depression and general poorer mental health symptoms at the post-survey.

Table 26. Regression of the Number of Passive Transphobic Events per day on Mental Health Outcomes

Number of Passive Transphobic Events per day			
Post Survey	b	B	*t*
Anxiety	0.254	2.269	1.626
Depression	0.284*	2.311	1.676
Somatization	0.123	1.724	0.995
Global Severity Index	0.221*	2.102	1.696
Alcohol Use	0.705	10.078	0.627
Drug Use	1.344	4.497	1.367
General Stress	0.097	3.3173	1.653
Resilience	-0.282***	3.714	-4.351
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

More reported experiences of active transphobia per day was associated with more reported symptoms of anxiety, somatization and stress at the post-survey (Table 27). Increased number of reported active transphobic events was also associated with lower reported levels of resilience.

Table 27. Regression of the Number of Active Transphobic Events per day on Mental Health Outcomes

Number of Active Transphobic Events per day			
Post Survey	b	B	*t*
Anxiety	1.565**	2.331	2.442
Depression	0.488	2.455	0.679
Somatization	1.865***	1.689	3.904
Global Severity Index	1.306**	2.159	2.447
Alcohol Use	-6.391	10.883	-1.372
Drug Use	5.146	5.010	1.250
General Stress	0.633**	3.196	2.638
Resilience	-1.032***	3.602	-3.589
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

Unlike the active transphobia and passive transphobia categories of daily discrimination, higher reported rates of daily community level transphobic events were not associated with mental health outcomes like anxiety, depression or somatization (Table 28). Instead, more reported community level transphobic events per day was associated with an increase in drug use. Similarly, to active and passive transphobic events, community level transphobic events were associated with a lower level of resilience at the post-survey.

Table 28. Regression of the Number of Community Level Transphobic Events per day on Mental Health Outcomes

Number of Community Level Transphobic Events per day			
	b	B	*t*
Post Survey			
Anxiety	0.296	2.291	1.386
Depression	0.148	2.418	0.632
Somatization	0.015	1.792	0.089
Global Severity Index	0.153	2.167	0.854
Alcohol Use	1.961	9.629	0.201
Drug Use	2.841*	4.043	2.157
General Stress	0.118	3.179	1.492
Resilience	-0.225*	3.645	-2.302
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$; $+p \leq 0.1$			

The number of rejection events per day was associated with an increase in reported perceived stress (Table 29). Rejection events, as mentioned earlier, were associated with changes in two mental health outcomes over time – depression and resilience, where depression scores increased, and resilience scores decreased.

Table 29. Regression of the Number of Rejection Events per day on Mental Health Outcomes

Number of Rejection Events per day			
	b	B	*t*
Anxiety	1.206	2.371	0.943
Depression	0.925	2.443	0.663
Somatization	0.307	1.786	0.305
Global Severity Index	0.813	2.200	0.761
Alcohol Use	0.258	10.495	0.028
Drug Use	0.778	5.279	0.097
General Stress	0.903*	3.194	1.906
Resilience	-0.500	3.568	-0.861
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

Question 6

Table 30. Correlations between Type of Coping in response to Unfair Events and Changes in Mental Health Outcomes from Pre- to Post-Survey

	Support Seeking	Mentorship	Solution Focused	Maladaptive	Adaptive
Perceived Stress	0.110	-0.001	-0.054	0.165	0.077
Global Severity Index	-0.046	0.113	-0.065	0.152	-0.021
Somatization	-0.004	0.241*	-0.043	0.110	0.039
Depression	-0.100	0.086	-0.025	0.117	-0.041
Anxiety	0.003	-0.019	-0.092	0.145	-0.035
Resilience	0.109	-0.315**	0.080	-0.016	0.030
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$					

Table 31. Regression of Mentorship Coping in Response to Unfair Events on Changes in Mental Health Outcomes from Pre- to Post-Survey

Mentorship Coping			
	b	B	*t*
Somatization	1.390*	0.203	2.600
Resilience	-0.824*	-0.040	-2.507
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

For question six, the relationship between coping in response to unfair events and mental health outcomes was explored. Participants who reported more mentorship coping strategies were more likely to report an increase in resilience at the time of the post-survey when compared to the pre-survey. Results for the other types of coping can be found in Table 30. Participants were also more likely to report a decrease in somatization symptoms at the post-survey (Table 31).

There were no significant associations between the strategies of support seeking and solution focused coping with any mental health outcomes. More participation in maladaptive coping in response to unfair events reported during the 30-day daily assessment period was associated with a lower level of resilience at the post-survey (Table 32). Additionally, mentorship coping was associated with higher levels of general stress at the post-survey (Table 33).

Table 32. Regression of Maladaptive Coping in Response to Unfair Events on Mental Health Outcomes

Maladaptive Coping			
	b	B	*t*
Anxiety	0.290	2.397	0.677
Depression	0.864	2.221	0.213
Somatization	0.289	1.736	0.543
Global Severity Index	0.481	2.118	0.865
Alcohol Use	3.463	9.271	0.715
Drug Use	1.197	4.751	0.781
General Stress	0.029	3.226	0.110
Resilience	-0.612*	3.728	-2.024
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

Table 33. Regression of Mentorship Coping in Response to Unfair Events on Mental Health Outcomes

Mentorship Coping			
	b	B	*t*
Anxiety	1.695	2.449	1.476
Depression	0.944	2.530	0.816
Somatization	0.662	1.817	0.737
Global Severity Index	1.100	2.265	1.183
Alcohol Use	8.195	10.100	0.997
Drug Use	3.649	4.775	0.516
General Stress	0.857*	03.200	1.949
Resilience	0.463	3.463	0.914
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

Lastly, the association between resource use in response to unfair events and mental health outcomes reported during the post-survey were explored. Correlations between resource use and mental health outcomes can be found in Table 34 and 35.

Table 34. Correlations between Resource Use and Mental Health Outcomes at Post-Survey

	Support from Family/ Friends	Support from Mentor	Money	Community Organizations	Health care	Internal Skills	None
Resilience	0.220*	0.232*	0.220*	-0.009	0.279*	0.119	-0.232*
Alcohol Use	0.102	0.030	0.078	-0.130	0.067	0.148	-0.145
Drug Use	0.113	-0.024	0.162	-0.138	0.020	0.002	-0.167
Anxiety	-0.233*	-0.029	-0.070	-0.081	-0.116	-0.033	0.236*
Depression	-0.105	-0.061	-0.082	-0.014	-0.148	-0.125	0.154
Somatization	-0.284*	-0.107	-0.178	0.037	-0.187	-0.144	0.279*
Global Severity Index	-0.230*	-0.072	-0.120	-0.027	-0.169	-0.112	0.251*
Perceived Stress	-0.066	0.023	0.052	-0.151	-0.125	0.000	0.114
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$; $+p \leq 0.1$							

Table 35. Correlations between Resource Use and Changes in Mental Health Outcomes from Pre- to Post-Survey

	Support from Family/ Friends	Support from Mentor	Money	Community Organizations	Health care	Internal Skills	None
Resilience	0.065	-0.081	0.025	0.001	0.062	-0.028	-0.101
Anxiety	0.000	-0.116	-0.049	-0.158	-0.085	0.005	0.105
Depression	-0.174	0.018	-0.013	-0.088	-0.083	-0.047	0.217
Somatization	-0.072	0.020	-0.003	-0.245*	-0.010	0.015	0.118
General Mental Health	-0.106	-0.033	-0.028	-0.189	-0.078	0.031	0.186
Perceived Stress	-0.154	-0.101	-0.171	0.133	-0.104	-0.034	0.140
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$							

Participants who reported using the resources of social support (family/friends), social support (mentor), money from checkings/savings and healthcare providers were more likely to report higher levels of resilience during the post-survey (Table 34). Additionally, support from

family/friends in response to unfair events was associated with fewer reported symptoms of anxiety and somatization, while using no resources was associated with more reported symptoms of anxiety and somatization at the post-survey.

When looking at changes from pre- to post-survey, there was only one type of resource use that was associated with any change (Table 35). People who used community organizations as a resource to help cope with unfair events were more likely to report fewer somatization symptoms at post-survey compared to their pre-survey response.

Table 36. Regression of Resource Use in Response to Unfair Events on Mental Health Outcomes at Post-Survey

Resource: Support from Family/Friends			
	b	B	*t*
Resilience	0.248*	3.361	1.764
Anxiety	-0.587*	2.844	-1.916
Somatization	-0.559**	2.151	-2.367
Global Severity Index	-0.473*	2.561	-1.890
Resource: Support from Mentor			
	b	B	*t*
Resilience	0.464*	3.459	1.864
Resource: Money from Checkings/Savings			
	b	B	*t*
Resilience	0.664*	3.474	1.761
Resource: Healthcare			
	b	B	*t*
Resilience	1.303*	3.467	2.273
Resource: None			
	b	B	*t*
Resilience	-0.273*	3.595	-1.864
Anxiety	0.618*	2.296	1.947
Somatization	0.571*	1.637	2.327
Global Severity Index	0.535*	2.106	2.072
$*p \leq 0.05$; $**p \leq 0.01$;$***p \leq 0.001$			

Table 37. Regression of Resource Use in Response to Unfair Events on Changes in Mental Health Outcomes from Pre- to Post-Survey

Resource: Community Organizations			
	b	B	*t*
Somatization	-1.282*	0.296	-2.201
p ≤ 0.05; **p ≤ 0.01;*p ≤ 0.001*			

CHAPTER 5

Discussion

Summary of results

This was mainly an exploratory study attempting to identify key relationships among resilience, discriminatory stress, coping and mental health outcomes. Overall, higher levels of resilience were associated with lower reported rates of unfair and discriminatory events over the assessment period. This aligns with the Conservation of Resources theory which describes how using resources and coping adaptively reduces the magnitude of and likelihood of experiencing stressful events. Resilience was also associated with decreases in participation in maladaptive coping strategies, such as ignoring the stressor happened or substance use, and an increase in use of solution focused coping strategies. This finding matches with previous published research that has linked resilience to positive coping strategies and theorized resilience as the outcome of coping adaptively over time (S. L. Budge et al., 2013; Ilan H. Meyer, 2015).

On the other hand, general perceived stress and internalized transphobia (stigma) were associated with higher reported rates of unfair and discriminatory events. While general perceived stress had more significant associations with experiencing more discriminatory events, internalized stress was associated more strongly with the type of coping strategy. I used general perceived stress as a proxy for proximal stress in the Minority Stress Model and internalized stigma was used as a proxy for distal stress. In the Minority Stress Model, both proximal and distal stress impacted mental health through the same pathway. However, based on my results, distal and proximal stress may impact mental health through different processes. Further research

should be done to explore how different levels of stress (such as distal and proximal) impact mental health. For example, are individuals who report more proximal stressors more likely to experience discriminatory events, which drives their negative mental health outcomes, while individuals who experience more distal stressors are less capable of coping with stress adaptively and therefore experience negative emotions?

Like in previous research, maladaptive coping strategies had the strongest relationship to stress and resilience. There were few significant relationships found with adaptive coping strategies. One of the hopes for this study was that asking participants in the moment about their strategies may reduce recall bias that can confound the results and allow me to explore the relationship between adaptive strategies and stress. Instead, my study confirmed previous research that posited that adaptive coping strategies do not impact health outcomes in the same way as maladaptive coping strategies. One hypothesis for why this disparity exists may be that adaptive coping needs to happen for a long period of time to see any mental health benefits, while the maladaptive coping may present more over the short term. This hypothesis aligns with the current conceptualizations of resilience as an outcome of adaptive coping over time to multiple stressful events (S. L. Budge et al., 2013; Ilan H. Meyer, 2015). Perhaps to see the impacts of adaptive coping on mental health, longer-term longitudinal studies need to be completed. Future research should continue to explore why this disparity exists, and why adaptive coping strategies may not be as protective as other factors when considering stress' impact on mental health in the short-term.

Most relationships between the predictor variables of unfair and discriminatory events and coping on changes in mental health outcomes over time were insignificant. The most significant finding was that the mentorship coping strategy was strongly associated with an

increase in resilience from the pre-survey to the post-survey. No other coping mechanisms were associated with changes in resilience or other mental health outcomes. Mentorship has come up often in the current literature as a key part of resilience (Singh, 2013; Singh et al., 2011; Singh & McKleroy, 2010; Singh et al., 2014). It is logical that seeking mentors out and creating social support networks that incorporate mentors would have a strong influence on resilience. The other predictor variable that was associated with changes in outcomes between the pre- and post-survey was the number of rejection events experiences on average per day. A higher number of reported rejection events was associated with an increase in depression symptoms over time. This contradicted my hypotheses. However, it is possible that this effect is because all mental health outcomes improved over the time of the study. Possibly, the study itself acted as an intervention. Every day participants were probed to report their discriminatory events and asked how they coped with them. These probes may have been affirming for participants who were given an opportunity to share their experiences. Additionally, participants may have been reminded about the resources that they have available to them, as they filled out the questionnaire after experiencing discriminatory stress.

When participants were sorted into high reporters and low reporters, high reporters had a significantly larger positive change in mental health outcomes. Future studies may need to be over a longer time span to allow for any potentially positive effect to normalize. Additionally, a control group may need to be utilized where the participants are enrolled in the same pre- and post- survey, but are not probed daily about their coping strategies and resource use. This methodology may help researchers isolate the true influence of probing and allowing individuals to share their stories as a protective factor.

The last key finding from this study was the association between discriminatory events and mental health outcomes. Higher reported rates of unfair and discriminatory experiences during the 30-day assessment period were associated with more reported symptoms of negative mental health outcomes such as anxiety, depression, somatization and substance use at the time of the post-survey. These findings support the Minority Stress Model and provide further justification as to why systematic discrimination should be seen as a public health issue.

Contribution to the literature

The overwhelming majority of research on coping and resilience in trans and non-binary populations has been qualitative, leaving a large gap in understanding the specific magnitude of relationships including those two constructs. Additionally, the quantitative research that has been done on resilience among trans and non-binary populations has struggled to measure the construct effectively. Instead, most studies have used individual factors of resilience, such as social support and advocacy, or adaptive coping as proxies for the construct (Bockting et al., 2013; Budge, Chin, & Minero, 2017; S. L. Budge et al., 2013; Clements-Nolle et al., 2006; White Hughto et al., 2017). My study is unique since it used a measure that was specifically developed and validated to measure resilience in trans and non-binary people. This allowed for comparisons between coping and resilience, and tangible/intangible resources and resilience. Analyses between these variables allowed for a deeper understanding of what resilience is, and how it may be developed which will lead to new or adapted theoretical frameworks about the construct. Hopefully, this study will encourage researchers to conduct quantitative studies to use measures that specifically measure resilience instead of using proxy variables.

One of the main key findings from this study was the relationship between resilience and the number of unfair and discriminatory events experiences. Participants who reported higher

levels of resilience at baseline reported fewer unfair and discriminatory events. This justifies the conceptualization of resilience as a protective factor, not just in terms of mental health outcomes, but also in terms of experiencing stress as well. Future research needs to continue to examine the relationship between resilience and experiences of stress. The Conservation of Resources Theory states that individuals who cope adaptively and create resources in response to stress are should be more prepared to cope with stress in the future (Hobfoll, 2001). Based on this study's findings and the Conservation of Resources Theory, future researchers should explore the protective process between resilience and building networks to navigate experiences of stress (Hobfoll, 2001). It will be important to identify how resilience protects against discriminatory stressful experiences. For example, do individual who report higher levels of resilience foster an environment for themselves that is safer, through knowledge of community resources and the systems at work/school they must navigate, and strong social support networks or does building resilience allow for different cognitive processes when confronted with stressful experiences? Delving into this relationship could help inform interventions that develop resilience and help individuals utilize their surrounding resources or internal skills to cope with stressful events.

My study also allowed participants to report what types of discriminatory events they were experiencing. Many of the previous coping studies that have been done among trans and non-binary people that have included discriminatory stress do not separate it out into the various types of micro and macro-events that people can experience (Bockting et al., 2013; Reisner, White Hughto, et al., 2016). For my study, individuals recorded the specific types of discriminatory events they experienced twice a day. Because of the EMA methodology, I could capture the different types of discriminatory events and the frequency they occurred. Clarifying the types of discrimination that trans and non-binary people are most likely to

experience can help us target interventions that can reduce the likelihood of the most frequent types of discrimination.

Additionally, in this study I explored how different types of discrimination may have different effects on mental health. More reported experiences of unfair events were more strongly associated with negative mental health outcomes compared to discriminatory events. While both types of events were negative experiences based on identity, there may have been something additional about unfair events that caused more distress. Future research should work to distinguish what makes some discriminatory events seem "unfair" while other events do not. Conceptually, all negative experiences based on marginalized identity are unfair since they are rooted in systemic oppression, however as I can conclude from this study, they are not all seen this way. Understanding what about an experience makes it unfair or more distressing could help inform more effective counseling strategies focusing on reframing and processing unfair discriminatory events.

Different types of discrimination were also found to be associated with different mental health outcomes. Whereas experiences of community level transphobia, such as hearing about an anti-trans news story, were associated with higher drug use, experiences of passive and active transphobia (such as misgendering and harassment respectively) were associated with higher reported symptoms of anxiety and somatization. The type of event may impact the way it affects mental health. For example, because when someone experiences an event that is an attack on their community identity, they may be more inclined to cope and process in community spaces where substance use is more prevalent. However, when someone experiences an event that was solely directly at them (like misgendering), the coping process may be more internal, leading to internalized mental health symptoms. Illustrating that discriminatory events cannot all be

grouped together to understand stress' impact on mental health is important in widening the scope of future research on stress, coping and mental health. Researchers should include more categories of stress, rather than looking at it as one or two types such as just distal and proximal stress as in the minority stress model.

Strengths

An innovative part of this study was the methodology. Most current research exploring health outcomes and behaviors among trans and non-binary people has been qualitative or cross-sectional. Recently, there has been a large push within the research community to move to longitudinal designs. While the findings of this study were exploratory and largely cross-sectional, the data was collected using an ecological momentary assessment. Since the data was collected over time, preliminary hypotheses about the causal relationships between resilience, stress, coping and mental health could be formed.

The ecological momentary assessment design also should have allowed participants to report their experiences more accurately. One of the major issues in coping research is that when asking about coping strategies in general, or ways that an individual has coped in the past, is that they often over-exaggerate the number of times they used adaptive strategies, and under-reported maladaptive strategies. Close to *in-the-moment* assessments, like the ones completed by participants in this study, help minimize this bias. The same could be said for the types of discriminatory events, especially events on a smaller scale, such as misgendering or pronoun refusal. These events happen so often that individuals could forget to report them if not probed to multiple times a day. Additionally, future research using this data will use the full extent of the longitudinal design to explore the temporal relationships between discrimination, coping, emotion and health behaviors.

Limitations

One major limitation of the study was the lack of diversity in the sample. The sample was largely White and non-binary. Only 13% of the sample identified as trans women and only 26.6% identified as a person of color. Trans women of color experience discrimination more frequently, and experience more severe types of discrimination, such as physical assault and harassment (Sánchez & Vilain, 2009; Singh & McKleroy, 2010). Future studies should do more targeted recruitment to ensure diversity in the sample. Additionally, if a larger and more diverse sample had been recruited, additional analyses looking at how having multiple marginalized identities impacts the number of discriminatory events experienced and associated mental health outcomes could have been done. There is a continued lack of diversity in trans research that needs to be addressed in future studies.

Another limitation of the study was the delineation between discriminatory and unfair events. While asking about whether they had experienced any discrimination, they were given the option to report what discriminatory events they had experienced. However, when they reported that they had experienced an unfair event, there was no space to record what the event specifically was or why they viewed it as unfair. This made it harder to understand and draw conclusions about the unfair experiences. Additionally, follow up questions about coping and resource use were tied to unfair events. In future iterations of the study, the daily survey should be restructured so that coping, resource use and resilience can be tied to specific types of events.

Implications

One of the most interesting findings from this study was the relationship between the mentorship coping strategy and an increase in resilience over time. I found that mentorship-based coping during the month-long assessment was the only adaptive coping mechanism that was

significantly associated with a decreased likelihood of reporting negative mental health symptoms at the post-survey. Previous qualitative research on resilience has frequently found that mentorship is a key factor in resilience (Singh, 2013; Singh et al., 2011; Singh & McKleroy, 2010; Singh et al., 2014). These quantitative findings from my dissertation reinforced this previous qualitative work. Future research needs to continue to explore this relationship in a nuanced way. An important difference in how I conceptualized mentorship in my study was that I included relationships with religious mentors – such as priests, spiritual advisors, and deities. This was based on previous qualitative work that explored resilience in trans people of color (TPOC) communities. This leads to another question that can be vital in developing effective mentorship-based interventions: Are there any differences in the desired role of a mentor and who the mentor should be based on the mentee's identities and membership to different marginalized communities?

Preliminary findings from the qualitative work from Project AFFIRM examining at resilience strategies among TNB people, has found that different groups – Black TNB people, Latinx TNB people, and White TNB people – look for mentors in different spaces (Singh, Truszczynski, White, Estevez, LeBlanc & Bockting, In Progress). For example, Black TNB people create strong and protective mentorship relationships with priests and leaders in their religious community, while White TNB people often looked for mentors in the media, and individuals with similar identities and age. Delving deeper into what type of mentor people are looking for to help guide them through the specific stressor they are working to build resilience to can lead to more effective and culturally relevant interventions.

Another implication from this study was the reduction of negative mental health symptoms over time. Individuals who participated more in the study and completed more daily

surveys were had larger decreases in negative mental health symptoms. This led to the question: did the study itself act as an intervention? Since there was no control group, there cannot be any conclusive findings. However, these exploratory results provide a rationale for a future study examining probing about coping and resource use as an intervention. If simply reminding people of the resources that they have in place, and the different ways they could choose to cope and process a negative event manages to influence behavior, practitioners could provide a sustainable and cost-effective intervention to high-risk populations.

While many of the implications and potential intervention of this study focus on the individual and their internal coping skill, it is important to remember that the issue driving minority stress and discriminatory/unfair events is the systems in place that continue to marginalize certain identities. Findings from this study need to be used to document the number of discriminatory events that trans and non-binary people experience and their lack of access to supportive resources. Findings from this dissertation should serve as a call for action among researchers, practitioners, and policymakers to work together with members of the trans and non-binary community to create more accessible and relevant resources and work to end discriminatory practices such as unfair employment and housing policies.

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