

IT IS SO MUCH MORE THAN THERAPY: MENTAL HEALTH AND MENTAL HEALTHCARE  
UTILIZATION AMONG TRANSGENDER AND GENDER NON-CONFORMING UNIVERSITY-ENROLLED  
STUDENTS IN THE UNITED STATES

By

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This is dedicated to all of the transgender and gender non-conforming individuals battling the world around them.  
You are loved and you are seen.

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# TABLE OF CONTENTS

	Page
LIST OF TABLES.....	vi
INTRODUCTION.....	1
LITERATURE REVIEW.....	3
<i>Race and Ethnicity</i> .....	4
<i>Social Determinants of Health</i> .....	5
<i>Minority Stress</i> .....	9
<i>Behavioral Model of Health Services Use</i> .....	10
<i>Community Building and Resilience</i> .....	11
<i>Mental Health</i> .....	12
<i>Mental Healthcare Utilization</i> .....	14
<i>University-Enrolled Individuals</i> .....	14
<i>Identified Gaps</i> .....	15
<i>Conclusion to the Literature Review</i> .....	15
METHODS.....	17
<i>Research Questions and Objectives</i> .....	17
<i>Data Source</i> .....	17
<i>Outcome Variables of Interest</i> .....	18
<i>Cleaning the data</i> .....	18
<i>Statistical Analysis</i> .....	19
RESULTS.....	21
<i>Descriptive Statistics and Frequencies</i> .....	21
<i>Regressions</i> .....	23
DISCUSSION.....	24
<i>Theoretical Frameworks</i> .....	24
<i>Implications for Mental Healthcare</i> .....	25
<i>Implications for TGNC University-Enrolled Students</i> .....	27
<i>Limitations</i> .....	30
<i>Moving Forward</i> .....	30
CONCLUSION.....	32
APPENDIX.....	33
<i>Tables</i> .....	33
WORKS CITED.....	46

## LIST OF TABLES

	Page
Table 1: Sample Demographics .....	33
Table 2: Mental Health Status .....	36
Table 3: Mental Healthcare Utilization .....	37
Table 4: Support Measures .....	39
Table 5: Relationship of Therapy Timeline to Depression, Anxiety, Flourishing, and Perceived Helpfulness .....	40
Table 6: Associations between gender identity and mental health in university-enrolled students in US colleges and universities .....	41
Table 7: Associations between gender identity, mental health, and time of mental healthcare in university-enrolled students in US colleges and universities .....	42
Table 8: Variables and survey questions .....	44

## INTRODUCTION

The transgender and gender non-conforming (TGNC) population faces significant mental health disparities compared to cisgender individuals – including increased risk of suicidality and self-harm (Clements-Nolle et al., 2006; Poteat et al., 2013; White Hughto et al., 2015; Zaliznyak et al., 2021). There are multiple factors that impact the mental health outcomes of TGNC identifying individuals, including stigma and discrimination (Poteat et al., 2013). Some of the primary frameworks that help shape research surrounding TGNC people and mental and physical health are intersectionality, the minority stress theory, the social-ecological model, the resiliency theory, and the behavioral model of health services use. The benefit of these frameworks as a lens of analysis is that they consider many facets of an individual and community’s identity, acknowledging the ways in which they interact and inform life experiences.

At this time, in the United States, discussions of TGNC mental health cannot happen without considering the political battleground that is the TGNC body and existence. At the time of this thesis research, The American Civil Liberties Union was tracking 491 pieces of anti-LGBTQ+ legislation that impact all aspects of life from sports, to educational access, legal documentation corrections, and healthcare access (“Mapping Anti-LGBTQ+ Legislation,” 2023). Existing in a state that does not have protective measures in place and is actively legislating against TGNC existence has a negative impact on physical and mental health (Gonzales et al., 2022).

Similar to the heightened focus on the TGNC identity, recent years have highlighted the existing mental health disparities that university-enrolled students face. Students face increasing rates of anxiety, depression, and other mental health conditions (Oswalt et al., 2020). Specifically, graduate students are much more likely to deal with anxiety and depression symptoms than the general population (Evans et al., 2018). In relationship to the increase in poor mental health outcomes among university-enrolled students, there is also an increase in the utilization of mental healthcare services at the university level (Lipson et al., 2019). The increase in mental healthcare utilization can be linked to an increase in the prevalence of poor mental health outcomes and a decrease in stigma surrounding accessing mental healthcare (Lipson et al., 2019). Given the relationship between university enrollment, the politicization of gender identity, and mental health outcomes, analyzing the prevalence of mental healthcare utilization of TGNC university-enrolled individuals is an opportunity to better characterize the nuance between what it means to utilize mental healthcare services and what the outcomes of such utilization are.

My study aimed to investigate this intersection at a time when better understanding of this field of research is paramount to helping TGNC individuals thrive in the face of adversity. I found that TGNC identified individuals reported higher prevalence of mental health diagnoses and symptoms, but also utilized therapy/counseling services at a higher rate. I also chose to investigate whether the time in which university-enrolled students accessed therapy/counseling had an impact on their anxiety scores, depression scores, flourishing scores, and how helpful they thought the services were. Notably, the gap between TGNC and cisgender respondents was the greatest in all outcome variables of interest for those who had never accessed therapy/counseling. In regard to perceived helpfulness, TGNC and cisgender respondents, on average, rated the helpfulness of therapy/counseling the same and this score improved with longevity of care. Finally, I chose to look at alternative support measures; TGNC respondents more often reported that they relied on a friend or professional clinician in times of serious emotional distress and were less likely to report relying on a family member.

The results of my study have broad implications. Primarily, it is important to address that formal mental healthcare does not fix the gap in mental health outcomes between TGNC and cisgender university-enrolled populations, but it does work to lessen the gap. These findings indicate that TGNC people are often willing to utilize an available resource for therapy/counseling, so there is no longer a need to push for simply more mental healthcare, but nuance within such care. This nuance can look like increased representation of TGNC-identifying providers, additional strategies beyond talk therapy to engage with creativity and community networks, and higher quality, TGNC-informed care options. The TGNC respondents in my sample utilized therapy/counseling services more than cisgender respondents, however, the tools in place are not enough to combat the structural limitations involved with being TGNC in the United States. Thus, to close the gap in mental health outcomes between TGNC and cisgender university-enrolled students there must be structural changes coupled with nuanced implementation of mental healthcare services.



## LITERATURE REVIEW

The intention of this literature review is to identify and analyze how the available literature utilizes qualitative and quantitative data to engage with the health of transgender and gender non-conforming (TGNC)<sup>1</sup> identities and communities in the United States. A significant amount of the available literature addresses mental health outcomes in the TGNC population, while also addressing the role of stigma, discrimination, and the theories that provide a framework for TGNC experiences. Some of the primary frameworks for analysis are intersectionality, the minority stress theory, the social-ecological model, the resiliency theory, and the Behavioral Model of Health Services Use (BMHSU). Many of the theories carry intersecting frameworks and modes of support, making them viable for TGNC population-based research.

Intersectionality is credited to Kimberle Crenshaw and was created as Black feminist legal theory (Crenshaw, 1989). The theory has since been applied outside of Crenshaw's initial framework. Intersectionality aims to consider the variety of intersecting identities that an individual or community holds (Crenshaw, 1989). Minority stress theory relates to the proximal and distal stressors that members of minoritized or stigmatized identities face as part of daily life (Meyer, 2003; Rich et al., 2020). These facets of daily life can present as parts of structural, institutional, and interpersonal influences – as outlined in the social-ecological model (White Hughto et al., 2015). Resiliency theory is founded on the framework of individuals thriving through adverse experiences and achieving success (Greene et al., 2004). Resilience factors are multi-faceted and include measures found in all levels of the social-ecological model (Greene et al., 2004; Nicolazzo, 2016; White Hughto et al., 2015). Finally, the BMHSU works to explain the paths, influences, and behaviors that inform an individuals' utilization of healthcare services (R. Andersen & Aday, 1978). Thus, it is important to understand the multiple layers of risk and protective factors that inform the ability of TGNC-identifying individuals' ability to succeed and thrive. This ability is measured in resilience, or one's ability to overcome adverse situations (Matsuno & Israel, 2018). Resilience is informed by risk and protective factors that support or destruct an individual's positionality in society (Matsuno & Israel, 2018; Nicolazzo, 2016). Therefore, it is an important measure of health in TGNC-related research.

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<sup>1</sup> Transgender and TGNC are used in accordance with the literature that is being referenced. Not all articles include gender diversity outside of the binary and therefore those data cannot be generalized to gender non-conforming, genderqueer, non-binary, and other gender diverse populations.

With the increasing politicization and divisiveness of the identities within the TGNC community (Parker et al., 2022), it is important to acknowledge the ways that such identity-stress will impact whole community health and thus burden the American healthcare system. By addressing community health concerns and social determinants of health (SDOHs), a burden can be relieved from the entire population – making TGNC and minority health a research priority.

### *Race and Ethnicity*

A significant portion of the literature centers White and Caucasian TGNC experiences over other races and ethnicities (Adams & Vincent, 2019). In a systematic literature review conducted by Adams and Vincent (2019) they reported that on average 67.75% of TGNC respondents were Caucasian (p. 236). The lack of inclusivity serves as an incredible limitation to the generalizability of TGNC-based research. Adams and Vincent (2019) speculate that the discrepancy in the racial and ethnic diversity of respondent pools is due to sampling measures that do not meet different community needs. Without including a diverse study sample, the TGNC identity is isolated from other intersecting identities and limits the generalizability (Bowleg, 2008; Hankivsky, 2012; Nicolazzo, 2016; White Hughto et al., 2015). This is especially important to highlight because the Williams Institute (Herman et al., 2022) reported that “transgender youth and adults are more likely to report being Latinx and less likely to report being White compared to the U.S. population” (p. 1). Additionally, the National Transgender Discrimination Survey (NTDS) found that structural racism served as a devastating factor in the success of respondents who were not White or Caucasian; specifically, Black and African American respondents fared much worse than other respondents in all areas of the survey (Grant et al., 2011). In 2015, the United States Transgender Survey (USTS) (James et al., 2016) followed up on the results from the NTDS (Grant et al., 2011) and found similar conclusions, such as the fact that of all transwomen, Black transwomen were most likely to be mistaken as sex-workers by law enforcement – further perpetuating harmful stereotypes.

Transwomen face a unique set of challenges. Compared to the general population, transwomen have the highest prevalence of people with a positive HIV diagnosis and the highest AIDS-related mortality (Wilson et al., 2015). Racial and ethnic minority transwomen also tend to have lower educational attainment and were more likely to experience instability in housing (Wilson et al., 2015). The USTS (James et al., 2016) refined these results and found that Native American, Black, Multiracial, and Latinx transwomen are much more likely to have experiences

of homelessness in the past year. Additionally, racial and ethnic minority TGNC individuals were more likely to be uncomfortable being out in academic and professional settings and more likely to have experiences of discrimination based on their TGNC identity or another stigmatized identity (Grant et al., 2011; Nicolazzo, 2016). Such statistics highlight the necessity of intersectionality's role in TGNC research and the need for intentionality in doing so.

### *Social Determinants of Health*

Social determinants of health (SDOH) are defined as “the immediate and structural conditions in which people are born, grow, live, work, and age” (Marmot et al., 2013, p. 1661). They are often categorized as: economic stability, education, health and healthcare, neighborhood and built environment, and social and community context (Gómez et al., 2021). Each element does not function individually, but rather they are interconnected structural forces that influence unique individual and community experiences (Gómez et al., 2021). SDOHs are responsible for 40% of group and personal health (CDC - *Social Determinants of Health*, 2022; Gómez et al., 2021; J. Scott, 2019). Thus, these five domains do not just impact members of the TGNC community, but also people from other marginalized communities.

#### *Economic (In)Stability*

Regarding economic status, transgender people are largely more disadvantaged than other populations as more transgender people were present in the  $\leq$  \$10,000 and \$10-20,000 income bracket and less in the \$50-100,000 and  $\geq$  \$100,000 income bracket than the general U.S. population (U.S. census data) (Adams & Vincent, 2019). This income disparity impacts many facets of transgender individuals' lives, such as housing, healthcare, food, and transportation. Additionally, transgender people reported being four times more likely to be living in “dire poverty,” which is characterized as making lower than \$10,000/yr. (Grant et al., 2011, p. 2). Poverty or low household income has been found to consequently increase the already high prevalence of suicidality within the transgender community (Grant et al., 2011; James et al., 2016).

Transgender people are less likely to be employed than their cisgender counterparts, leading to the higher incidence of poverty and housing insecurity (Mann, 2021). Employment status largely influences TGNC individuals' financial status; which is impacted by workplace discrimination, bathroom access, hiring discrimination, workplace acceptance, compensation, and promotions (Casey et al., 2019; Grant et al., 2011; James et al., 2016). In addition to hiring discrimination, 90% of respondents in the NTDS reported discrimination or harassment due to their gender

identity while working and 26% reported losing a job because of their transgender identity (Grant et al., 2011). Therefore, to close gaps in health outcomes between transgender and cisgender individuals the employment gaps must be addressed as well.

### *Educational Attainment*

Literature displays a declining rate of suicide for both cisgender men and women as educational attainment goes up (Phillips & Hempstead, 2017). Adams and Vincent (2019) report that this holds true for transgender individuals. However, they also report that “research on transgender individuals’ educational attainment is relatively scarce, highly variable, and lacking a clear consensus,” implying that the variability makes it difficult to generalize and draw conclusions (Adams & Vincent, 2019, p. 240). A study by Wilkinson et al. (2018) found that educational attainment is impacted by the age that transgender individuals reach milestones, such as when they realized gender differences, named their gender identity, and began living as their gender identity. People who reached these milestones in adolescence tended to have higher educational attainment than people who reached them in child- or adulthood (Wilkinson et al., 2018).

Another factor that contributes to differences in educational attainment is school-based discrimination and victimization (Grant et al., 2011; James et al., 2016; Kosciw et al., 2015; Wilkinson et al., 2018). Outness is a key indicator for the amount of school-based victimization that a student will face, which increased victimization and self-esteem (Kosciw et al., 2015). In school aged respondents, increased victimization is correlated to poorer educational outcomes like attendance and GPA; whereas, increased self-esteem is related to a lower prevalence of depression (Kosciw et al., 2015). Such victimization in educational settings proves a detriment to TGNC individuals reaching higher levels of educational attainment.

### *Health and Healthcare*

Access to reliable, quality healthcare is impacted by many different factors such as ill-informed providers, discrimination in healthcare settings, access to gender-affirming care, clinical setting gender documentation, and insurance (Blosnich et al., 2017; Borgogna et al., 2021; James et al., 2016; Puckett et al., 2018; Shires et al., 2018). A point of agreement between the clinical world and TGNC population is that clinicians are often ill-prepared to take care of a TGNC patient (James et al., 2016; Shires et al., 2018). Many clinicians report that they lack education to appropriately provide transition-related or primary care to a TGNC patient (Dietz & Halem, 2016; Shires et al.,

2018). In both the NTDS and USTS, respondents reported having to educate their providers on transgender healthcare to receive adequate care (Grant et al., 2011; James et al., 2016). Additionally, 19% of NTDS respondents reported being denied healthcare due to their gender identity (Grant et al., 2011), which further highlights the instances of transphobia that Shires et al. (2018) reported. Microaggressions and discrimination are particularly discouraging in healthcare settings and explain why transgender individuals often wait longer than cisgender people to receive medical treatment (James et al., 2016). TGNC patients, clinicians, and medical experts agree that safe, robust, and informed care is sparse for the TGNC community (Dietz & Halem, 2016; Grant et al., 2011; James et al., 2016; Shires et al., 2018).

Beyond provider knowledge and discrimination in clinical settings, TGNC people also face other barriers to care; both the NTDS and USTS reported that TGNC respondents were less likely to be insured than the rest of the American population (Grant et al., 2011; James et al., 2016). Additionally, insurance providers are not reliable in their coverage of gender-affirming care. The USTS reported that 55% of the individuals who sought out gender-affirming care in the last year were denied insurance coverage, widening the barrier to care (James et al., 2016). While the Affordable Care Act does protect against discrimination based on gender-identity, there are remaining loop-holes that insurance providers can use like yearly maximums that are less than standard costs for gender-affirming care (Anand & Gicheva, 2022; *Know Your Rights: Health Care*, 2021; Puckett et al., 2018). Coverage of gender-affirming care is cost-effective and does not have a significant governmental budget impact; additionally, access to gender-affirming care lowers the incidence of depression, suicide, anxiety, substance abuse, and HIV/AIDS, thus diminishing the overall cost (Padula et al., 2016; Zaliznyak et al., 2021).

#### *Neighborhood and Built Environment*

TGNC individuals have more experiences of homelessness than cisgender individuals, especially transgender women (Felt et al., 2021; Fletcher et al., 2014; Grant et al., 2011; James et al., 2016). In addition to housing insecurities, TGNC individuals face high rates of discrimination in shelters and are more likely to be violently victimized or harassed (James et al., 2016). The COVID-19 pandemic amplified such housing disparities; researchers observed that TGNC individuals faced housing insecurity at nearly triple the rate of cisgender men (Felt et al., 2021). Housing disparities are related to discrepancies in income and employment (Felt et al., 2021; Fletcher et al., 2014). For TGNC youth, parental rejection and initial reactions is a major factor in their housing situation

(Grossman et al., 2021; Wilson et al., 2015). The Trevor Project reported that only 32% of TGNC youth have gender-affirming households; 51% find their schools to be affirming spaces (*2022 National Survey on LGBTQ Youth Mental Health*, 2022). Such dismal numbers perpetuate the epidemic of TGNC individuals not having safe or affirming spaces to thrive.

### *Social and Community Context*

One of the primary perspectives on the implications of social and community context is stigma, which “is the social process of labeling, stereotyping, and rejecting human difference as a form of social control” (White Hughto et al., 2015, p. 223). TGNC identities and bodies are highly stigmatized and subsequently politicized (Parker et al., 2022). Ironically, many Americans agree that there is anti-transgender discrimination, yet few support legislative protection of gender-affirming processes (Parker et al., 2022). Furthermore, U.S. citizens commonly fail to understand or acknowledge the difference between sex and gender (Parker et al., 2022), perpetuating harmful narratives that invalidate TGNC identities.

Researchers agree that the pervasiveness of stigma surrounding TGNC identities is linked to higher rates of depression, suicide, HIV, anxiety, and other poor health outcomes (Becerra-Culqui et al., 2018; Clements-Nolle et al., 2006; Grant et al., 2011; James et al., 2016; Poteat et al., 2013; Tan et al., 2022). Stigma can also be linked to parental rejection; positive parental reactions are tied to lower rates of depression, parental abuse, and LGBTQ+ disclosure stress, but 50% of TGNC youth still experience LGBTQ+ disclosure stress after their initial coming out (Grossman et al., 2021). Such experiences lead to a much lower quality of life and additional adverse health outcomes (White Hughto et al., 2015; Zaliznyak et al., 2021).

Outside the impact of stigmatization, research displays that TGNC people face higher rates of violence (Dowd, 2021; Grant et al., 2011; James et al., 2016; Peitzmeier et al., 2020). The Williams Institute found that transgender individuals were four times more likely to be a victim of a violent crime (Dowd, 2021). Beyond general violent acts, TGNC individuals are much more likely than cisgender people to be victims of intimate partner violence (IPV) (Peitzmeier et al., 2020). Discrimination in housing and employment compounded with increased rates of violence create further mental health disparities (Felt et al., 2021; Grant et al., 2011; James et al., 2016; Peitzmeier et al., 2020). Instances of institutional violence are glaring within the prison system, where transgender individuals are incarcerated at higher rates than cisgender people and transwomen face higher rates than transmen, oftentimes

without access to informed healthcare and fair treatment (Clark et al., 2017). Addressing the social context in which TGNC individuals exist is pertinent to improving quality of life and health outcomes.

### *Minority Stress*

Ilan Meyer (2003) is credited with popularizing minority stress theory – initially based on LGB experiences with mental health. However, the theory was originated by Virginia Rae Brooks, later known as Winn Kelly Brooks, in a 1981 book titled *Minority Stress and Lesbian Women* (Brooks, 1981; Rich et al., 2020). The theory is grounded in stigma, prejudice, and discrimination, explaining how these experiences are tied to mental health outcomes within LGB populations (Meyer, 2003). Since the initial publication of minority stress, the model has been expanded to include gender minority experiences as well (Feldman et al., 2021; White Hughto et al., 2022; Wittlin et al., 2023). Much of the literature about TGNC people and minority stress discusses the role of politicization on how TGNC people experience minority stress – increasing the disparities in mental and physical health (Feldman et al., 2021; Wittlin et al., 2023).

Meyer’s minority stress theory is characterized by two types of stressors: proximal and distal (Meyer, 2003). Proximal stressors are linked to personal identity and often are more subjective; distal stressors are objective and often external to the identity (Meyer, 2003). Examples of proximal stressors include internalized stigma, and fear of disclosing a TGNC identity (Wittlin et al., 2023). Distal stressors may be actions taken by other people such as violent acts or verbal harassment but also includes parental rejection (Wittlin et al., 2023). Brooks’ model is a systems-based approach including cultural, social and economic, psychological, and biophysical stressors that impact an individual and community’s daily life (Rich et al., 2020). Cultural stressors are a “categorically ascribed inferiority based on a single characteristic” (Rich et al., 2020, p. 125). These feed into social and economic stressors that include discriminatory acts – leading to psychological impacts like decreased self-esteem (Rich et al., 2020). The previous systems end at the biophysical effect which is a “state of stress” (Rich et al., 2020, p. 125).

Research utilizing the minority stress model directly relates experiences of proximal and distal stressors to worse mental and physical health outcomes for TGNC individuals (Feldman et al., 2021; White Hughto et al., 2022; Wittlin et al., 2023). In a study comparing results from the 2015 USTS, Transpop, and studies utilizing the Behavioral Risk Factor Surveillance System, TGNC respondents had higher incidence of HIV, emphysema, and ulcers along with more “poor mental health days” (Feldman et al., 2021, p. 1707). Furthermore, an analysis of

mental health status of TGNC people living in states threatening to enact anti-transgender legislation (distal stressor) found that these populations report higher incidence of anxiety and depression (White Hughto et al., 2022). A literature review of TGNC-youth related research found that such mental health outcomes impact TGNC youth as well (Wittlin et al., 2023). Dealing with regular distal and proximal stressors heightened the risk of anxiety, depression, and other clinical mental health diagnosis (Wittlin et al., 2023). Thus, research about TGNC individuals and mental health cannot exist outside of the lens of minority stress theory.

### *Behavioral Model of Health Services Use*

The Behavioral Model of Health Services Use (BMHSU) was proposed in the late 1960s and has since been expanded to include sexual and gender minorities (R. M. Andersen, 1995; Kittle, 2021). The original BMHSU outlined a path: predisposing characteristics, enabling resources, need, and use of health services (R. M. Andersen, 1995, p. 2). Andersen states that predisposing characteristics include demographic information, social structures/status, and health beliefs; this part of the model was originally criticized for not “paying enough attention to social networks, social interactions, and culture” (R. M. Andersen, 1995, p. 2). Enabling resources include personal/family, and community which includes support and access (R. M. Andersen, 1995, p. 3). The enabling resources were criticized for not fully considering organizational factors, like knowledge of types of medical care and providers, and needing more precise models for insurance coverage and benefits (R. M. Andersen, 1995, p. 3). The final step towards the use of health services is both perceived and evaluated need (R. M. Andersen, 1995, p. 2). While the model has been criticized for over-emphasizing the impact of need, an individual’s use of health services deeply depends on their own experiences with perceived healthiness and functionality in relationship to professional judgement of need (R. M. Andersen, 1995, p. 3). Each of these factors is used to explain utilization of healthcare services through different outcome factors like “physician ambulatory care, hospital and physician inpatient services, and dental care which families consumed over a year’s time” (R. M. Andersen, 1995, p. 3).

Through application of the framework, each step of Andersen’s BMHSU has been expanded to accommodate more flexibility within the model. In regard to TGNC populations, gender identity and expression are considered to be predisposing characteristics that impact a person’s ability to access health services (Kittle, 2021). A study published in 2020 using data from a 2014-2015 dataset of university-enrolled students in the U.S. that looked at how well the BMHSU could predict mental healthcare utilization in university-enrolled student populations (Pilar et al., 2020).



Pilar et al. (2020) found that transgender identifying students were more likely than female respondents to seek on-campus mental healthcare – serving as a predisposing characteristic. The same study found that as each level of the BMHSU was added to statistical modeling the predictive value of the BMHSU increased (Pilar et al., 2020). While the study found that BMHSU levels accounted for 22% of variance in mental healthcare utilization, it concluded that the BMHSU could be used to identify in-need populations on college campuses (Pilar et al., 2020, pp. 640-641). This model can be interwoven with minority stress to look at the impact of predisposing characteristics and proximal and distal stressors as indicators of need and utilization of mental healthcare services (R. M. Andersen, 1995; Rich et al., 2020).

### *Community Building and Resilience*

Significant amounts of TGNC-descriptive literature discusses the prevalence of resiliency as a success measure (Grant et al., 2011; James et al., 2016; Kosciw et al., 2015; Nicolazzo, 2016; White Hughto et al., 2015). The pervasiveness of resilience goes beyond localized academic surveys, but also appears in national surveys like the USTS and NTDS (Grant et al., 2011; James et al., 2016). Resiliency theory creates a discussion between risk factors and protective factors that impact an individual or community's ability to succeed (Nicolazzo, 2016), Matsuno and Israel (2018) define resilience as “broad sense of ‘overcoming adversities’” (p. 637). For the TGNC community, structural risk factors include transphobia, stigma, and genderism (Nicolazzo, 2016; White Hughto et al., 2015). Specifically, genderism “is a cultural belief that perpetuates negative judgments of people who do not present as a stereotypical man or woman” (Hill & Willoughby, 2005, p. 534). This theory relates to transphobia: the feelings of disgust or intolerance that individuals have for people who identify as transgender (Hill & Willoughby, 2005). TGNC individuals' ability to thrive in the face of pervasive genderism and transphobia is a demonstration of measurable resilience.

Measures of resilience include outness, ability to overcome systemic and institutional violence, persistence, and retention (Kosciw et al., 2015; Nicolazzo, 2016). However, it is important to note that simply defining resiliency as one factor or outcome neglects the intersectionality of many TGNC individuals' identities and isolates the struggles of TGNC people from intersecting communities and kinships (Bowleg, 2008; Nicolazzo, 2016). The use of resilience as a success measure is a concept that I have mixed impressions of because it presents as a privileged stance to success. Foucault (2015) discusses the concept of othering or social laws as being “made by people for

whom they are not intended and applied to those who did not make them” (p. 22). Which can be related to the previously presented ideas behind genderism and transphobia (Kosciw et al., 2015; Nicolazzo, 2016), as social laws created by hegemonic forces to contain those outside of social spheres that satisfy the norm (Foucault, 2015). Personally, I believe that incorporating resilience as the standard of success can diminish the importance of small successes that do not necessarily indicate a complete interruption of risky patterns. However, the necessity of creating a measurable standard to view success and growth within traditionally harmful risk factors that impact the TGNC community outweigh the harms to using resilience as an improvement measure.

Community building or the development of kinship is particularly important to the promotion of resilience in TGNC individuals (Grant et al., 2011; Nicolazzo, 2016). Kinship is traditionally regarded as being between blood relatives, but LGBTQ+ individuals have historically created ‘chosen families’ between themselves (Matsuno & Israel, 2018; Nicolazzo, 2016). Community spaces or groups are important for creating support networks within larger settings like universities or offices (Grant et al., 2011). Studies show that the promotion of TGNC kinship and community is an intervention that is valuable at any life stage and fosters resilience in TGNC populations (Grant et al., 2011; James et al., 2016; Matsuno & Israel, 2018; Nicolazzo, 2016). These findings are supported by the Transgender Resilience Intervention Model, which advocates for belonging, support, activism, and the inclusion of role models as a way to advance an individual’s ability to thrive (Matsuno & Israel, 2018). Hence supporting the notion that to create resilient networks of TGNC people, interventions must be done for not just individuals, but also at structural, institutional, and interpersonal levels (Matsuno & Israel, 2018; Nicolazzo, 2016; White Hughto et al., 2015).

### *Mental Health*

Prior to discussing mental health trends in the TGNC community, it is important to address the accuracy of such measures. Borgogna et al. (2021) analyzed the Patient Health Questionnaire-9 (PHQ-9) and the Generalized Anxiety Disorder-7 (GAD-7) for the reliability and applicability of results between cisgender/heterosexual individuals and LGBTQ+ people. These surveys are often used in medical settings to assess for anxiety and depression, often making them responsible for or helping to diagnose patients with a mental health disorder (Borgogna et al., 2021). They found that the PHQ-9 and GAD-7 are not always reliable for LGBTQ+ populations because these populations experience different types of stress than cisgender/heterosexual people (Borgogna et al., 2021). There is even variation within the LGBTQ+ population because sexual and gender minorities have different experiences with

minority stress, as well as the compounding factor of socioeconomic status and race/ethnicity (Borgogna et al., 2021; Meyer, 2003).

Another important factor in mental health outcomes for TGNC individuals is the stage in life in which they start to transition (Turban et al., 2021). This is also related to the implications of how out a person is or their outness level (James et al., 2016; Kosciw et al., 2015). While outness is associated with greater in-school victimization, it is also correlated to higher self-esteem and lower depressive symptoms – solidifying the importance of TGNC students having safe spaces to be out (Kosciw et al., 2015). Turban et al. (2021) found that, compared to those who transitioned in adulthood, TGNC individuals who transitioned in adolescence had greater odds of lifetime suicide attempts and mental health disorders. This further highlights the lasting role that in-school, at-home victimization, and ostracization have on TGNC individuals.

In regard to adverse mental health outcomes, the literature is in agreement that TGNC individuals are at a much higher risk for suicidality (Clements-Nolle et al., 2006; Poteat et al., 2013; White Hughto et al., 2015; Zaliznyak et al., 2021). Zaliznyak et al. (2021) reports that of their sample population, 40% had attempted suicide in the last year, compared to 4.6% of the general U.S. population. This amplifies the disparities that are visible throughout the review of the SDOHs that impact TGNC individuals, necessitating the introduction and implementation of new and improved interventions.

Another factor that leads to an increased risk for suicidality is unaddressed gender dysphoria (GD), which is the diagnosable incongruence between a person's intrinsic idea of gender and their sex assigned at birth (SAB) (Zaliznyak et al., 2021). Treatment for GD ranges from psychotherapy to hormone replacement therapy to surgical interventions (Butler et al., 2019; Matsuno & Israel, 2018). Research shows that access to gender-affirming care such as those interventions lead to lower levels of anxiety and depressive symptoms and increase the odds of favorable health outcomes (Butler et al., 2019; Matsuno & Israel, 2018; Puckett et al., 2018; Zaliznyak et al., 2021). Additionally, those who wait longer to treat GD tend to have a longer history with non-suicidal self-injury than those who seek care faster (Dickey et al., 2022; Jackman et al., 2016, 2018). These conclusions further necessitate the conversations between legislators, medical providers, and the TGNC community to create and implement gender-affirming interventions.

### *Mental Healthcare Utilization*

There is a gap in comprehensive literature specific to TGNC students' experiences with mental healthcare utilization and subsequent outcomes. Recent articles exploring mental healthcare utilization of TGNC people cite the need for further investigation into TGNC-specific care methods, cultural competency of providers, and reasons that TGNC people do not access psychiatric care (Baams et al., 2018; Beckwith et al., 2019; White & Fontenot, 2019). An important factor that Carter et al. (2020) found to influence mental and physical healthcare utilization was insurance status – uninsured TGNC people were less likely to have seen a therapist or psychiatric provider. Insurance status for TGNC individuals is linked to access to mental healthcare and therefore, also gender-affirming biomedical care. Much of the literature cites a need for better trained mental healthcare professionals as a way to increase mental healthcare utilization and satisfaction, while also recognizing the gap in TGNC-specific research (Ebert et al., 2019; Qureshi et al., 2018)

Additionally, significant amount of literature focusing on TGNC identities engages with youth, compared to adults (Hisle-Gorman et al., 2021; Kosciw et al., 2015; Wittlin et al., 2023). Of the literature that engages with students, the research either does not focus on LGBTQ+ or leaves out TGNC identities and focuses on sexuality as demographic information (Baams et al., 2018; Ebert et al., 2019). In a study looking at barriers to mental healthcare utilization in first-year university students, Ebert et al. (2019) asked their respondent pool for gender identity and then decided to not include TGNC identities in their final analysis due to a small sample size and lived experience – leaving out TGNC experiences with mental healthcare. Baams et al. (2018) followed a similar sampling method when reviewing the relationship between mental health service usage and sexuality in college students; ultimately they decided to remove transgender-identified respondents because of a small sample size – citing a need for further research with TGNC populations.

### *University-Enrolled Individuals*

Much less of the literature focuses on university-enrolled students specifically. University-enrolled individuals report higher rates of depression and anxiety symptoms as well as an increased prevalence of other mental health conditions (Evans et al., 2018; Oswald et al., 2020; Thomas et al., 2021). Such experiences are linked to lower retention rates, higher substance use, and lower on-campus involvement (Thomas et al., 2021). Mental health status dramatically impacted students' experiences and ability to succeed in higher education. Much of the literature that

discusses mental health and mental healthcare utilization in university-enrolled populations advocates for more robust mental health services at the university level (Pascale & DeVita, 2022; Thomas et al., 2021). Another research study link educational attainment with decreased suicidality, situating access to quality education as an intervention point for bettering mental health outcomes (Phillips & Hempstead, 2017). Thus, mental health support within higher education, educational outcomes, and mental health outcomes are inextricably interwoven – making college student mental health a research priority. Between the rising prevalence of poor mental health in both university-enrolled and TGNC individuals, the intersection of these populations serves as an intervention point with great opportunity.

### *Identified Gaps*

A significant amount of the available, published literature about TGNC mental health discusses the prevalence of suicidality, suicidal ideation, suicide attempts, and the incidence of intentional self-harm (Adams & Vincent, 2019; Clements-Nolle et al., 2006; M. E. Eisenberg et al., 2017; Pascale & DeVita, 2022; Zaliznyak et al., 2021). However, much of the literature fails to recognize the difference in mental healthcare utilization between the TGNC population and cisgender individuals. The literature demonstrates the pervasiveness of mental health struggles and experiences with suicidality but does not explore whether there is a difference in the rates of mental healthcare utilization. Therefore, it cannot be investigated whether mental health-based interventions would benefit the TGNC community or if other factors, like SDOHs, need to be addressed for such interventions to make measurable change. Potential areas for improvement include policy creation and systematic changes to existing systems that inform SDOHs and minority stress, which influence health and health outcomes as much as biological factors (Blosnich et al., 2017; J. Scott, 2019). Because of this gap in the literature, I will investigate if there is a difference in mental healthcare utilization between those who need it in TGNC populations and cisgender individuals and the self-reported helpfulness of such services. This research will help to better inform those who are creating mental health interventions for vulnerable populations in the TGNC community, thus strengthening the greater community and improving health outcomes.

### *Conclusion to the Literature Review*

Through this literature review I have concluded that there is an increasingly great breadth of knowledge on factors that impact TGNC-identifying individuals and university-enrolled students and their mental health outcomes.

Research is expanding to be more inclusive of TGNC identifying people and has started to engage more with university-enrolled populations. However, there remains a lot of room for improvement, including the available research regarding how mental healthcare utilization impacts mental health outcomes in TGNC university-enrolled populations. This literature review has also revealed the primary theoretical frameworks that inform research moving forward: intersectionality, the minority stress theory, the social-ecological model, the resiliency theory, and the behavioral model of health services use. These frameworks will be the guiding factors for my own research project and will hopefully inform future projects. In conclusion, there is an expansive amount of literature that investigates mental health outcomes and social determinants of health as they relate to the TGNC population; however, there is a disparity in available data that looks at mental healthcare utilization and mental health outcomes in university-enrolled TGNC students.

## METHODS

### *Research Questions and Objectives*

#### *Research Questions*

There were three primary research questions that I chose to investigate. The first asked whether in the American university-enrolled student population, are there differences in mental healthcare utilization between TGNC and cisgender students? In relationship to that, I also wanted to look at what the differences were in accessing informal sources of mental health support (e.g., peer, community) between TGNC and cisgender students. The third investigates among the students who have accessed formal mental healthcare services, does the time in which they have accessed those services impact their mental health outcomes and perceived helpfulness of such services?

#### *Objectives*

The primary objective was to analyze the differences in mental healthcare utilization and mental health outcomes among TGNC and cisgender-identified university-enrolled students. Additionally, I wanted to investigate the impact of when a participant utilized mental health services in comparison to their reported mental health outcomes and perceived helpfulness of such services.

#### *Data Source*

The quantitative analysis that I conducted utilized the 2021-22 Healthy Minds Study (HMS) data (Healthy Minds Network, 2022). The study team is comprised of individuals from multiple institutions across the United States: the University of California in Los Angeles, the University of Michigan, Wayne State University, and Boston University (*HMN Team*, n.d.). The survey has been conducted annually for over 15 years at approximately 450 post-secondary institutions in the U.S. (Healthy Minds Network, 2022).

The HMS aims to characterize mental health, mental healthcare, health behaviors, and support measures in university-enrolled students (Healthy Minds Network, 2022). The survey is web-based; the survey is distributed via email to randomly selected students enrolled at a participating college or university (D. Eisenberg et al., 2022). The HMS team used non-response weighting techniques to control the missing respondents (*HMS Codebook 2021-22*, 2022).

### *Outcome Variables of Interest*

To investigate the prevalence of specific mental health conditions my variables of interest included the cumulative results from the Patient Health Questionnaire 9 (PHQ-9), which measures depression symptoms, the Generalized Anxiety Disorder (GAD-7) Questionnaire, measuring anxiety symptoms, and the Diener test (i.e. the flourishing score), measuring positive mental health (Diener et al., 2010; Kroenke et al., 2001; Spitzer et al., 2006). I also engaged with survey questions which identified if a respondent had a diagnosed mental health condition and if so, what it was (Healthy Minds Network, 2022).

To characterize mental healthcare utilization, I engaged with survey questions which identified if a respondent had ever received therapy/counseling, when they received it, if they had used a psychotropic drug in the last 12 months, what it was, and how helpful they thought therapy/counseling was (Healthy Minds Network, 2022). Additionally, I also looked at who respondents went to for general support and support during emotional distress (Healthy Minds Network, 2022).

### *Cleaning the data*

Prior to cleaning, the dataset consisted of 95,860 respondents. I uploaded the .sav and SPSS files respectively into SAS 9.4 and SPSS for cleaning and statistical analysis. I found that most of the variables were coded as 'numerical' in SPSS but needed to be in 'string' format for SAS to accurately create frequency tables. Therefore, I began by transforming the relevant variables into 'string' variables.

First, I ran frequency analyses in SAS to analyze the variable for SAB for all study respondents. Upon review of this data, I made the decision to remove intersex individuals from the study population because there were only 63 (0.07%) respondents that reported this as their SAB. This sample size is not large enough to make any statistically significant claims regarding that population of individuals and mental healthcare utilization.

Next, I began creating variables for gender identity. The survey used a two-step population-based approach to identify SAB and gender identity. To identify the TGNC respondents in the data pool I created a new variable that listed everyone who selected female for SAB and only female/woman for gender identity and male for SAB and only male/man for gender identity as cisgender. Given the small sample size I characterized all other respondents as TGNC (n = 4,788). Everyone who did not have a response for SAB and gender identity was dropped from the sample, leaving the final sample size to be 94,177 respondents.



## *Statistical Analysis*

### *Weighting*

I chose to use unweighted data for my statistical analysis. Statistical weighting is often based on SAB, thus it becomes less reliable for TGNC based samples (Gonzales et al., 2022; Lett & Everhart, 2022). Additionally, The Healthy Minds team used a female-male weighting method and did not assigned weights to respondents with

“nonbinary gender identities ... because we are generally not able to obtain accurate statistics on the representation of these groups in the full student population. Therefore, rather than making assumptions, we assign a weight value to students with nonbinary identifies that leaves their representation in the weighted sample the same as in the unweighted sample” (*HMS Codebook 2021-22*, 2022, p. 3).

In their preliminary data cleaning, The Healthy Minds team grouped genderqueer, gender non-conforming, and non-binary responses into a single answer choice versus their initial divide in the survey. Using weighted data for binary respondents while leaving non-binary/gender non-conforming respondents unweighted lessens the reliability and generalizability of results for TGNC populations.

### *Frequencies*

Using SAS 9.4, I ran frequencies, found in Table 1, to characterize the study population and further stratified into cisgender and TGNC respondents to better compare the two sample populations. The demographic information recorded for all respondents was: age, SAB, gender identity, degree enrolled in school, enrollment status, relationship status, Hispanic/Latinx, race/ethnicity, current financial stress, financial stress growing up, registered as having disability status on campus, and health insurance status.

All frequency calculations stratify for TGNC versus cisgender identity. For mental health status (Table 2) I used mean and standard deviation to characterize depression, anxiety, and flourishing scores while using n and percent values to characterize if the respondent has a diagnosed mental health condition and if so, what it was. I used n and percent values to look at if a respondent had ever used therapy, when they did, if they had used a medication, if so, which one, and how helpful they found therapy/counseling to be (Table 3). I also used the mean overall rating – respondents could rank it from very helpful [1] to not helpful [4] – as a way to look at the perceived helpfulness of therapy/counseling. To characterize modes of support (Table 4), I used n and percent values when identifying who a respondent has gone to for general mental or emotional health support in the past 12 months and who they would

talk to during serious emotional distress. Finally, I decided to look at the relationship between when a respondent accessed therapy services and their average depression score, anxiety score, flourishing score, and perceived helpfulness of therapy/counseling coupled with standard deviation.

### *Regressions*

Using SAS 9.4 I conducted general linear regression modeling using the “proc genmod” function. I set my covariates to be sex assigned at birth (male versus not), race (White versus not), sexuality (heterosexual versus not), insurance status (parental insurance versus not), and age; my main outcome of interest was the relationship between TGNC identity and mental health outcomes, and if or when a respondent utilized therapy/counseling. I conducted three models with the outcomes being anxiety, depression, and flourishing scores. Two were adjusted and one was unadjusted (Table 6, Table 7); for all models the parameter set was the comparison of TGNC identifying respondents to cisgender respondents. Table 6 displays both the adjusted and unadjusted model that looks at gender identity and mental health outcomes. Table 7 displays an adjusted model that relates gender identity, timeliness of accessing services, and mental health outcomes. In Tables 6 and 7 I recorded the estimate, 95% confidence intervals, and  $p$ -values. Statistical significance was classified as  $p < .05$ .

## RESULTS

The results reported were created using frequency and prevalence measures, means, and logistic regression modeling in SAS 9.4. These results are meant to answer the primary research questions of this study, which look at the relationship between mental healthcare utilization, mental health outcomes, and TGNC identities. The analysis of existing disparities in mental health outcomes allows for a baseline understanding of the university-enrolled population, while stratifying for TGNC identity. Characterizing the utilization of mental healthcare such as therapy/counseling and psychotropic medication answers the question of whether students with TGNC identities use these services at a different rate than cisgender students. The variables about informal support measures look at how TGNC individuals utilize peer and family support in comparison to professional/clinical support. Finally, looking at when respondents utilized therapy services (before, during, or both before and during college) and the relationship between that, TGNC identity, and mental health outcomes answers whether timeliness of therapy makes a significant impact.

### *Descriptive Statistics and Frequencies*

In total, there were 4,788 (5.08%) TGNC identified respondents and 89,389 (94.92%) cisgender identified respondents. On average, TGNC respondents were younger than cisgender respondents (21.6 and 23.5 respectively) (Table 1). Some of the primary findings show that TGNC respondents were less likely to report a heterosexual identity (7.21% of TGNC respondents vs. 77.44% of cisgender respondents). Of the TGNC respondents 80.41% reported being assigned female at birth and 71.57% of cisgender respondents reported this. In regard to gender identity, which was select all that apply: 13.83% selected male/man, 17.91% selected female/woman, 16.19% selected trans male/trans man, 5.33% selected trans female/trans woman, 13.07% selected genderqueer/gender non-conforming/non-binary, and 70.03% chose to self-identify. In both cisgender and TGNC respondents, a majority identified themselves as enrolled in a bachelor's program (59.25% and 69.49% respectively); most respondents were also enrolled as fulltime students (85.9% cisgender and 88.51% of TGNC respondents). Demographic information in Table 1 also reports that most of the respondents did not report having a Hispanic/Latinx identity (84.25% of cisgender and 85.46% of TGNC respondents), while a majority of both cisgender and TGNC respondents reported being White (66.65% and 75.17% respectively). More TGNC respondents reported having a disability registered with their school's office of disability services (20.36% vs. 9.17% of cisgender respondents) and state that they have

a diagnosed disability, but it is not registered with their institution's office (23.93% vs. 8.54% of cisgender respondents). Finally, more TGNC respondents reported still being on their parent or guardian's health insurance plan (62.03%) in comparison to their cisgender peers (49.94%).

#### *Mental Health Outcomes*

In my respondent pool, TGNC people's depression scores, according to the PHQ-9 with a scale of 0 to 27 points, were on average 4.74 points higher than cisgender respondents (13.92 vs. 9.19) (Table 2). Using the GAD-7 with a scale of 0 to 21 points, TGNC people had an average score that was 3.24 points higher than cisgender respondents (11.32 vs. 8.08) (Table 2). Using the Diener test to measure positive mental health or flourishing scores with a scale of 8 to 56, TGNC respondents scored, on average, 5.82 points lower (36.90 vs. 42.71) (Table 2). Furthermore, 77.83% of TGNC respondents reported having a diagnosed mental health condition, compared to 44.97% of cisgender respondents (Table 2). In relation to the anxiety and depression scores of TGNC respondents, over half reported having a depression and/or anxiety diagnosis (52.38% and 55.72%) (Table 2).

#### *Mental Healthcare Utilization*

Overall, more TGNC respondents reported using therapy/counseling services in their lifetime compared to cisgender respondents (83.09% and 53.47% respectively) (Table 3). In regard to when this service was utilized, 43.55% of TGNC respondents reported utilizing therapy/counseling both prior to and during college compared to 19.76% of cisgender respondents (Table 3). Furthermore, over half (52.89%) of TGNC respondents reported having used a medication in the last 12 months, versus 27.61% of cisgender respondents (Table 3). Notably, 37.09% of TGNC respondents reported being on an anti-depressant in the last 12 months, compared to 17.51% of cisgender respondents (Table 3). 72.39% of cisgender respondents stated that they had not used any of the listed medications in the last 12 months, whereas only 47.11% of TGNC respondents said they had not taken any medications in 12 months (Table 3).

Respondents were also asked to rank the perceived helpfulness of therapy/counseling services on a scale of 1 (very helpful) to 4 (not helpful). The average response for TGNC individuals was 2.14 and cisgender people averaged a score of 2.17 (Table 3). 26.59% of TGNC respondents stated that therapy was "very helpful" for them, compared to 16.08% of cisgender respondents (Table 3). Whereas 9.31% of TGNC individuals and 6.05% of cisgender individuals reported that therapy was "not helpful" for them (Table 3).

In contrast to formal mental healthcare utilization, The HMS also looked at informal measures of emotional or mental health support and help seeking behaviors during times of emotional distress. 57.08% of TGNC respondents stated that they rely on a friend who is not a roommate for emotional and mental support, compared to 39.8% of cisgender respondents (Table 4). In times of serious emotional distress, TGNC respondents reported that they would seek care from a professional clinician or a friend who is not a roommate (54.74% and 55.87% respectively) (Table 4). Whereas 45.61% of cisgender respondents say they would utilize a family member or friend who is not a roommate's support (45.61% and 45.95% respectively) (Table 4).

In regard to the relationship between the timeline of therapy/counseling service utilization and mental health outcomes, the average depression, anxiety, and flourishing scores did not strongly differ based on when a respondent accessed such care. The perceived helpfulness of therapy/counseling was similar across access times but became better as respondents spent more time in care (Table 5).

### *Regressions*

After controlling for respondents' race, sexuality, sex assigned at birth, and insurance status, the TGNC identity remained statistically significant. While there is a difference between adjusted and unadjusted models, there remains a disparity in mental health outcomes between TGNC and cisgender respondents. As seen in Table 6, the adjusted model shows a statistically significant difference in average anxiety, depression, and flourishing scores. Table 7 reports only adjusted values which compare anxiety, depression, and flourishing scores with the time in which a respondent did or did not access therapy/counseling services. The estimate of such scores remains statistically significant, showcasing the disparities in mental health outcomes despite access to care (Table 7). The estimates in Table 7 show that the gap in anxiety scores is least when a respondent accessed care prior to starting college, that is the smallest estimated difference (0.82) out of anxiety, depression, and flourishing scores. For both depression and flourishing scores, the smallest estimate happened if a respondent utilized services since starting college (1.69 and -2.22 respectively).

## DISCUSSION

In this U.S. population-based study of university-enrolled students, I sought to identify the relationship between TGNC-identity, mental healthcare utilization, timeliness of care access, and mental health outcomes. One of the primary takeaways from my study is that TGNC university-enrolled individuals report greater symptoms of mental health conditions and diagnoses and lower indicators of positive mental health than their cisgender peers – which stands in agreement with a lot of the existing literature. I also found that mental health disparities still exist despite higher reports of mental healthcare utilization and peer support networks. A more shocking finding was that TGNC and cisgender respondents on average reported similar perceived helpfulness of therapy services, getting more helpful with longevity of care. The largest gap in average depression, anxiety, and flourishing scores existed among the group of students who had not ever utilized therapy/counseling services. In relation to this, on average, both TGNC and cisgender respondents did not score a high enough score on the Diener test to be described as flourishing or having positive mental health. Therefore, while utilization of therapy/counseling services does not diminish the gap in mental health outcomes between TGNC and cisgender individuals, it does have a positive impact. This points to the need for a more nuanced approach to mental healthcare, specifically for TGNC-identifying university-enrolled individuals, in addition to addressing structural barriers that prevent mental health equity. Overall, these results have salient implications for theory, interventions, and future research as described in the following pages.

### *Theoretical Frameworks*

The primary theoretical frameworks applied to these findings are the social determinants of health, intersectionality, minority stress theory, resiliency theory, and the behavioral model of health services use. These frameworks overlap and inform one another, especially in the relationship between TGNC identity and mental healthcare utilization. The social determinants of health shape the ways in which TGNC university-enrolled individuals can access mental healthcare services and what the quality of such services are (Casey et al., 2019). However, while the TGNC identity is a statistically significant indicator of mental health status and the impact of therapy/counseling utilization, there are other identities that relate to how a person interacts with mental health services and professionals, showcasing how the TGNC identity does not exist within a vacuum. These identities also engage with structural and social barriers that prevent therapy/counseling from closing the mental health equity gap alone. These identities interlock with the other relevant theoretical frameworks. Furthermore, the proximal and distal stressors that show up in a

TGNC individual's life create the scenarios that lead to worse mental health outcomes (Feldman et al., 2021; White Hughto et al., 2022); thus, necessitating the investigation of mental healthcare utilization among TGNC-identified populations. In contrast to studying the negative factors that negatively impact the TGNC community, investigating resiliency factors and flourishing scores gives context to the ways in which the community thrives and has agency in how it deals with harm (Nicolazzo, 2016). My findings indicate that TGNC people utilize their friends as informal modes of support – agreeing with literature that posits kinship as a resilience factor (Nicolazzo, 2016). TGNC people have also been found to have multiple kinship networks of differing levels of formality (Nicolazzo, 2016); I argue that the willingness to utilize formal mental healthcare can serve as a resilience factor and the support that TGNC individuals garner from providers can serve as an additional kinship network in the face of minority stress. Finally, in regard to the BMHSU, a previous study showed a relationship between the TGNC identity as a predisposing status for mental healthcare utilization (Kittle, 2021) – my findings support this conclusion. The TGNC respondents in the HMS more often reported utilizing mental health services in comparison to their cisgender peers. In conclusion, these theoretical frameworks are applicable to not just the conceptualization of this project, but also a way to understand and apply the findings.

### *Implications for Mental Healthcare*

These findings necessitate moving from asking for more therapy/counseling services to working on bettering the quality of mental healthcare, increasing representation in providers, and addressing the structural issues that create worse mental health outcomes for the TGNC community. The findings from the HMS (2022) show that perceived helpfulness of therapy/counseling increases with longevity of care (Table 5), but the disparities in mental health outcomes persist despite the perceived helpfulness of services. Thus, formal mental health services are a stopgap to more structural elements that worsen mental health outcomes. They serve as a coping strategy to deal with the existing and pervasive harms that come with existing with a minoritized identity in American society – without fixing the root of the problem.

Notably, the disparities in average depression, anxiety, and flourishing scores are the greatest in students who had not accessed mental healthcare at all (Table 5). This aligns with other research that looks at mental health outcomes and mental healthcare utilization in college students, respondents who did not seek care had higher incidence of poor mental health outcomes (Ebert et al., 2019). The American Psychiatry Association cites that approximately 75% of

people who access therapy/counseling have a decrease in poor mental health symptoms – drawing on previously published work looking at the efficacy of psychodynamic psychotherapy (Shedler, 2010; “What Is Psychotherapy?,” 2023). A study published in 2010 found that the positive effects of psychotherapy lasted beyond the duration of treatment (Shedler, 2010). Therapy/counseling services do more than help in the immediate moment but help to create coping tools that last. However, it is clear that this care is not a universal solution for all populations. While therapy/counseling are not the ultimate solution to closing the gap in mental health outcomes, utilization of such services does work to lessen the difference.

There are many barriers to bridging the gaps between mental health outcomes in TGNC individuals. One of the primary barriers is a lack of quality healthcare and fear of discrimination in healthcare settings (Ding et al., 2020; Grant et al., 2011; James et al., 2016). In both the USTS and NTDS, respondents reported having to educate their providers to receive informed and quality care – limiting access and impact (Grant et al., 2011; James et al., 2016). Lack of informed care is linked to lower healthcare utilization and worse health outcomes (Grant et al., 2011; James et al., 2016; Poteat et al., 2013; Rahman et al., 2023). Addressing the quality of the care that TGNC people are receiving would help lessen the gap in mental health outcomes. Integrating trainings on cultural competence has been shown to lower implicit bias and a betterment of diversity-related attitudes – leading to more sensitive and informed care that patients appreciated (Handtke et al., 2019). The addition of increasing the number of informed and educated mental health clinicians serves as an additional intervention point to lessening mental health disparities and promoting thriving.

Previous research has found that representation in healthcare providers matters (Lightfoote et al., 2014; Martos et al., 2018). LGB individuals and racial/ethnic minorities report taking these identities into consideration when choosing a provider or care clinic (Martos et al., 2018). TGNC individuals often want to find a provider with experience working with TGNC people or a mental health provider who also has experience with gender diversity or gender dysphoria – increasing their level of empathy and understanding (Sosin, 2021). Interviewees in the same article discuss that even if a provider is compassionate, without appropriate training or exposure to TGNC people and their experiences the therapy/counseling is not as beneficial (Sosin, 2021). In 2020, the American Association of Medical Colleges published an individual viewpoint article calling for more TGNC identifying providers because patients want to see themselves in their care providers and there is a limited amount of out TGNC identifying



providers (Tanmoy Das, 2020). In context of my findings, while TGNC university-enrolled individuals are accessing formal mental healthcare services at a significantly higher rate than their cisgender peers, they are still reporting significantly worse mental health outcomes. While my study did not look at representation and diversity of providers, based on previous studies, external interviews, and my own experiences, the inclusion of TGNC providers in mental health practices matters in both access to care and impact of such care.

According to the frameworks of social determinants of health and BMHSU, the disparities in mental health make sense in context to the political state of being TGNC in the United States (Casey et al., 2019; Gonzales et al., 2022). As of July, 2023, The American Civil Liberties Union was tracking 491 anti-LGBTQ+ bills in the U.S. (“Mapping Anti-LGBTQ+ Legislation,” 2023). These bills range from educational content limitations to youth healthcare bans, all impacting the mental and physical health of LGBTQ+ people living in the United States and specifically states that do not have protective legislation in place (Gonzales et al., 2022; “Mapping Anti-LGBTQ+ Legislation,” 2023). These pieces of legislation not only pose as structural limitations to TGNC existence but also as a barrier to feeling accepted and supported by local and national political leaders. A sense of belonging within a community is linked to higher self-esteem, which is linked to a lower incidence of depression (Kosciw et al., 2015; Morgenroth et al., 2021). Previous research has identified community belonging and social support are resilience factors for TGNC individuals, bettering the effectiveness of therapy/counseling (Matsuno & Israel, 2018). Thus, creating safe environments to promote a sense of belonging is necessary for addressing structural issues that may limit the effectiveness of formal mental healthcare services for TGNC individuals.

Another notable finding with implications for not just mental healthcare, but all healthcare, is that a greater percentage of TGNC respondents reported relying on a professional clinician during times of serious emotional distress. Thus, it is imperative that clinicians recognize their role as a part of TGNC individuals’ kinship networks and also their position as an integral support network. Continued education and integration of TGNC-informed care practices would make these interactions safer and more reliable for TGNC individuals.

### *Implications for TGNC University-Enrolled Students*

Similar to the implications for general mental healthcare, university-based care networks would benefit from increasing representation in providers and integrating a variety of opportunities for increasing kinship networks. One of the important takeaways from this data is that TGNC individuals are not alone in their individual suffering. The

average anxiety, depression, and flourishing scores (Table 2) for TGNC individuals point to community-level struggles, while this is not ideal, it is a way to promote a sense of belonging in TGNC university-enrolled people. Furthermore, the average flourishing score for both cisgender and TGNC students is below 46 or the score for positive mental health on the Diener test (Table 2, Table 6). While this is only an average score and does not indicate that all university-enrolled people are not flourishing, it also has the opportunity to create a sense of belonging among all university-enrolled individuals and serve as a call to action to bettering the mental healthcare available on college campuses.

Given that TGNC university-enrolled people reported utilizing therapy/counseling services more than cisgender respondents, there is a call for more nuance in the types of services offered. This includes increasing the representation available in providers to help students feel seen and heard in the services that they are offered – bettering the outcomes of such services. Additionally, an expansion of the services offered to draw on the benefits of both formal and informal services. In regard to formal mental healthcare, integrating group therapy options would draw on the importance of kinship networks for TGNC people and the growing prevalence of peer-support mechanisms in mental healthcare services (Matsuno & Israel, 2018; Nicolazzo, 2016; Shalaby & Agyapong, 2020).

I found that TGNC people reported that they were more likely to go to a friend who is not a roommate or professional clinician during serious emotional distress (Table 4); they were also more likely to report relying on a friend who is not a roommate for general emotional and mental support (Table 4). My findings support the utilization of peer support measures in addition to formal mental healthcare services. Another notable finding is that TGNC university-enrolled individuals were less likely to report relying on a family member for general support and support during serious emotional distress (Table 4). This supports findings support the low levels of initial support from family members of people who identify as TGNC (Grossman et al., 2021) and necessitate the bolstering of peer support networks at the university-level. These group therapy sessions should not necessarily be LGBTQ+ community-wide, but rather targeted toward TGNC students specifically, drawing on the historical community support networks or ‘chosen families’ (Matsuno & Israel, 2018; Nicolazzo, 2016). A recent case study and literature review that investigated the impact of providing university-based group therapy that targeted TGNC and queer and transgender Black, Indigenous, People of Color (QTBIPOC) found that informed care mattered, especially in these populations (O. Scott et al., 2023). Through the facilitation of TGNC and QTBIPOC centric group therapy for

college students, the researchers were able to promote empowerment and collaboration among participants (O. Scott et al., 2023). Therefore, the integration of group therapy for TGNC university-enrolled students can be an effective intervention and kinship promoter.

An additional, non-traditional, type of chosen family or kinship network that proves as a resilience factor and a place to improve flourishing scores for LGBTQ+ people is the inclusion of pet family members (Schmitz et al., 2021). The support of a pet family member and the responsibility for another living being services as a coping mechanism and aids in increasing feelings of happiness or joy (Schmitz et al., 2021). However, many colleges and universities in the U.S. do not allow pets on campus – proving as a barrier to this type of intervention on top of the financial responsibility of a pet (Nova, 2018). The Americans with Disability Act protects service animals and emotional support animals and requires colleges and universities to allow them on campus, however, both of these classifications require documentation (Nova, 2018). Many colleges and universities require formal documentation of the necessity of emotional support animals on campus – serving as a barrier to this care (Nova, 2018). However, the benefits of integrating this intervention stand as a point of consideration and are a way to build kinship networks among not just TGNC university-enrolled students but all students. An alternative to pet-specific intervention could be integrating more regular therapy dog team visits. A recent study conducted on a college campus found that interacting with a therapy dog team for as little as 10 minutes lowered students saliva-based cortisol levels from prior to the interaction (Vaillancourt et al., 2023). Both individual and group interactions with therapy dog teams have also been shown to lower immediate anxiety symptoms in college students (Hanson & Tucker, 2023). Thus, there are multiple ways to integrate animal-based interventions that are targeted to the TGNC university-enrolled population.

Another alternative to talk therapy is art therapy, which would serve as a creative outlet. While this intervention still relies upon a TGNC-informed and educated clinician’s presence, it can help strengthen community networks when done in groups and even strengthen the bond between the provider and patient (Scope et al., 2017). Art therapy has also been shown to promote healing and positive self-thought, which makes it a viable option for promoting flourishing and resiliency factors (Scope et al., 2017). It has the opportunity to be done both one-on-one with a therapist and in group settings – calling on existing informal support measures present in TGNC kinship networks.

### *Limitations*

There are a few prominent limitations to this study. The first being that these results are not generalizable or representative to the entire TGNC population; especially considering that I had to leave intersex-identifying students out of the results and also that this analysis was unweighted due to the weighting methods implemented by the HMS. The identified TGNC sample size was relatively small (n=4,788) compared to the number of cisgender respondents (n=89,389), leading to less representation as well. The identified TGNC sample size is not entirely rid of potentially bogus responses, 65.38% of identified TGNC respondents opted to write in their gender identity. I did not have the time nor person power to sort through all of the write in responses to discard illegitimate responses.

Beyond the raw data, there are other limitations. The first is that university-enrolled people tend to be a privileged group and thus this impacts their existing access to care because socioeconomic status is a large part of who is able to attend college (Ayyad, 2015). Another significant limitation, that aligns with a lot of other TGNC-centric research, is a lack of racial and ethnic diversity. In this sample of university-enrolled students, 14.54% of TGNC and 15.75% of cisgender respondents stated they were Hispanic/Latinx; 75.17% of TGNC and 66.65% of cisgender respondents stated they were White. In comparison to 21.7% of TGNC and 16.4% of the general U.S. population who stated they were Hispanic/Latinx; 54.7% of TGNC and 62.8% of the general U.S. population who stated they were White (Herman et al., 2022, p. 7).

Finally, the questionnaire administered both the PHQ-9 and GAD-7 to its sample. Research using college students has indicated that the PHQ-9 and GAD-7 are less reliable for LGBTQ+ respondents (Borgogna et al., 2021). This means that the results of this study using both of those scales of mental health outcomes are less reliable and potentially have invariance for LGBTQ+-identifying respondents.

### *Moving Forward*

This project has potential to inform multiple future projects that center the experiences of TGNC university-enrolled individuals. The HMS did not record geographic location, which in regard to the structural barriers that TGNC people face can be an important determinant of mental and physical health. Therefore, it could be beneficial to not just look at the state in which the respondent is residing in during their time enrolled at a college or university but also at their state of origin prior to school enrollment in relation to mental health outcomes and utilization. Another point of further investigation could be to look at perceived helpfulness and difference in mental health outcomes

based on if a student accessed care on- or off-campus. This study could help target points of improvement for different types of therapy/counseling. Finally, another point of further investigation would be to conduct interviews with university-enrolled students about their perceived helpfulness of therapy/counseling services and relate that to the existing quantitative data that I have collected on perceived helpfulness and mental health outcomes. These interviews could also include people who have not accessed therapy services and why they did not. This could help identify further points of improvement in TGNC-informed care, university-based mental healthcare, and what they would like to see offered.

## CONCLUSION

Disparities in mental health outcomes among transgender and gender non-conforming university-enrolled individuals persist beyond access to and utilization of mental healthcare services. My study found that the greatest gap in mental health outcome existed amongst university-enrolled individuals who had never accessed therapy/counseling services – showing that utilization of mental healthcare does have an impact for university-enrolled populations. TGNC respondents, on average, reported higher levels of depression, anxiety, more mental health diagnoses, and lower flourishing scores; they also reported higher utilization of therapy/counseling in their lifetime. However, these mental health disparities exist no matter when students accessed mental healthcare and how helpful they perceived such care to be. Thus, there are more structural and systemic changes that need to occur in parallel to improving the available services. As it stands, therapy/counseling is not a structural approach to addressing mental health disparities and thus we cannot expect it to diminish the gap in mental health outcomes to zero.

TGNC people have shown that they utilize available therapy/counseling services, it is time to move beyond providing more services and decipher what it means to provide TGNC-informed care that builds kinship networks that bolsters community-level and individual healing. Building on the existing kinship networks and chosen families demonstrated in TGNC university-enrolled populations is a point of intervention while further structural changes are implemented. Structural changes range from implementing state-wide or national protective factors through affirming legislation to creating safer spaces for community gathering on college and university campuses and hiring more LGBTQ+ and TGNC-identifying clinicians to provide informed mental healthcare that also builds community support and kinship. The desire to utilize support services and informal care networks provides another point of creative intervention. However, none of these interventions will end mental health disparities between TGNC and cisgender university-enrolled individuals without structural and systemic change to the systems that oppress TGNC people.

## APPENDIX

### Tables

Table 1: Sample Demographics

<b>Table 1</b> <i>Demographics</i>	<b>Unweighted Sample</b>			
	<i>Cisgender Respondents</i>		<i>TGNC Respondents</i>	
<b>Variable</b>	n / [Mean]	% / [SD]	n / [Mean]	% / [SD]
<b>Age (n=94,177)</b>	[23.52]	[7.40]	[21.60]	[4.78]
<b>Sexual orientation [select-all-that-apply]</b>				
<b>Heterosexual</b>	66,542	74.44	345	7.21
<b>Lesbian</b>	2,024	2.26	676	14.12
<b>Gay</b>	1,865	2.09	447	9.34
<b>Bisexual</b>	11,573	12.95	1,543	32.23
<b>Queer</b>	2,516	2.81	1,651	34.48
<b>Questioning</b>	3,280	3.67	248	5.18
<b>Asexual</b>	1,842	2.06	690	14.41
<b>Pansexual</b>	2,133	2.39	886	18.50
<b>Self-Identify</b>	349	0.39	919	19.19
<b>Sex assigned at birth (n=94,177)</b>				
<b>Male</b>	25,415	28.43	938	19.59
<b>Female</b>	63,974	71.57	3,850	80.41
<b>Gender identity [select-all-that-apply]</b>				
<b>Male/Man</b>	25,415	28.43	662	13.83
<b>Female/Woman</b>	63,974	71.57	843	17.91
<b>Trans male/Trans man</b>	0	0.00	775	16.19
<b>Trans female/Trans woman</b>	0	0.00	255	5.33
<b>Genderqueer/Gender non-conforming/Non-binary</b>	0	0.00	626	13.07
<b>Self-Identify</b>	0	0.00	3,353	70.03
<b>Degree enrolled in school [select-all-that-apply]</b>				
<b>Associate's</b>	14,738	16.49	696	14.54
<b>Bachelor's</b>	52,965	59.25	3,327	69.49
<b>Master's</b>	9,800	10.96	343	7.16
<b>JD</b>	747	0.84	23	0.48
<b>MD</b>	1,039	1.16	18	0.38
<b>PhD</b>	5,285	5.91	195	4.07
<b>Non-degree seeking</b>	2,013	2.25	89	1.86
<b>Other</b>	2,453	2.74	123	2.57

<b>Enrollment Status (n=89,245)</b>				
Full Time	72,717	85.90	4,060	88.51
Part Time	11,167	13.19	461	10.05
Other	774	0.91	66	1.44
<b>Relationship status (n=94,177)</b>				
Single	41,354	49.62	2,499	55.12
In a relationship	29,612	35.53	1,624	35.82
Married, domestic partnership, or engaged	10,687	12.82	291	6.42
Divorced or separated	855	1.03	10	0.22
Widowed	123	0.15	7	0.15
Other	705	0.85	103	2.27
<b>Hispanic, Latinx (n=94,177)</b>				
Yes	14,081	15.75	696	14.54
No	75,308	84.25	4,092	85.46
<b>Race/ethnicity [select-all-that-apply]</b>				
African American/Black	7,461	8.35	388	8.10
American Indian or Alaskan Native	1,264	1.41	124	2.59
Asian American/Asian	13,204	14.77	579	12.09
Hispanic/Latin(x)	14,081	15.75	696	14.54
Native Hawaiian or Pacific Islander	515	0.58	43	0.90
Middle Eastern, Arab, or Arab American	1,744	1.95	96	2.01
White	59,577	66.65	3,599	75.17
Other	1,216	1.36	155	3.24
<b>Current financial stress status (n=91,770)</b>				
Always stressful	12,551	14.41	925	19.89
Often stressful	20,650	23.70	1,193	25.65
Sometimes stressful	30,546	35.06	1,515	32.57
Rarely stressful	16,986	19.50	774	16.64
Never stressful	6,386	7.33	244	5.25
<b>Financial stress status growing up (n=91,867)</b>				
Always stressful	10,663	12.25	691	14.86
Often stressful	15,254	17.53	986	21.20
Sometimes stressful	22,911	26.32	1,230	26.45
Rarely stressful	23,728	27.26	1,167	25.10
Never stressful	14,481	16.64	576	12.39
<b>Registered as having a disability status on campus (n=85,632)</b>				
No	66,940	82.29	2,389	55.71
Yes	7,458	9.17	873	20.36
I have a diagnosed disability but have not registered with the office of disability services	6,946	8.54	1,026	23.93



<b>Health insurance Status [select-all-that-apply]</b>				
<b>Uncovered [mutually exclusive]</b>	3,009	3.37	124	2.59
<b>I have insurance through my parent/guardian or their employer</b>	44,638	49.94	2,970	62.03
<b>I have insurance through my employer</b>	6,962	7.79	182	3.80
<b>I have insurance through my spouse's employer</b>	2,567	2.87	50	1.04
<b>I have a student health insurance plan</b>	10,635	11.90	588	12.28
<b>I have insurance through an embassy or sponsoring agency for international students</b>	225	0.25	4	0.08
<b>I have individual insurance purchased directly from an insurance carrier</b>	1,713	1.92	53	1.11
<b>I have Medicaid or other governmental insurance</b>	8,336	9.33	470	9.82
<b>I am uncertain about whether I have health insurance</b>	750	0.84	50	1.04
<b>I have health insurance but am uncertain about where it is from</b>	2,158	2.41	121	2.53

Table 2: Mental Health Status

<b>Table 2</b> <i>Mental Health Status</i>	<b>Unweighted Sample</b>			
	<b>Cisgender Respondents</b>		<b>TGNC Respondents</b>	
<b>Variable</b>	<b>n / [mean]</b>	<b>% /[SD]</b>	<b>n /[mean]</b>	<b>% /[SD]</b>
<b>Depression score [min=0 max=27] (n=83,994) <sup>a</sup></b>	[9.1874]	[6.4476]	[13.9243]	[6.6429]
<b>Anxiety score [min=0 max=21] (n=83,974) <sup>b</sup></b>	[8.0822]	[5.8786]	[11.3232]	[5.7966]
<b>Flourish score [min=8 max=56] (n=85,652) <sup>c</sup></b>	[42.7124]	[8.9489]	[36.8963]	[9.4192]
<b>Diagnosed mental health condition (n=77,852) <sup>d</sup></b>				
<b>No</b>	40,616	55.03	898	22.17
<b>Yes</b>	33,186	44.97	3,152	77.83
<b>What is the diagnosis? <sup>e</sup></b>				
<b>Depression</b>	21,732	24.31	2,508	52.38
<b>Bipolar</b>	2,141	2.4	351	7.33
<b>Anxiety</b>	26,502	29.65	2,668	55.72
<b>Obsessive-compulsive or related</b>	4,386	4.91	532	11.11
<b>Trauma and stressor related</b>	6,619	7.4	987	20.61
<b>Neurodevelopmental or intellectual</b>	5,830	6.52	1,280	26.73
<b>Eating disorder</b>	4,361	4.88	520	10.86
<b>Psychosis</b>	342	0.38	109	2.28
<b>Personality disorder</b>	828	0.93	200	4.18
<b>Substance use disorder</b>	1,190	1.33	140	2.92
<b>No, none of these (mutually exclusive)</b>	40,616	45.44	898	18.76
<b>Don't know</b>	4,987	5.58	335	7

<sup>a</sup>. Created during cleaning as a sum of the scores recorded during the administration of the Patient Health Questionnaire 9 (PHQ-9)

<sup>b</sup>. Created during cleaning as a sum of the scores recorded during the administration of the Generalized Anxiety Disorder 7 (GAD-7) questionnaire

<sup>c</sup>. Created during cleaning as a sum of the scores recorded during the administration of the Diener test as a way to measure positive mental health

<sup>d</sup>. Created during cleaning to specify if a respondent checked that they had any mental health diagnoses outlined in the following variable regarding what the diagnosis is

<sup>e</sup>. Depression (major or persistent depressive disorder); Bipolar (bipolar I or II, cyclothymia); Anxiety (generalized or phobias); Obsessive-Compulsive or related (obsessive compulsive disorder or body dysmorphia); Trauma and stressor related (post-traumatic stress disorder); Neurodevelopmental disorder or intellectual disability (attention deficit disorder, attention deficit hyperactivity disorder, intellectual disability, autism spectrum disorder); Eating disorder (anorexia nervosa, bulimia nervosa); Psychosis (schizophrenia, schizo-affective disorder); Personality disorder (antisocial personality disorder, paranoid personality disorder, schizoid personality disorder); Substance use disorder (alcohol abuse, abuse of other drugs)

Table 3: Mental Healthcare Utilization

<b>Mental Healthcare Utilization</b>	<b>Unweighted Sample</b>			
	<b>Cisgender Respondents</b>		<b>TGNC Respondents</b>	
<b>Variable</b>	<b>n / [mean]</b>	<b>% /[SD]</b>	<b>n /[mean]</b>	<b>% /[SD]</b>
<b>Therapy [lifetime, when] (n=82,683) <sup>a</sup></b>				
No, never	36,446	46.53	735	16.91
Yes, prior to starting college	13,466	17.19	926	21.30
Yes, since starting college	12,948	16.53	793	18.24
Yes, both prior to and since starting college	15,476	19.76	1,893	43.55
<b>Therapy [lifetime] (n=82,683) <sup>b</sup></b>				
Yes	41,890	53.47	3,612	83.09
No	36,446	46.53	735	16.91
<b>Which medication [past 12 months] [select-all-that-apply] <sup>c</sup></b>				
Psychostimulants	4,573	5.12	655	13.68
Anti-depressants	15,655	17.51	1,776	37.09
Anti-psychotics	903	1.01	196	4.09
Anti-anxiety	6,485	7.25	677	14.14
Mood stabilizers	1,841	2.06	317	6.62
Sleep medications	3,036	3.40	344	7.18
Other medication for mental or emotional health	1,822	2.04	286	5.97
No, none of these	55,544	62.14	2,004	41.85
Don't know	772	0.86	36	0.75
<b>Medication [any, past 12 months] (n=80,984) <sup>d</sup></b>				
Yes	21,186	27.61	2,250	52.89
No	55,544	72.39	2,004	47.11
<b>Helpfulness of therapy/counseling (n=45,208) <sup>e</sup></b>				
Overall rating	[2.17]	[1.04]	[2.14]	[1.04]
Very helpful (1)	14,370	16.08	1,273	26.59
Helpful (2)	11,190	12.52	1009	21.07
Somewhat helpful (3)	10,646	11.91	868	18.13
Not helpful (4)	5,406	6.05	446	9.31

<sup>a</sup> Asks if the student has ever received counseling or therapy services for mental health concerns

<sup>b</sup> Indicates that the student responded that they have received a therapy or counseling service in their lifetime based on them checking anything besides "no, never" in the previous question

<sup>c</sup> Asks if the student has taken any of the included medication in the past 12 months, only counting what they took/are taking several times a week: psychostimulants (methylphenidate (Ritalin or Concerta), amphetamine salts (Adderall), dextroamphetamine (Dexedrine) etc.); Anti-depressants (e.g., fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), escitalopram (Lexapro), venlafaxine (Effexor), Bupropion (Wellbutrin) etc.);

Anti-psychotics (e.g. haloperidol (Haldol), clozapine (Clozaril), risperidone (Risperdal), olanzapine (Zyprexa) etc.);

Anti-anxiety medications (e.g., lorazepam (Ativan), clonazepam (Klonopin), alprazolam (Xanax), buspirone (BuSpar) etc.);

Mood stabilizers (e.g. lithium, valproate (Debpakote), lamotrigine (Lamictal), carbamazepine (Tegretol), etc. );

Sleep medications (e.g., zolpidem (Ambien), zaleplon (Sonata), etc.);

<sup>d</sup> Created during cleaning to specify if a student selected any of the options in the previous question except "no, none of these" or "don't know"

<sup>e</sup> Asks the student to rank how helpful the therapy/counseling services they utilized were

Table 4: Support Measures

<b>Support Measures</b>	<b>Unweighted Sample</b>			
	<b>Cisgender Respondents</b>		<b>TGNC Respondents</b>	
<b>Variable</b>	<b>n / [mean]</b>	<b>% /[SD]</b>	<b>n / [mean]</b>	<b>% /[SD]</b>
<b>Mental or emotional health support [past 12 months] [select-all-that-apply]<sup>a</sup></b>				
Roommate	14,273	15.97	1,048	21.89
Friend (who is not a roommate)	35,577	39.8	2,733	57.08
Significant other	26,204	29.31	1,683	35.15
Family member	32,929	36.84	1,768	36.93
Religious counselor or other religious contact	2,966	3.32	66	1.38
Support group	1,796	2.01	209	4.37
Other non-clinical source	552	0.62	59	1.23
No, none of these [mutually exclusive]	22,124	24.75	688	14.37
Faculty member/professor	3,717	4.16	407	8.5
Staff member	1,606	1.8	164	3.43
<b>Who do you talk to during serious emotional distress [select-all-that-apply]<sup>b</sup></b>				
Professional clinician	34,841	38.98	2,621	54.74
Roommate	15,961	17.86	940	19.63
Friend (who is not a roommate)	41,072	45.95	2,675	55.87
Significant other/romantic partner	32,408	36.26	1,745	36.45
Family member	40,772	45.61	1,629	34.02
Religious counselor or other religious contact	4,836	5.41	82	1.71
Support group	2,774	3.1	249	5.2
Other non-clinical source	888	0.99	87	1.82
No one [mutually exclusive]	7,331	8.2	422	8.81

<sup>a</sup> Question: “In the past 12 months have you received support for your mental or emotional health from any of the following sources?”

<sup>b</sup> Question: “If you were experiencing serious emotional distress, whom would you talk to about this?”

Table 5: Relationship of Therapy Timeline to Depression, Anxiety, Flourishing, and Perceived Helpfulness

Relationship of Therapy Timeline Variable	Unweighted Sample			
	Cisgender Respondents		TGNC Respondents	
	n / [mean]	% / [SD]	n / [mean]	% / [SD]
<b>Therapy [lifetime, when] (n=82,683)</b>				
<b>Depression score [min=0 max=27] <sup>a</sup></b>				
No, never (n=37,181)	[7.58]	[5.96]	[12.44]	[6.93]
Yes, prior to college (n=14,392)	[9.95]	[6.54]	[13.89]	[6.58]
Yes, since starting college (n=13,741)	[10.26]	[6.35]	[13.41]	[6.50]
Yes, both prior to and since starting college (n=17,369)	[11.44]	[6.58]	[14.73]	[6.46]
<b>Anxiety score [min=0 max=21] <sup>b</sup></b>				
No, never (n=37,181)	[6.47]	[5.48]	[9.61]	[6.08]
Yes, prior to college (n=14,392)	[8.80]	[5.89]	[11.03]	[5.69]
Yes, since starting college (n=13,741)	[9.21]	[5.71]	[11.22]	[5.60]
Yes, both prior to and since starting college (n=17,369)	[10.29]	[5.82]	[12.15]	[5.64]
<b>Flourish score [min=8 max=56] <sup>c</sup></b>				
No, never (n=37,181)	[44.14]	[8.66]	[37.67]	[9.65]
Yes, prior to college (n=14,392)	[41.94]	[9.01]	[36.06]	[9.36]
Yes, since starting college (n=13,741)	[41.69]	[8.71]	[37.71]	[9.09]
Yes, both prior to and since starting college (n=17,369)	[40.97]	[9.14]	[36.65]	[9.39]
<b>Helpfulness of therapy/counseling [min=1 max=4] <sup>d</sup></b>				
No, never (n=37,181)	N/A	N/A	N/A	N/A
Yes, prior to college (n=14,392)	[2.53]	[1.07]	[2.64]	[1.05]
Yes, since starting college (n=13,741)	[2.18]	[1.02]	[2.18]	[1.04]
Yes, both prior to and since starting college (n=17,369)	[1.85]	[0.94]	[1.87]	[0.93]

<sup>a</sup>. Created during cleaning as a sum of the scores recorded during the administration of the Patient Health Questionnaire 9 (PHQ-9)

<sup>b</sup>. Created during cleaning as a sum of the scores recorded during the administration of the Generalized Anxiety Disorder 7 (GAD-7) questionnaire

<sup>c</sup>. Created during cleaning as a sum of the scores recorded during the administration of the Diener test as a way to measure positive mental health

<sup>d</sup>. This question was only shown to people who did not select "no, never" when asked if they had ever utilized therapy or counseling services

Table 6: Associations between gender identity and mental health in university-enrolled students in US colleges and universities

**Table 6**  
*Associations between gender identity and mental health in university-enrolled students in US colleges and universities*

Parameter	Anxiety Score <sup>a</sup>					
	Unadjusted (n=82,386)			Adjusted <sup>d</sup> (n=77,934)		
	Est.	95% CI	p	Est.	95% CI	p
Transgender and gender non-conforming [versus cisgender]	3.24***	3.06; 3.42	<.0001	1.44***	1.25; 1.63	<.0001
Parameter	Depression Score <sup>b</sup>					
	Unadjusted (n=83,994)			Adjusted <sup>d</sup> (n=79,442)		
	Est.	95% CI	p	Est.	95% CI	p
Transgender and gender non-conforming [versus cisgender]	4.74***	4.54; 4.93	<.0001	2.36 ***	2.16; 2.57	<.0001
Parameter	Flourishing Score <sup>c</sup>					
	Unadjusted (n=83,262)			Adjusted <sup>d</sup> (n=78,781)		
	Est.	95% CI	p	Est.	95% CI	p
Transgender and gender non-conforming [versus cisgender]	-5.83***	-6.11; -5.56	<.0001	-3.22***	-3.52; -2.94	<.0001

\* p < .05, \*\* p < .01, \*\*\*p < .001  
<sup>a</sup>. Created during cleaning as a sum of the scores recorded during the administration of the Generalized Anxiety Disorder 7 (GAD-7) questionnaire  
<sup>b</sup>. Created during cleaning as a sum of the scores recorded during the administration of the Patient Health Questionnaire 9 (PHQ-9)  
<sup>c</sup>. Created during cleaning as a sum of the scores recorded during the administration of the Diener test as a way to measure positive mental health  
<sup>d</sup>. Adjusted measures included: race, sex assigned at birth, sexuality, and insurance status

Table 7: Associations between gender identity, mental health, and time of mental healthcare in university-enrolled students in US colleges and universities

**Table 7**  
*Associations between gender identity, mental health, and time of mental healthcare in university-enrolled students in US colleges and universities*

Parameter	Anxiety Score <sup>a</sup>		
	Est.	95% CI	p
	<b>Prior to starting college (n=13,205)</b>		
Transgender and gender non-conforming [versus cisgender]	0.82***	0.40; 1.24	0.0001
	<b>Since starting college (n=12,675)</b>		
Transgender and gender non-conforming [versus cisgender]	1.16***	0.72; 1.61	<.0001
	<b>Both prior to and since starting college (n=15,993)</b>		
Transgender and gender non-conforming [versus cisgender]	0.99***	0.68; 1.29	<.0001
	<b>No, Never (n=33,813)</b>		
Transgender and gender non-conforming [versus cisgender]	1.54***	1.12; 1.97	<.0001
	<b>Depression Score <sup>b</sup></b>		
	<b>Prior to starting college (n=13,356)</b>		
Transgender and gender non-conforming [versus cisgender]	1.97***	1.51; 2.44	<.0001
	<b>Since starting college (n=12,805)</b>		
Transgender and gender non-conforming [versus cisgender]	1.69***	1.21; 2.18	<.0001
	<b>Both prior to and since starting college (n=16,169)</b>		
Transgender and gender non-conforming [versus cisgender]	1.84***	1.50; 2.18	<.0001
	<b>No, Never (n=34,316)</b>		
Transgender and gender non-conforming [versus cisgender]	2.63***	2.16; 3.09	<.0001
	<b>Flourishing Score <sup>c</sup></b>		
	<b>Prior to starting college (n=13,249)</b>		
Transgender and gender non-conforming [versus cisgender]	-3.48***	-4.13; -2.83	<.0001
	<b>Since starting college (n=12,713)</b>		
Transgender and gender non-conforming [versus cisgender]	-2.22***	-2.89; -1.54	<.0001
	<b>Both prior to and since starting college (n=16,057)</b>		
Transgender and gender non-conforming [versus cisgender]	-2.74***	-3.21; -2.26	<.0001
	<b>No, Never (n=34,017)</b>		
Transgender and gender non-conforming [versus cisgender]	-3.67***	-4.35; -3.00	<.0001



\*  $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

a. Created during cleaning as a sum of the scores recorded during the administration of the Generalized Anxiety Disorder 7 (GAD-7) questionnaire

b. Created during cleaning as a sum of the scores recorded during the administration of the Patient Health Questionnaire 9 (PHQ-9)

c. Created during cleaning as a sum of the scores recorded during the administration of the Diener test as a way to measure positive mental health

d. Adjusted measures included: race, sex assigned at birth, sexuality, and insurance status

Table 8: Variables and survey questions (Healthy Minds Network, 2022)

Table 8		
Variable	Survey Question	Answer Choices
Sex Assigned at Birth	“What was your sex assigned at birth?”	“Female; Male; Intersex”
Gender Identity	“What is your gender identity? (Select all that apply)”	“Male; Female; Trans male/ Trans man; Trans female/ Trans woman; Genderqueer/ Gender non-conforming; Self Identify (please specify); Gender non-binary”
“Diagnosed Mental Illnesses”	“Have you ever been diagnosed with any of the following conditions by a health professional (e.g., primary care doctor, psychiatrist, psychologist, etc.)? (Select all that apply)”	“Depression (e.g., major depressive disorder, persistent depressive disorder); Bipolar (e.g., bipolar I or II, cyclothymia); Anxiety (e.g., generalized anxiety disorder, phobias); Obsessive-compulsive or related disorders (e.g., obsessive-compulsive disorder, body dysmorphia); Trauma and Stressor Related Disorders (e.g., post-traumatic stress disorder); Neurodevelopmental disorder or intellectual disability (e.g., attention deficit disorder, attention deficit hyperactivity disorder, intellectual disability, autism spectrum disorder) Eating disorder (e.g., anorexia nervosa, bulimia nervosa) ; Psychosis (e.g., schizophrenia, schizoaffective disorder) ; Personality disorder (e.g., antisocial personality disorder, paranoid personality disorder, schizoid personality disorder); Substance use disorder (e.g., alcohol abuse, abuse of other drugs); No, none of these [mutually exclusive]; Don’t know.”
“Help-Seeking Intentions”	“If you were experiencing serious emotional distress, whom would you talk to about this? (Select all that apply)”	“Professional clinician (e.g., psychologist, counselor, or psychiatrist); Roommate; Friend (who is not a roommate); Significant other/romantic partner; Family member; Religious counselor or other religious contact; Support group; Other non-clinical source (please specify); No one [mutually exclusive].”
“Informal Help-Seeking”	“In the past 12 months have you received support for your mental or emotional health from any of the following sources? (Select all that apply)”	“Roommate; Friend (who is not a roommate); Significant other; Family member; Religious counselor or other religious contact; Support group; Other non-clinical source (please specify); No, none of these [mutually exclusive]; Faculty member/professor; Staff member.”
“Use of Counseling/Therapy Services”	“Have you ever received counseling or therapy for mental health concerns?”	“No, never; Yes, prior to starting college; Yes, since starting college; Yes, both of the above (prior to college and since starting college).”
Helpfulness of Services	“How helpful, overall, do you think therapy or counseling was or has been for your mental or emotional health?”	“Very helpful; helpful; Somewhat helpful; Not helpful.”
“Use of Medication”	“In the past 12 months have you taken any of the following types of prescription medications? (Please count only those you	“Psychostimulants (methylphenidate (Ritalin or Concerta), amphetamine salts (Adderall), dextroamphetamine (Dexeridine), etc.); Antidepressants (e.g., fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), escitalopram

took, or are taking, several times per week

(Lexapro), venlafaxine (Effexor), bupropion (Wellbutrin), etc.); Anti-psychotics (e.g., haloperidol (Haldol), clozapine (Clozaril), risperidone (Risperdal), olanzapine (Zyprexa), etc.); Anti-anxiety medications (e.g., lorazepam (Ativan), clonazepam (Klonopin), alprazolam (Xanax), buspirone (BuSpar), etc.); Mood stabilizers (e.g., lithium, valproate (Depakote), lamotrigine (Lamictal), carbamazepine (Tegretol), etc.); Sleep medications (e.g., zolpidem (Ambien), zaleplon (Sonata), etc.); Other medication for mental or emotional health (please specify); No, none of these [mutually exclusive]; Don't know."

### Health Insurance

"What is the source of your current health insurance coverage? (Select all that apply)"

"I do not have any health insurance coverage (uncovered) [mutually exclusive]; I have health insurance through my parent/guardian(s) or their employer; I have health insurance through my employer; I have health insurance through my spouse's employer; I have a student health insurance plan; I have health insurance through an embassy or sponsoring agency for international students; I have individual health insurance purchased directly from an insurance carrier; I have Medicaid or other governmental insurance; I am uncertain about whether I have health insurance; I have health insurance but am uncertain about where it is from."

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