THE IMPACT OF MULTIPLE FORMS OF DISCRIMINATION ON MENTAL HEALTH IN TRANSGENDER AND GENDER DIVERSE PEOPLE

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Psychology —Master of Arts

2022

ABSTRACT

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Transgender and gender diverse (TGD) people experience a variety of stressors, one of which being discrimination. These experiences of discrimination are embedded within power structures that privilege cisgender, white, heterosexual individuals, and those with other dominant identities and result in the marginalization of those outside of those identities across a multitude of contexts. This study examines experiences of discrimination in a sample of 158 TGD individuals and the relationship between discrimination, mental health, and social disadvantage. The current study used latent class analysis (LCA) to separate participants into classes based on their experiences of discrimination based on their identities: Class 1 (All Types)- had the highest probability of endorsing all types of discrimination experiences, Class 2 (Few Types)- had a low probability of endorsing discrimination experiences based on their identity, and Class 3 (SGM Types)- had a high probability of endorsing discrimination experiences related to gender identity, gender presentation, and sexuality, but a low probability of endorsing discrimination based on race and ancestry. Class membership did not significantly predict mental health outcomes; however, social disadvantage was a predictor of mental health outcomes. Thus, social disadvantage should be systematically addressed to prevent poor mental health outcomes in TGD populations.

Keyword: Transgender, Gender Diverse, Mental Health, Social Disadvantage, Latent Class Analysis

TABLE OF CONTENTS

LIST OF TABLES iv

LIST OF FIGURES v

Introduction 1
Theoretical Frameworks and Application to Study 2
Contextualizing Mental Health Disparities 7
Current Study 8
Hypotheses 8
Hypothesis 1 8
Hypothesis 2 8
Hypothesis 3 9

Method 10
Measures 10
Demographics 10
Discrimination 10
Mental Health 11
Social Disadvantage Index 12
Compensation 13
Participants 13
Data Preparation and Statistical Analyses 14
Latent Class Analysis 14
Regression 15

Results 17
Frequencies and Correlations 17
Latent Class Analysis 17
Regressions 19

Discussion 21
Latent Class Analysis 23
Mental Health 24
Limitations 27
Future Direction 28
Conclusions 28

APPENDICES 30
APPENDIX A- Tables and Figures 31
APPENDIX B- Survey Items 40

REFERENCES 44

LIST OF TABLES

Table 1: *Identity Based Demographic Information* 31

Table 2: *Social Determinants of Health Demographic Information* 33

Table 3: *Endorsement of Discrimination Events Based on Identity Items* 34

Table 4: *Correlation between class membership, social disadvantage depression, and anxiety* 35

Table 5: *Model Selection* 36

Table 6: *Multiple Regressions Table* 37

Table 7: *Step-wise Regression* 38

LIST OF FIGURES

Figure 1: *Three Class Model Probability of Endorsing Experiences of Discrimination* 39

Introduction

Transgender and gender diverse (TGD) people (also known as *gender minorities*) represent a broad group whose gender identities differ from that typically associated with their sex assigned at birth, including individuals who identify as genderqueer, trans men, trans women, and nonbinary people, among others (Tompkins, 2021). In contrast, there are individuals who are cisgender, meaning that their gender aligns with their sex assigned at birth. Although frequently conflated, the experiences of TGD people are not the same as those who identify as sexual minorities, meaning individuals who hold non-heterosexual identities, such as lesbian, gay, bisexual, queer, and others. TGD people can have any sexual identity, including heterosexual.

TGD people experience a variety of stressors, one of which being discrimination. These experiences of discrimination are embedded within power structures that privilege cisgender, white, heterosexual individuals, and those with other dominant identities. These power structures intersect across various identities and simultaneously shape the experiences of individuals. In this study, I examined how discrimination was experienced in relation to a range of identities in a TGD sample, the association between discrimination and mental health, and the potential mediating effect of increased hardship (i.e., social disadvantage). This examination centered how systems of power shape lived experience through exposure to discrimination and the downstream effects of this, rather than treating identity as a risk factor or analyzing individual aspects of identity separate from the systems that create this marginalization. Thus, the focus is on experiences of discrimination instead of comparing individuals across identity categories.

Theoretical Frameworks and Application to Study

This Master's Thesis is informed by the following theories: intersectionality, minority stress, and social determinants of health. Intersectionality emerged from Black feminism recognizing how traditional feminism was not inclusive to Black women whose identities as women existed at the intersections of gender and race (Collins, 1990; Taylor, 2017). Intersectionality holds that individual aspects of identity cannot be viewed in isolation and that lived experiences at the intersections of identities are always simultaneously shaping one another and are embedded within broader structural systems (Collins, 1990; Crenshaw, 2005). When experiences related to race, gender, sexuality, and other identities are examined in isolation, one can miss the unique ways that these aspects of identity and power related to them come together (e.g., racialized sexism; Bowleg, 2008; Settles et al., 2008).

Intersectionality theory conceptualizes the ways in which systemic oppression, power, and privilege shape lived experiences and includes three basic tenets: 1) structures of oppression and inequality give existence to each other, 2) these structures are interrelated and create the power, privilege, and oppression that influences lived experience and informs classifications of social identities, and 3) theory and practice must have a focus on social justice (Buchanan & Wiklund, 2021). Rather than looking at the multiple identities people hold as compounding risk factors (i.e., double/multiple jeopardy), it is important to consider the systems of oppression that are causing these identities to be valued differently and contributing to inequities (Bowleg et al., 2003; Bowleg & Bauer, 2016; Buchanan & Wiklund, 2021).

Research utilizing intersectionality frameworks has been limited in TGD populations. Partially, this may be because researchers have struggled with how to analyze intersectional experiences and whether these are additive or multiplicative from an analytic perspective

(Buchanan & Wiklund, 2021; Rouhani, 2014). In addition, a large portion of research on discrimination often examines a singular aspect of identity or has used primarily white samples (Vargas et al., 2020), leaving many questions unanswered about the experiences of TGD people who hold multiple marginalized identities. Although research is limited, it is clear that transgender people of color (TPOC) disproportionately experience discrimination compared to white transgender individuals. One study found that TPOC experienced higher rates of discrimination and had lower access to social services compared to white TGD people, the latter compounding the experiences of discrimination and stress (Kattari et al., 2017). Another study found that, in a sample of TPOC, 38% reported receiving inferior health care compared to other patients, citing both transphobia and racism as the causal factors of this mistreatment (Howard et al., 2019). The US Trans Survey also found that negative experiences with health care providers varied by race and ethnicity, with 50% of American Indian participants, 40% of Middle Eastern participants, and 38% of multiracial participants in the sample reporting one or more negative experiences with a health care provider in the past year compared to 34% of white participants (James et al., 2016).

A related theory that informs this study is minority stress theory, which was coined by Brooks who conceptualized a model of specific stressors experienced by lesbian women (Brooks, 1981). These minority stressors were conceptualized as embedded within the broader social and cultural context and were believed to influence psychological outcomes and create a state of physiological stress. Meyer adapted this model of minority stress, specifically conceptualizing its use for lesbian, gay, and bisexual (LGB) people, to help explain the disparities in mental health between LGB people and heterosexuals (Meyer, 2003). Meyer's model specifically identified distal stressors, meaning overt enacted forms of minority stress like

victimization, and proximal stressors, which can be thought of as reactions to distal stressors. Proximal stressors include expectations of rejection, identity concealment, and internalized stigma.

Although there is some overlap in the types of stressors LGB people and TGD people may experience (e.g., sexual minorities and TGD people experience discrimination), there were gaps when extending this model to TGD populations. The specific modifications were first conceptualized in Hendricks and Testa (2012) and then further refined by Testa et al. (2015) who adapted Meyer's model for TGD populations. Their adaptations included adding gender related discrimination and gender non-affirmation, as well as tailoring the proximal stressors to match TGD people's experiences of internalized transphobia and identity concealment. Testa and colleagues also added unique resilience factors (i.e., community connectedness and pride; Testa et al., 2015). These adjustments to Meyer's model helped to ensure that minority stress theory more closely mapped onto the lives of TGD people, even though there are likely other stressors still missing from this model given the origin with sexual minorities. Researchers are continuing to refine this model through identifying TGD specific stressors such as transitioning identity stress, bodily vigilance, and vicarious stress (Dubois et al., 2017; Puckett, 2021; Puckett et al., 2021).

Drawing on the theories of intersectionality and minority stress, it is clear that systems of oppression influence manifestation of discrimination and can have downstream effects on access to resources and mental health. As an example, individual experiences of discrimination are embedded within a context with high levels of structural stigma and devaluing of TGD people, such as TGD people's experiences being pathologized in mental health classifications, the transgender military ban, legislation seeking to restrict access to gender affirming medical care,

and the constant loss of Black trans women to violence. With these systemic issues as the backdrop, we see discrimination commonplace in the lives of TGD people. Up to 50% of TGD people report physical violence in their lifetime (Stotzer, 2009), 1 out of 10 report physical violence in the past year (James et al., 2016), and 1 out of 4 report discrimination in the past year (Puckett et al., 2019). The effects of discrimination are amplified when individuals hold multiple marginalized identities. For example, trans people with a lower socioeconomic status experience higher rates of sexual violence (Testa et al., 2012), TPOC experience higher levels of distress than white TGD people (Lefevor et al., 2019), and deadly violence disproportionately impacts Black trans women compared to other racial groups (Krell, 2017).

Finally, the theory of social determinants of health (SDOH) helps to understand the toll of systemic oppression. According to SDOH, the historical context and sociopolitical context shape access to resources and social disadvantage (Elias et al., 2019). Systemic oppression is constantly being reproduced with new and current laws and policies that allow people to deny services to TGD people and allow employers to not hire TGD people because of their religious values. A recent example of how structural issues impact individual experiences is a bill that was passed in Arkansas in March 2021 entitled "To Create The Medical Ethics And Diversity Act." This bill allows healthcare workers to make moral decisions, based on their religious values, about whether they want to provide care for an LGBTQ+ person (S.B. 289, 2021). Building on SDOH theory, lack of access to basic needs and resources (i.e., social disadvantage) is one possible mechanism or pathway through which structural oppression and minority stress may impact mental health. Social disadvantage, such as lack of access to basic needs, healthcare, income, and food, may be produced and exacerbated by discrimination or via systemic and

structural factors, such as lack of resources in a neighborhood (Bowleg & Bauer, 2016; Braveman & Gottlieb, 2014).

For the purposes of this Thesis, I created an index of social disadvantage, reflecting barriers to basic needs that was computed using the following variables: income, employment status, access to a medical provider, and living situation. Marginalization has a cascade of effects on access to resources, one's ability to participate in daily life, finding/maintaining employment, and having stability in housing or other aspects of life (Braveman & Gottlieb, 2014). When these are compromised, due to structural factors and minority stress, this may be one pathway through which marginalization impacts mental health.

Measurement of social disadvantage varies widely across studies and a variety of tools exist without a consensus on a standardized measure (Elias et al., 2019). However, there is consensus that issues like economic hardship, health, and education are considered aspects of social advantage/disadvantage (Elias et al., 2019). Existing research shows that TGD adults were three times more likely to be unemployed, twice as likely to be living in poverty, and three times as likely to have an annual household income below $10,000 than the US adult population (James et al., 2016). Income levels can have a domino effect, with lower income decreasing TGD people's access to all other needs. TGD people often endorse high rates of barriers to healthcare including financial barriers, lack of insurance, fear of mistreatment due to their transgender identity, and interpersonal barriers such as being disowned by their family (Puckett et al., 2018). TPOC also face increased stigma in healthcare that can lead to untreated health concerns and, in turn, increased systematic vulnerability for social conditions like homelessness (Goldenberg et al., 2020). This increased vulnerability to homelessness is also demonstrated in the US Trans Survey which found that about 30% of respondents reported experiencing

homelessness at some point in their lives and trans women of color experienced this at even higher rates including American Indian trans women (59%), Black trans women (51%), multiracial trans women (51%), and Middle Eastern trans women (49%; James et al., 2016).

Contextualizing Mental Health Disparities

TGD people experience significant mental health disparities including higher rates of depression and anxiety symptoms relative to cisgender people (Budge et al., 2013). The U.S. Trans Survey in 2015 found that 39% of participants were currently experiencing psychological distress, which is drastically higher than the rate of 5% in the general U.S. population (James et al., 2016). One study examining TGD participants in a nested matched-pair study with cisgender participants found that TGD participants were significantly more likely to endorse a lifetime suicide attempt and suicidal ideation (29% of the TGD sample) than cisgender participants (8.5% of the cisgender sample; Reisner et al., 2014).

Focusing on mental health outcomes alone may pathologize TGD people, making it important to understand that such distress may be the result of discrimination and contextual factors (Valentine & Shipherd, 2018). Exposure to discrimination has been found to be linked to higher rates of depression and anxiety (James et al., 2016; Puckett et al., 2019). The U.S. Trans Survey (2015) also found that participants who were discriminated against based on their identity as a TGD person in the workplace had higher rates of psychological distress (James et al., 2016). Contextualizing these mental health disparities challenges the social narrative that TGD identities reflect pathology and instead centers the systems of oppression that cause adverse mental health outcomes.

Current Study

This Master's Thesis examines the ways in which discrimination is experienced across a range of identities in a TGD sample, the association between discrimination and mental health, and the potential mediating effect of social disadvantage. The results of the analyses may help to understand how systems of power shape lived experiences through discrimination and the potential subsequent effects on mental health.

Hypotheses

Hypothesis 1

I hypothesized that multiple groups would be identified in a latent class analysis (LCA) based on exposure to discrimination. I expected there to be groups who experienced discrimination associated with multiple identities, such as groups who report discrimination based on multiple facets of identity (e.g., discrimination associated simultaneously with race, gender, and national origin) and groups who experience discrimination associated with a singular aspect of identity (e.g., gender). Because this analysis and the specifics of the classes are determined based on the data, I could only generally hypothesize based on the literature, such as Layland et al. (2022), that these classes would emerge. Keeping this in mind, the subsequent hypotheses are more generally stated.

Hypothesis 2

I hypothesized that individuals who experienced discrimination associated with several aspects of identity would have worse mental health (e.g., higher levels of anxiety and depression symptoms) compared to those who experienced discrimination based on a singular aspect of identity or individuals who reported no discrimination.

Hypothesis 3

I hypothesized that individuals who reported discrimination associated with several aspects of identity would have a more difficult time having basic needs met (i.e., higher social disadvantage scores) and that this would act as a partial mediator explaining the association between discrimination and mental health.

Method

This Master's Thesis utilizes data from a mixed-methods longitudinal study examining health and resilience among TGD people (N = 158) in various sociopolitical contexts and how changes in these contexts relate to health and resilience (PIs: Jae Puckett and L. Zachary DuBois). At baseline, participants completed a set of questionnaires, an in-person interview, and the collection of biomarkers. This was followed by monthly online surveys for 12 months, which was completed April 2021. Then, the participants engaged in a follow up virtual qualitative interview and, finally, in-person biomarker collection (finished around November 2021).

Participants were recruited via advertisements distributed to community organizations, social media, snowball sampling, and in person events (e.g., Pride festivals). Data collection was conducted in four states: Oregon, Michigan, Tennessee, and Nebraska. Rather than examining longitudinal changes, I used data from the initial baseline questionnaire so that the timing of the assessment of mental health more closely aligned with the social disadvantage index

Measures

All measures are provided in Appendix B.

Demographics

Participants completed demographic questions including gender identity, race and ethnicity, sexual orientation, income, education level, living situation, and employment. Response options for these items are available in Table 1 and Table 2.

Discrimination

Participants completed the Major Experiences of Discrimination Scale, a nine-item scale with three follow up questions that measure various forms of discrimination and the aspects of identity that were associated with the discrimination (Williams et al., 1997; Williams et al.,

2008). For instance, participants were asked “For unfair reasons, have you ever not been hired for a job?” If the participant indicated that they had the experience listed in each item, they were then asked, “What do you think was the main reason for this experience?” and they then selected all identities that the discrimination was associated with, such as gender, race, religion, etc. This scale was adapted from the 1995 Detroit Area Study (DAS) and the 1995-1996 National Survey of Midlife Development in the US (MIDUS) examining everyday mistreatment. This scale was developed originally to measure discrimination in racial and ethnically diverse samples (Williams et al., 2008). Responses to these items were scored so that each participant received a 1 to indicate that they had ever experienced each type of discrimination based on each aspect of identity. These responses were used to construct the classes in the LCA.

Mental Health

The PROMIS Depression–Short Form 8a scale and the PROMIS Anxiety – Short Form 8a scale were administered to measure depression and anxiety symptoms, respectively (Cella et al., 2010). For example, depression items included “I felt worthless" and anxiety items included “I felt fearful.” Participants rated how frequently they experienced these symptoms on a scale from 1 (*never*) to 5 (*always*) and then a sum score was calculated. The sum score was converted to a T score based on national norms. Both PROMIS measures have demonstrated high levels of reliability and validity. They were developed and tested in a representative sample of the general population in the US with over 20,000 individuals (Cella et al., 2011). Previous research has found a Cronbach’s alpha of .95 for the PROMIS Depression- Short Form 8a and .94 for the PROMIS Anxiety- Short Form 8a in a TGD sample (Puckett et al., 2019). In the current sample, Cronbach’s alpha was .91 and .92 for the depression and anxiety scales respectively.

Social Disadvantage Index

I created an index of social disadvantage, reflecting barriers to basic needs, which was computed using the following variables: income, employment status, access to a medical provider, education, and living situation. These variables map on well to the SDOH theory that explores the association between social and economic capital with health outcomes, including mental health (Ahnquist et al., 2012; Elias et al., 2019). The variables I included in the index differ widely in terms of their measurement and so in order to combine them, I dichotomized them to represent categorically those who experience disadvantage and those who may not. This method of assessing social disadvantage across multiple domains is similar to other studies (Ahnquist et al., 2012, Elias et al., 2019) and other indexes ("Opportunity Nation," 2019).

To gauge the number of areas in which participants experienced social disadvantage, lack of access/disadvantaged was coded as "1" and having access/advantaged was coded as "0." Access to a medical provider was coded as "Yes" = 0, and "No" = 1. Those whose income fell in the lowest bracket of "Less than $10,000" were coded as "1" and those who were in the income categories above that were coded as "0." The US Poverty Line is <$12,880 ("Poverty Office of The Assistant Secretary For Planning And Evaluation," 2021) and "Less than $10,000" is the closest cut off available in the data. Those who were "Unemployed" or "Unable to work for health reasons" were coded as "1," those employed, "0." For housing those who endorsed living in a "Group home or residential treatment facility" or had "No permanent home address (homeless, squatting, etc.)" were coded as "1," those who indicated they had housing were coded as "0." Education level was coded as "0" if the participant had earned any degree or certificate beyond a high school degree or GED and "1" for those who had not. After this coding, a sum score was calculated with higher scores indicating more experiences of hardship.

Compensation

Participants were paid $60 for completion of baseline components (interview, surveys, and biomarker measures). They were also able to earn further compensation through the monthly surveys and the 12-month follow up interview with the possibility to earn up to a total of $250. All payments were made using Tango electronic gift cards.

Participants

There was a total of 158 participant across Oregon (*n* = 45; 28.5%), Michigan (*n* = 39; 24.7%), Nebraska (*n* = 35; 22.2%), and Tennessee (*n* = 39; 24.7%). Participants ranged in age from 19-70 years old (*M* = 33.06; *SD* = 12.88) and had a variety of gender identities: 27.2% identified as trans men/men, 26% identified as trans women/women, and the remaining participants identified with terms like genderqueer, nonbinary, and others described in Table 1. Participants were also allowed to write in responses for gender, examples included: freespirit, non-binary transmasculine, and 2 spirit. For racial identity, 5.1% (*n* = 8) of the sample identified as Black or African American, 1.3% (*n* = 2) identified as American Indian or Alaskan Native, 3.8% (*n* = 6) identified as Asian, 3.8% (*n* = 6) identified as Latinx, 69% (*n* = 109) identified as white, 16.5% (*n* = 26) identified as Multiracial/Multiethnic, and 0.6% (*n* = 1) identified as Not listed. The majority of participants identified as sexual minorities, most frequently reporting their sexual orientation as queer (*n* = 83; 52.5%). Approximately 43.7% (*n* = 69) of participants indicated they were employed fulltime. The median income fell in the $10,000-19,999 range for participants. More than half (56.3%; *n* = 89) of the sample had completed at least an Associate's degree or were a graduate of a certificate program or reported higher levels of education.

Data Preparation and Statistical Analyses

Latent Class Analysis

To assess intersectional experiences of discrimination, I utilized LCA using MPlus. Via this analysis, I identified unique groups of participants based on their experiences of discrimination across various aspects of identity (ancestry, gender presentation, gender identity, sexual orientation, and race). LCA relies on a set of dichotomous items that are used as indicators to define groups of participants with a similar experience. The class membership was initially going to include each type of discrimination as a separate indicator [exposure to discrimination in employment (based on a yes response to being unfairly fired, not hired, or denied a promotion), in policing, in educational settings, in housing, in one's neighborhood (based on a yes response to being refused housing or neighbors making life difficult), in financial services, or in accessing services (e.g., a plumber or mechanic)] in relation to the following aspects of identity: ancestry or national origin, gender expression or presentation, gender identity, race, and sexual orientation. However, there can be issues with estimating LCA models with such a large number of indicators (in this case, 35 indicators – 7 types of discrimination across 5 aspects of identity) without a very large sample size. Furthermore, while reviewing the data, it became clear there was little endorsement of discrimination for some items (see Table 3).

For parsimony and to address statistical issues, rather than examining each aspect of discrimination based on each identity, the categories were collapsed to encompass having experienced discrimination in any of the discrimination categories related to each aspect of identity. For example, instead of using the variables 1) experiences of police discrimination related to ancestry and 2) being denied a bank loan related to ancestry, that data was captured in a new variable I labeled experiencing discrimination related to ancestry. Collapsing in this way

allowed me to assess participants' endorsement of discrimination across aspects of identity but simplified our understanding of the types of discrimination experienced. Participants were coded as 1 or 0 depending on their endorsement of discrimination in relation to each aspect of identity (see Table 3). Class membership was then identified based on these responses.

I evaluated fit indices with one class and increased the classes possible to evaluate any improvement in fit indices. The fit indices I evaluated included the Bayesian Information Criterion (BIC), adjusted BIC, and Akaike information criterion (AIC). I also evaluated the Vuong-Lo-Mendell-Rubin adjusted likelihood ratio test (VLMR-LRT) that provides *p*-values to assess whether adding a class causes a statistically significant change in the fit of the model. I also examined entropy to ensure that the model selected had adequate separation of classes aiming for an entropy above .80. In addition, I evaluated the separation of the classes and the interpretability of the classes to ensure that they were distinct and meaningful for subsequent analyses. After determining the classes reflected in the data, each person was assigned a particular class membership (e.g., 1, 2, 3, etc.) and I created a name for each class. I have provided descriptions of each class and the percentage of the sample in each class, as well as a demographic breakdown of the individuals in each class in Table 1 and Table 2. A new variable was created in the dataset to specify the class that each individual was assigned.

Regression

Following the identification of the classes, I conducted two regression analyses with class membership predicting depression and anxiety. Initially, if these associations with mental health were significant, I planned to examine a mediation analysis to determine if the social disadvantage index partially mediated these associations. If the mediation analysis was conducted, I was going to examine whether there were significant pathways between class

membership and the social disadvantage index, as well as between the social disadvantage index and the dependent variables (depression and anxiety). I also would have evaluated the variance explained by the direct effect and the addition of the mediator, as well as whether there was a statistically significant indirect effect in the models. Given the small sample size and novel area of this research, I planned a backup analysis in the case that there was not a direct effect between class membership and mental health. This backup analysis was used, as there was not a direct association between class membership and mental health. According to Baron and Kenny (1986), the use of mediation analyses is only appropriate if there is a significant direct effect of the initial analyses. In the backup analysis, I conducted a regression analysis with class membership predicting mental health, with the social disadvantage index entered at the next block to determine if this variable accounted for additional variance in mental health.

Results

Frequencies and Correlations

Depression severity in this sample was elevated overall, with 45% of the sample ($N = 71$) scoring in the moderate to severe range. Anxiety in this sample was also quite elevated, with over 60% of the sample ($N = 102$) scoring in the moderate to severe range. Social disadvantage and depression were significantly correlated ($r = .20$, $p < .05$; See Table 4).

Table 3 presents the frequency information for each type of discrimination experience. A total of 3.8% of participants reported discrimination related to ancestry, 13.5% endorsed discrimination related to race, 35.4% reported discrimination related to sexual orientation, 47.4% reported discrimination related to gender identity, and 50.7% reported discrimination related to gender presentation. These percentages should also be considered in light of the sample demographics (e.g., the sample only included 30.4% TPOC). There was some variability in terms of what type of discrimination was the most common in each of the identity categories. In relation to sexual orientation, the most frequently endorsed item was about being unfairly fired (13.5%). In relation to race, the most frequently endorsed item was about neighbors who made things difficult (6.4%). In relation to gender identity, the most frequently endorsed item was about not being hired (19.9%). In relation to gender presentation, the most frequently endorsed item was about receiving worse service (22.4%). In relation to ancestry, the most frequently endorsed item was about receiving worse service (3.2%).

Latent Class Analysis

Through the LCA, I determined that a three-class model was the best fit for the data as it had the lowest AIC and adjusted BIC and adequate entropy (see Table 5). The Vuong-Lo-Mendell-Rubin adjusted likelihood ratio test (VLMR-LRT) was significant in the three-class

model (p =.001) suggesting that the three-class model is a better fit than the two-class model. Figure 1 shows the estimated probabilities for item endorsement in the three-class model. This model had the best separation of the classes that was distinct and meaningful.

Class 1 (All Types of Discrimination; n = 15; 10.45%) included participants who had a high probability of endorsing discrimination based on gender presentation, gender identity, sexual orientation, and race. They also had a moderate probability of endorsing discrimination based on ancestry. Class 2 (Few Types of Discrimination; n = 73; 46.79%) included participants who had a low probability of endorsing discrimination based on all categories, including ancestry, gender presentation, gender identity, sexual orientation, and race. Class 3 (SGM Types of Discrimination; n = 68; 43.59%) included participants who had a high probability of endorsing discrimination based on gender presentation and gender identity, a moderate probability of endorsing discrimination based on sexual orientation, and low probability of endorsing discrimination based on race or ancestry.

Demographic information is provided in Table 1 for each of the classes in order to better contextualize the findings. Notably, Class 1 (All Types) included mostly TPOC (86.7%) – this was also the class that was defined by having the higher endorsement of race and ancestry related discrimination. Class 1 (All Types) also had a higher percentage of queer identified participants (80%) in this class compared to the others. Information about each class' endorsement of hardship is listed in Table 2. Overall, Class 1 (All Types) had the highest percentage of social disadvantage in every category except access to a medical provider, in which Class 2 (Few Types) has the highest percentage. Notably, the largest difference was in percentages was for employment disadvantage in which Class 1 (All Types) has the highest percentage, over double

the other classes, at 33.33% in comparison to Class 2 (Few Types; 13.70%) and Class 3 (SGM Types; 16.18%).

Regressions

A series of multiple regressions were carried out to investigate whether class membership predicted participants' depression and anxiety scores (see Table 6). The classes were dummy coded with Class 2 (Few Types) used as the reference group. The results of the regression examining depression indicated that the model explained 0.6% of the variance and that the model was not a significant predictor of depression scores [F (2, 153) = .44, p = .65]. There was not a significant association between depression and membership in Class 1 (All Types; B = .05, p =.85) or Class 3 (SGM Types; B = .14, p =.35). In relation to anxiety, the regression indicated that the model explained 3.7% of the variance and that the model was not a significant predictor of anxiety scores [F (2, 153) = 2.91, p = .06]. There was a significant association between Class 3 (SGM Types) membership and anxiety (B = .37, p =.02) although Class 1 (All Types) membership was not significantly associated with anxiety (B = .14, p =.60).

As neither of these regressions were statistically significant, I did not conduct the mediation analyses. Instead, to determine if any additional variance in mental health outcomes could be explained by social disadvantage, I conducted a step-wise regression analysis with social disadvantage as an additional independent variable (See Table 7). In relation to depression, the revised model explained 5.0% of the variance and the model was a significant predictor of depression scores [F (3, 151) = 2.67, $p < .05$). Again, Class 1 (All Types) membership was not associated with depression (B = .01, p = .96), nor was Class 3 (SGM Types) membership (B = .17, p = .27). Social disadvantage was a significant predictor of depression symptoms (B = .18, $p < .01$). The change in R Square between this model and the model with

only class membership predicting depression scores was significant ($p < .05$) with a change of .045 thus adding social disadvantage accounted for 4.5% of the additional variance on depression scores.

In relation to anxiety, the model explained 6.0% of the variance and the model was a significant predictor of anxiety scores [F (3, 151) = 3.21, $p < .05$]. Class 3 (SGM Types) membership ($B = .38$, $p < .01$) and social disadvantage ($B = .10$, $p < .05$) contributed significantly to the model. Class 1 (All Types) membership was not associated with anxiety ($B = .10$, $p = .68$). The change in R Square between this model and the model with only class membership predicting anxiety scores was .024 thus adding social disadvantage accounted for 2.4% of the additional variance on anxiety scores. The results from the step-wise regression analyses are presented in Table 7.

Discussion

This study adds novel information about the types of discrimination experienced by TGD people and other aspects of identity that may relate to discriminatory experiences. Experiences of discrimination are embedded in systems of power and privilege that benefit those with dominant identities (Buchanan & Wiklund, 2021). As a result of these power structures, those with minoritized identities experience disadvantages in society and this research aimed to understand the potential outcomes at the intersections of discrimination. We chose to use the Everyday Discrimination Scale in this study because it allowed us to assess whether discrimination was related to a variety of aspects of identity and, although a strength, it is uncommon for TGD research to take an intersectional approach at this stage in the literature. Only a handful of studies have used the Everyday Discrimination Scale in TGD samples, making it challenging to know how well our findings map onto the broader literature. Furthermore, there is variability in how this scale is used. In the present analysis, I created a dichotomous variable that indicated any lifetime endorsement of each item whereas it is more common in the literature to examine discrimination in the past 12 months specifically and to assess this using a continuous measurement that reflects severity (e.g., McDowell et al., 2019; Reisner et al., 2016; Scandurra et al., 2017).

Another issue with the literature using this scale is that there is variability in the types of discrimination that are asked about and some studies included the follow-up questions about what aspect of identity the discrimination was related to (e.g., Reisner et al., 2016) whereas others did not include this information (e.g., White Hughto et al., 2017) or they limited the reason to be specifically about gender (e.g., Scandurra et al., 2017). In the current sample, the most common experiences of discrimination were gender presentation (50.7%) and gender

identity (47.4%). The most common discrimination experience for gender presentation was receiving worse service. This appears to be similar to other research using alternative measures of discrimination. One study found that 44% of their sample of TGD individuals reported receiving worse service (Grant et al., 2011). The most common experience of discrimination for gender identity in the current study was not being hired, which was also a common experience in the US Trans Study (19% of the sample; James et al., 2016). In relation to other aspects of identity, about a third of the sample experienced discrimination related to sexual orientation with the most common form of discrimination in relation to this identity being getting fired. In relation to race, 13.5% of the sample reported discrimination in relation to this identity with the most common being having neighbors who made things difficult. As mentioned, although this is a low percentage of the full sample, this must be taken into consideration in the context of the full sample's demographics, which had 30.4% TPOC in the sample. This means that the number of TPOC in the sample who experienced discrimination in relation to race is likely high given the demographic distribution.

There was only one study, to my knowledge, that has used this scale and reports on discrimination in relation to various aspects of identity. Reisner and colleagues (2017) found that 83.2% of their sample reported discrimination in relation to gender identity and expression, 68% reported discrimination in relation to sexual orientation, and 11.9% reported discrimination in relation to race. Their sample included higher endorsement of gender and sexual orientation based discrimination compared to the current study, although lower endorsement of discrimination related to race. They also assessed discrimination related to many other areas that may be pertinent to future research. For instance, they found that 43.5% of their participants endorsed discrimination related to their age, 23.1% endorsed discrimination related to their

education and income, and 29.9% endorsed discrimination related to their weight. These are other aspects of intersectionality that future research should explore.

Latent Class Analysis

LCA is a novel method to examine intersectional experiences of discrimination. This type of analysis has yet to be conducted with a TGD sample. However, recent research has utilized LCA to understand how discrimination associated with multiple aspects of identity and other minority stressors come together to impact health outcomes for lesbian, gay, and bisexual people (Layland et. al, 2022). Using this method acts as a bottom up approach, useful in intersectional research, as it allows researchers to focus on the experiences relevant to the sample, rather than using standards from outside reference groups (Layland et. al, 2022). LCA allows for groups to be identified based on shared experiences and, in this case, revealed groups that had similar kinds of exposure to discrimination.

From this analysis, three classes emerged. Hypothesis 1 was supported, as the latent classes reflected different experiences of discrimination based on different aspects of identity. Effectively, these classes emerged: Class 1 (All Types) had the highest probability of endorsement of multiple discrimination experiences, Class 2 (Few Types) had the lowest probability of endorsement, and Class 3 (SGM Types) had a high probability of endorsement of SGM discrimination experiences. When examining the demographic composition of the classes, a few points were noteworthy. Class 1 (All Types) had the highest percentage of TPOC participants (86.7%). More than two thirds of those in Class 2 (Few Types) identified as white and Class 3 (SGM Types) had the highest percentage of individuals who identified as white, at 83%. All three classes had a similar distribution of gender and sexuality identities, apart from Class 1 (All Types) in which 80% of the members of this class identified as queer compared to

around 50% of those in the other two classes. When examining the social determinants of health demographics, used when creating the social disadvantage scale, differences between classes were noted. As previously mentioned, participants in Class 1 (All Types) had the highest percentage of participants to score as disadvantaged in every category apart from access to a medical provider.

In relation to the existing literature, White Hughto and Reisner (2018) found that there was an average of 1.7 other aspects of identity associated with their samples' discrimination experiences (other than gender). Another study (Reisner et al., 2016) found that there was an average number of 4.84 aspects of identity related to their sample's discrimination experiences. In the current sample, 46.79% of participants were in Class 2 (Few Types), with low endorsement of discrimination experiences in relation to any aspect of identity. In addition, 43.59% of the sample was in Class 3 (SGM Types) and 10.45% was in Class 1 (All Types). Although different ways of reporting this information, there does appear to be notable variability across samples in relation to rates and types of discrimination participants endorse.

Mental Health

Overall, both depression and anxiety scores in this sample were quite elevated, with 45% of participants in the moderate to severe range of depression symptoms and 60% of participants in the moderate to severe range of anxiety symptoms. This echoes the findings in previous research that typically shows about half of TGD people experience clinically significant or moderate-severe levels of anxiety and depression (Budge et al., 2013; James et al., 2016; Puckett et al., 2019; Reisner et al., 2014). As mentioned, it is essential that we contextualize these mental health symptoms, as other research and theory supports the notion that marginalization and minority stress are drivers of distress (e.g., Testa et al., 2015).

Hypothesis 2 was not supported for depression or anxiety, as depression and anxiety scores were not predicted by class membership alone. It is important to note, however, the small sample size in Class 1 and this may have influenced the findings. Considering these findings, there may also be an effect related to how recent the experiences of discrimination took place. Past research has shown that higher rates of discrimination over the past year using the Everyday Discrimination Scale have been associated with higher levels of depression and anxiety (Scandurra et al., 2017; White Hughto & Reisner, 2018; White Hughto et al., 2017), as well as PTSD (Reisner et al., 2019) and non-suicidal self-injury (McDowell et al., 2019). The findings in the current study may not be consistent with these past findings given that I evaluated lifetime endorsement of the types of discrimination as opposed to past year. It is possible that the effects of discrimination wanes over time and thus experiences that happened many years ago may not have as direct an impact on mental health as those over a more recent timespan, like the past year.

This analysis also did not take into account ways of coping or being resilient in the face of discrimination. Other research shows that the ways that people cope with discrimination plays a role in how it impacts mental health (e.g., Puckett et al., 2020; White Hughto et al., 2017). Future research should also consider the ways that TGD people respond to discrimination as this likely influences the association with mental health. In line with this, it is possible that those who have experienced more types of discrimination have become resilient. Those in Class 1 (All Types) may not experience as much anxiety because they expect discrimination to follow them, as it has happened across multiple identity labels, and they may be prepared to manage these experiences given chronic life exposure to discrimination.

Given the lack of direct associations between class membership and mental health, I chose not to test indirect effects that were included in Hypothesis 3. From a theoretical perspective, it did not make sense to run these analyses, as the class with the most experiences of discrimination did not predict mental health outcomes. Instead, I chose to examine whether social disadvantage accounted for additional variance in mental health outcomes. When social disadvantage was added to the regression, it became a significant predictor of depression and anxiety scores. Social disadvantage scores were not correlated with class membership, however. Of note, the social disadvantage scores reflect current experiences of hardship and so are likely to have a more direct impact on mental health compared to lifetime exposure to discrimination. Other literature has found this link between social disadvantage and mental health outcomes (Nurius et al., 2013) but this link has not been well documented in the TGD literature. Many studies of TGD people's mental health situates their findings in systems of oppression and access (e.g. Budge et al., 2013; James et al., 2016; Puckett et al., 2019; Reisner et al., 2014) but few studies examine the specific disadvantages and their relationship to mental health outcomes.

Contrary to our findings, we would expect that lifetime exposure to discrimination would be related to the social disadvantage index and it is unclear why this was not the case. Theoretically, we expected discrimination to shape access to resources, like housing and employment, which would influence exposure to hardship. One potential factor that could also shape access to resources that was not analyzed is location, as there could be some participants that live in areas with low resources overall, and even more participants live in areas with few resource that support the TGD community's needs.

Limitations

Although longitudinal change would be interesting to track and would reveal important insights into the downstream effects of discrimination, the variables included in the social disadvantage index were not measured over the course of the year, so I did not assess change over time. Furthermore, the start of the longitudinal data collection via the monthly surveys aligned with the start of the pandemic and thus changes in mental health would likely be influenced by this as well. Future research examining the associations between experiences of discrimination, changes in social disadvantage over time, and mental health is certainly warranted and is a direction for future research.

Because I used existing data, there were some significant limitations to how I could address my research questions. This particularly impacts the measurement of social disadvantage. Previous indexes of social disadvantage have used more expansive scales, but for this analysis, the index was simplified in order to fit the available items. Income was collected in a way that did not address the number of incomes in a household and the response options were in categories that increased by $10,000 increments. Given this, I was not able to have the highest level of precision in terms of assessing whether participants were living in poverty. Although the argument can be made that access to affordable housing, housing that costs less than 30% of their income, should be considered as a part of housing advantage/disadvantage, that data was not collected ("Opportunity Nation," 2019). There was also no measure that specifically asked which aspects of life participants would consider themselves having hardship in, which could add valuable data that is not reflected in self-report measures of income, employment, etc. There also are some limitations to the results given the sample size. The class size for Class 1 (All Types) was relatively small which could be related to the fact that there were few people in our

sample that endorsed certain discrimination items – particularly related to race, which is also likely a reflection of the sample being predominantly white. Lastly, my choice to use the measurement of lifetime exposure to discrimination instead of considering the timing or the frequency of exposure is a major limitation. Given the existing literature, I would likely have different findings if I considered other ways of measuring discrimination and future analyses of this data should assess more recent exposure to discrimination in relation to mental health and social disadvantage.

Future Direction

Expanding this research to incorporate other marginalized identities, such as: age, weight, income, and education, could aid in understanding the impact of marginalization on mental health outcomes in TGD individuals. Future studies with the goal of using the LCA to examine TGD experiences should include a larger, diverse sample to avoid restrictions in statistical analyses and provide a better insight into the population. Additional studies examining lifetime experiences of discrimination and lifetime social disadvantage in relation to current and past mental health outcomes could result in a more accurate reflection of the short term and long term effects of discrimination and social disadvantage on mental health outcomes. Another analysis that could be beneficial would be separating participants by location to gauge the impact of social climate and community resources on discrimination, social disadvantage, and mental health outcomes.

Conclusions

In efforts to actively contribute to intersectional research, I aspired to use this project to gain insight into the intersectional experiences of a TGD sample. Research tackling the intersections of race, gender, sexuality, and the vast variety of identities individuals can hold is

crucial to understanding the social world and pushing clinical science into the future (Buchanan & Wiklund, 2020). It is important to recognize that systems of power are actively contributing to the harm of many that hold marginalized identities and how this marginalization impacts the access of certain groups, causing social disadvantage that does not just impact the current generation, but has impacted the previous generations and all generations to come (Jones, 2000). Given that the TGD community experiences increased rates of social disadvantage, we must implement social change to prevent this from continuing. From this analysis, there is evidence that social disadvantage is a predictor of depression and anxiety scores for TGD individuals. The results of these analyses aid in understanding the experiences of discrimination and social disadvantage in TGD individuals and their mental health outcomes.

APPENDICES

APPENDIX A- Tables and Figures

Table 1: *Identity Based Demographic Information*

	Full Sample		Class 1 (All Types)		Class 2 (Few Types)		Class 3 (SGM Types)	
Gender	*N*	%	*N*	%	*N*	%	*N*	%
Transman/ Trans man	37	23.40%	3	20.00%	15	20.50%	18	26.50%
Transwoman/ Trans woman	32	20.30%	2	13.30%	16	21.90%	14	20.60%
Genderqueer	16	10.10%	2	13.30%	6	8.20%	8	11.80%
Non-binary	40	25.30%	4	26.70%	21	28.80%	15	22.10%
Agender	3	1.90%	0	0.00%	2	2.70%	1	1.50%
Androgyne	1	0.60%	0	0.00%	0	0.00%	1	1.50%
Genderfluid	2	1.30%	0	0.00%	1	1.40%	1	1.50%
Woman	9	5.70%	1	6.70%	2	2.70%	6	8.80%
Man	6	3.80%	0	0.00%	5	6.80%	1	1.50%
Bigender	2	1.30%	0	0.00%	1	1.40%	0	0.00%
Not listed	9	5.70%	3	20.00%	3	4.10%	3	4.40%
Missing	1	0.60%			1	1.40%		
Race	*N*	%	*N*	%	*N*	%	*N*	%
Black or African American	8	5.10%	2	13.30%	3	4.10%	2	2.90%
American Indian or Alaskan Native	2	1.30%	2	13.30%	0	0.00%	0	0.00%
Asian	6	3.80%	2	13.30%	4	5.50%	0	0.00%
Latinx	6	3.80%	2	13.30%	4	5.50%	0	0.00%
White	109	69.00%	2	13.30%	49	67.10%	57	83.80%
Not listed	1	0.60%	0	0.00%	1	1.40%	0	0.00%
Multiracial/ Multiethnic	26	16.50%	5	33.30%	12	16.40%	9	13.20%

Table 1(cont'd)

Sexual Orientation	*N*	%	*N*	%	*N*	%	*N*	%
Bisexual	44	27.80%	3	20.00%	23	31.51%	17	25.00%
Gay	23	14.60%	2	13.33%	14	19.18%	7	10.29%
Lesbian	20	12.70%	2	13.33%	12	16.44%	6	8.82%
Queer	83	52.50%	12	80.00%	37	50.68%	33	48.53%
Asexual	16	10.10%	0	0.00%	6	8.22%	10	14.71%
Pansexual	60	38.00%	5	33.33%	20	27.40%	33	48.53%
Heterosexual/ straight	8	5.10%	0	0.00%	6	8.22%	2	2.94%
Not Listed	8	5.10%	0	0.00%	3	4.11%	5	7.35%

Table 2: *Social Determinants of Health Demographic Information*

	Full Sample		Class 1 (All Types)		Class 2 (Few Types)		Class 3 (SGM Types)	
Employment	*N*	%	*N*	%	*N*	%	*N*	%
Advantaged	130	83.33%	10	66.67%	63	86.30%	57	83.82%
Disadvantaged	26	16.67%	5	33.33%	10	13.70%	11	16.18%
Living Situation	*N*	%	*N*	%	*N*	%	*N*	%
Advantaged	153	98.10%	14	93.33%	72	98.63%	67	98.53%
Disadvantaged	3	1.90%	1	6.67%	1	1.37%	1	1.47%
Education Level	*N*	%	*N*	%	*N*	%	*N*	%
Advantaged	93	59.62%	8	53.33%	41	56.16%	44	64.71%
Disadvantaged	63	40.38%	7	46.67%	32	43.84%	24	35.29%
Income	*N*	%	*N*	%	*N*	%	*N*	%
Advantaged	114	73.07%	10	66.67%	52	71.23%	52	76.47%
Disadvantaged	42	26.93%	5	33.33%	21	28.77%	16	23.53%
Access to Medical Provider	*N*	%	*N*	%	*N*	%	*N*	%
Advantaged	129	82.69%	14	93.33%	58	79.45%	57	83.82%
Disadvantaged	27	17.31%	1	6.67%	15	20.55%	11	16.18%

Table 3: *Endorsement of Discrimination Events Based on Identity Items*

Discrimination Experience	Ancestry *N* (%)	Gender Presentation *N* (%)	Gender Identity *N* (%)	Race *N* (%)	Sexual Orientation *N* (%)
Police Discrimination	1 (0.6)	23 (14.7)	16 (10.3)	9 (5.8)	12 (7.6)
Discouraged from Continuing Education	1 (0.6)	17 (10.9)	12 (7.7)	3 (1.9)	11 (7.1)
Denied a Bank Loan	0 (0)	0 (0)	1 (.6)	0 (0)	0 (0)
Received Worse Service	5 (3.2)	35 (22.4)	26 (16.7)	8 (5.1)	17 (10.9)
Unfairly Fired	2 (1.3)	26 (16.7)	23 (14.7)	4 (2.6)	21 (13.5)
Not Hired	2 (1.3)	33 (21.2)	31 (19.9)	7 (4.5)	18 (11.5)
Denied a Promotion	1 (.6)	23 (14.7)	25 (16.0)	5 (3.2)	14 (9.0)
Prevented from Moving into a Neighborhood	2 (1.3)	4 (2.6)	6 (3.8)	7 (4.5)	7 (4.5)
Neighbors Who Made Things Difficult	3 (1.9)	20 (12.8)	16 (10.3)	10 (6.4)	17 (10.9)
Any Discrimination	6 (3.8)	79 (50.7)	74 (47.4)	21 (13.5)	55 (35.3)

Table 4: *Correlation between class membership, social disadvantage depression, and anxiety*

Variable	M (*SD*)	1	2	3	4	5
1. Class 1 Membership	-	-				
2. Class 2 Membership	-	-	-			
3. Class 3 Membership	-	-	-	-		
4. Social Disadvantage	1.03 (1.07)	0.07	0.04	-0.08	-	
5. Depression	2.21 (0.91)	-0.01	-0.07	0.07	0.20*	-
6. Anxiety	2.56 (0.92)	-0.01	-0.18*	0.19*	0.14	0.57**

**p < .05 (2-tailed) ** p < .01 (2 tailed)*

Table 5: *Model Selection*

Model	Loglikelihood (H0)	# of Parameters	AIC	BIC	Adjusted BIC	Entropy
1 Class	-404.35	5	818.70	833.95	818.13	N/A
2 Classes	-328.02	11	678.03	711.58	676.76	.85
3 Classes	-320.06	17	674.11	725.96	672.15	.80
4 Classes	-317.67	23	681.34	751.48	678.69	.85
5 Classes	-316.53	29	691.06	779.51	687.71	.85

Table 6: *Multiple Regressions Table*

Independent Variables	Unstandardized B	Standard Error	*P*-value
		Depression	
		$R^2 = .01$, $p = .53$	
Class 2 Membership (Constant)	2.15	.11	<.001
Class 1 Membership	0.05	.26	0.85
Class 3 Membership	0.14	.15	0.35
		Anxiety	
		$R^2 = .04$, $p = .94$	
Class 2 Membership (Constant)	2.40	.11	<.001
Class 1 Membership	0.14	.26	0.59
Class 3 Membership	0.37	.15	.017*

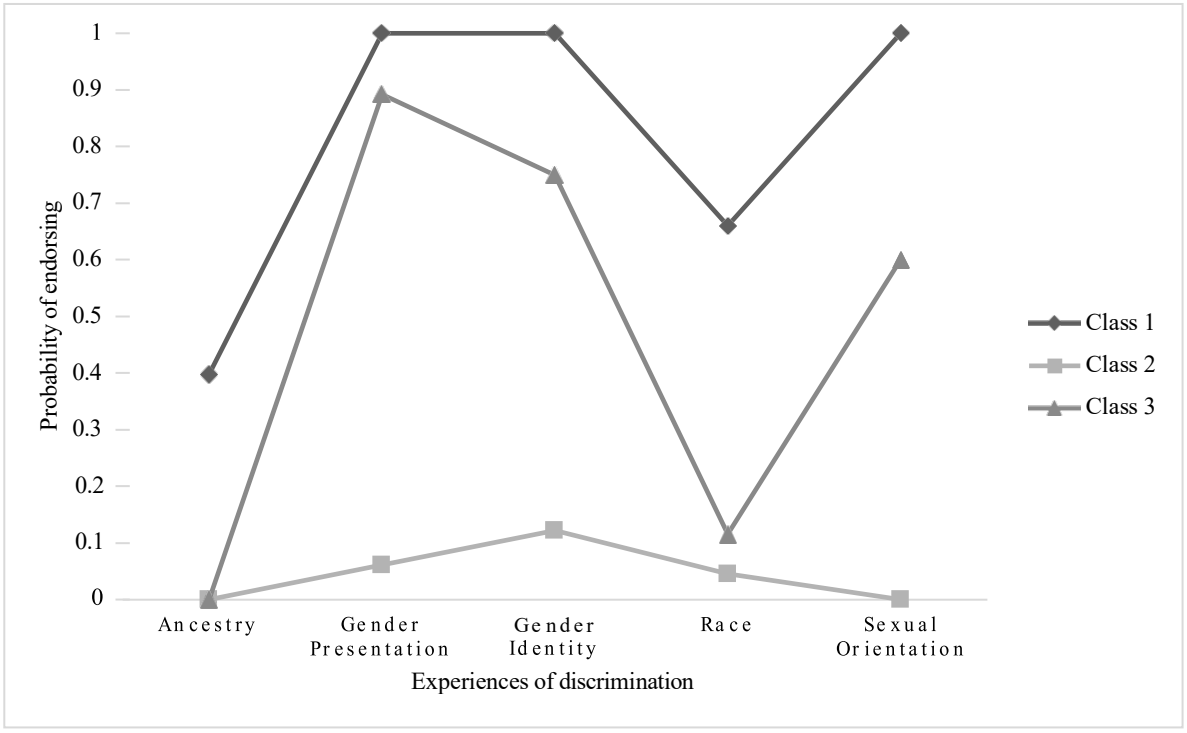
**p < .05 (2-tailed) ** p < .01 (2 tailed)*

Table 7: *Step-wise Regression*

Independent Variables	Unstandardized B	Standard Error	*P*-value
		Depression	
		$R^2 = .01$, $p = .53$	
Class 2 Membership (Constant)	1.96	.13	<.001
Class 1 Membership	0.01	.26	0.96
Class 3 Membership	0.17	.15	0.27
		$\Delta R^2 = .045$, $p < .05$*	
Social Disadvantage Score	0.18	.07	.008**
		Anxiety	
		$R^2 = .04$, $p = .94$	
Class 2 Membership (Constant)	2.40	.11	<.001
Class 1 Membership	0.14	.26	0.58
Class 3 Membership	0.37	.15	.017*
		$\Delta R^2 = .024$, $p < .05$*	
Social Disadvantage Score	0.13	.07	.049*

*$p < .05$ (2-tailed) ** $p < .01$ (2 tailed)*

Figure 1: *Three Class Model Probability of Endorsing Experiences of Discrimination*



APPENDIX B- Survey Items

Demographic Items:

1. Which of the following best describes your current gender? (Note: Cisgender refers to a person who is not transgender, meaning that they identify with the gender that is typically associated with their sex assigned at birth)
    a. Transman/Trans man
    b. Transwoman/Trans woman
    c. Genderqueer
    d. Non-binary
    e. Agender
    f. Androgyne
    g. Genderfluid
    h. Cisgender Woman
    i. Cisgender Man
    j. Bigender
    k. Woman
    l. Man
    m. Not listed – please specify: [text box response]
2. What sex were you assigned at birth, on your original birth certificate?
    a. Female
    b. Male
5. What race do you identify with? Select all that apply.
    a. Black or African American
    b. American Indian or Alaska Native
    c. Native Hawaiian or Other Pacific Islander
    d. Asian
    e. Latino/a/x
    f. White
    g. Not listed – please specify [text box]
6. Which of these commonly used sexual orientation categories best captures your identity? Check all that apply
    a. Bisexual
    b. Gay
    c. Lesbian
    d. Queer
    e. Asexual
    f. Pansexual
    g. Heterosexual/straight
    h. Not listed – please specify [text box response]
9. What best describes your employment/student status? [check all that apply]
    a. Employed full-time
    b. Employed part-time
    c. A full-time student
    d. A part-time student
    e. Unable to work for health reasons

f. Unemployed
g. Other [text box]

11. Which of the following best describes your living situation?
    a. Living alone in an apartment, dorm, or house
    b. Living with parents or family
    c. Living with a roommate(s) in an apartment, dorm, or house
    d. Living with a romantic or sexual partner
    e. Group home or residential treatment facility
    f. No permanent home address (homeless, squatting, etc.)
12. What is the highest degree or level of school you have completed? If you are currently enrolled, please mark the previous grade of highest degree received.
    a. None
    b.
    c. Primary, Elementary and/or junior high
    c. Some high school
    d. High school graduate – high school diploma or equivalent (i.e. GED)
    e. Some college credit, but less than 1 year
    f. Technical or vocational school degree
    g. One or more years of college, no degree
    h. Associate's degree
    i. Bachelor's degree
    j. Master's degree
    k. Doctorate or professional degree (e.g., PhD, MD, JD, DDS)
    l. Graduate of a Certificate Program
13. Please estimate your total personal income (gross income before taxes)?
    a. Less than $10,000
    b. 10,000 – 19,999
    c. 20,000 – 29,999
    d. 30,000 – 39,999
    e. 40,000 – 49,999
    f. 50,000 – 59,999
    g. 60,000 – 69,999
    h. 70,000 – 79,999
    i. 80,000 – 89,999
    j. 90,000 – 99,999
    k. More than $100,000

Mental Health - Depression

Source: PROMIS Item Bank v1.0 – Emotional Distress – Depression–Short Form 8a; Cella et al., 2011

Instructions: Please respond to each item by choosing one answer per question. In the past 7 days…

Response options: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always

1. I felt worthless
2. I felt helpless
3. I felt depressed

4. I felt hopeless
5. I felt like a failure
6. I felt unhappy
7. I felt that I had nothing to look forward to
8. I felt that nothing could cheer me up

Mental Health - Anxiety
Source: PROMIS Item Bank v1.0 – Emotional Distress – Anxiety – Short Form 8a; Cella et al., 2011
Instructions: Please respond to each item by choosing one answer per question. In the past 7 days…
Response options: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always
1. I felt fearful
2. I found it hard to focus on anything other than my anxiety
3. My worries overwhelmed me
4. I felt uneasy
5. I felt nervous
6. I felt like I needed help for my anxiety
7. I felt anxious
8. I felt tense

Medical Health Services Info

1. Do you currently have a medical provider you see when needed?
    a. Yes
    b. No

Major Experiences of Discrimination Scale
Source: Williams, D.R., González, H.M., Williams, S., Mohammed, S.A., Moomal, H, Stein, D.J. "Perceived Discrimination, Race and Health in South Africa: Findings from the South Africa Stress and Health Study." Social Science and Medicine, 2008; 67: 441-452.

Instructions: In the following questions, we are interested in the way other people have treated you or your beliefs about how other people have treated you. Can you tell us if any of the following has ever happened to you:

1. At any time in your life, have you ever been unfairly fired?
2. For unfair reasons, have you ever not been hired for a job?
3. Have you ever been unfairly denied a promotion?
4. Have you ever been unfairly stopped, searched, questioned, physically threatened or abused by the police?
5. Have you ever been unfairly discouraged by a teacher or advisor from continuing your education?
6. Have you ever been unfairly prevented from moving into a neighborhood because the landlord or a realtor refused to sell or rent you a house or apartment?
7. Have you ever moved into a neighborhood where neighbors made life difficult for you or your family?

8. Have you ever been unfairly denied a bank loan?
9. Have you ever received service from someone such as a plumber or car mechanic that was worse than what other people get?

Response options: Participants will check which experiences apply to them. For each experience they indicate having had, they will be asked a series of follow up questions, as follows:

1. What do you think was the main reason for this experience? (check all that apply)
a. Your Ancestry or National Origins
b-1. Your Gender Expression or Presentation
b-2. Your Gender Identity
c. Your Race
i. Your Sexual Orientation

2. When was the last time this happened?
a. Past week
b. Past month
c. Past year
d. More than a year ago

3. How many times has this happened during your lifetime?
   a. 1
   b. 2
   c. 3
   d. 4
   e. 5
   f. 6-10
   g. 11-15
   h. 16-20
   i. more than 20 times

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