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**Housing Insecurity and Suicidal Behavior Among Transgender and Gender-Expansive
Young Adults**

By

Eleni Margareta Gaveras

A dissertation presented to the Brown School of Washington University in St. Louis in partial
fulfillment of the requirements for the degree of Doctor of Philosophy

Washington University in St. Louis

July 2024

St. Louis, Missouri

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Dedication

I dedicate this work to all the transgender and gender-diverse people who shared their stories inspiring this dissertation.

Acknowledgments

I am regularly humbled and appreciative of the support I have received through this journey. I am so grateful to my chair, Professor Patrick J. Fowler, for his consistent and tireless support in making this dissertation a reality. To my committee members, Professors Vanessa D. Fabbre, Kathleen Bucholz, Jeremy Goldbach, and Harmony Rhoades, I am so thankful for your support of me, my dissertation, and my career. To my 2016 cohort and T32 NIDA/NIMH members, I am so lucky to have your support and friendship. To my “Awesome Writing Community,” Erin Harrop, Ruvani Foreska, Joonmo Kang, Joanna La Torre, Lan Nguyen, Catherine Walker, Summer (Sicong) Sun, and Claire Willey-Sthapit amongst others, this dissertation would not be possible without your friendship, advice, and cheerleading. To my friend who has walked along side me in this social work journey, Elizabeth Sanchez, I am so lucky to have meet you in our MSW Sexuality Across the Life Cycle class almost ten years ago. I want to acknowledge my dog, Lucy, the world’s most faithful research assistant who reminds me when a Zoom meeting has gone over by one minute or when it is time to call it a night and go to bed. Finally, thank you so much to my family and partner, Jen, there is no way this would have been possible without you.

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Abstract

Housing Insecurity and Suicidal Behavior Among Transgender and Gender-Expansive Young
Adults

By

Eleni Margareta Gaveras

Doctor of Philosophy in Social Work

The Brown School, Washington University in St. Louis, Year

Professor Patrick J. Fowler, Chair

Transgender and gender-expansive people (collectively referred to here as trans¹) attempt suicide and experience homelessness at much higher-than-average national rates, signaling the need for culturally responsive support. Strikingly, over 50% of trans people with experiences of homelessness attempt suicide, and Black, Indigenous, Latine, and other persons of color exhibit even higher rates of suicidal behavior and homelessness (James et al., 2016). Although conceptual models of gender minority stress and multi-minority stress suggest suicidal thoughts and behaviors (STB) as an outcome of multilevel drivers, there has been little examination of structural determinants such as housing.

A need exists for trans-affirmative research investigating the complex intersections between suicide and housing insecurity among trans young adults transitioning into adulthood (J. Shelton, 2015, 2016). It has been well established that trans people experience elevated levels of STB, as well as high rates of housing insecurity (homelessness and risk of homelessness). But

¹ Transgender is defined as denoting or relating to a person whose gender identity is incongruent with their sex assigned at birth (American Psychological Association, 2015). Gender-expansive is defined as denoting or relating to persons whose gender identity or expression is outside of the gender binary (Human Rights Campaign, n.d.).

the extent of the cooccurrence and the temporal relationship between the two is less explored (McCann & Brown, 2021; McNeil et al., 2017; Rhoades et al., 2018). Evidence from systematic reviews suggests that trans young adults who experience suicidal ideation or behavior are not a homogenous group (Adams & Vincent, 2019; McNeil et al., 2017), and there is a range of trans young adults pathways to homelessness (McCann & Brown, 2021). Many studies either lump trans young adults within the wider LGBTQIA+ community or analyze risk factors for combined ideation and attempts, and as such, there are significant gaps in knowledge on trans-specific patterns of suicide risk with even less knowledge of these patterns among trans young adults of color (Adams & Vincent, 2019; McNeil et al., 2017). Thus, there is a vital need to generate knowledge of housing insecurity and suicide risk among trans young adults that treats trans young adults as a homogenous group with intersectional gender, sexual, and racial/ethnic identities

The present study addresses the evidence gap by examining housing-related suicide behaviors among trans young adults (16–25) using two datasets—the 2015 USTS and HYM+TRUTH study—specifically designed to address gaps in knowledge in the health and well-being of trans people and trans young people of color. Predicated on a life-course perspective and an adaptation of the gender minority stress theory, the investigation focuses on the multidetermined and multilevel contextual factors that expose trans young adults to precarious housing and the progression of suicidal ideation, plans, and attempts according to the idea-to-action framework. Structural factors, including racism and protection from informal trans community support in emerging adulthood, are critical in escalating and de-escalating risks.

The sequential design will first use cross-sectional survey data from the USTS to enable robust tests of the cross-sectional relationship between housing insecurity and SBT. Second,

informed by the first aim, longitudinal analyses of the Healthy Young Men + Trans Youth of Color (TRUTH) (Calvetti et al., 2022) study conducted in Los Angeles will be used to make a prospective inquiry into housing and STB risk over time.

Findings from analyses indicate that housing-insecure trans young adults are at significantly higher risk of STB. Family rejection increases the odds of housing insecurity and escalates STB risk. Among trans young adults of color, prior experiences of housing insecurity are significantly associated with 7 times the odds of being in a high-risk class for STB at baseline. Results from both datasets are explored and triangulated to examine other risks and protective factors related to housing insecurity and STB, including family rejection, hazardous drinking, peer support, and racism and gender discrimination. Recommendations for practiced policy and research point to an integrated response from multiple service providers and systems, and further research is needed to address cooccurring trans young housing insecurity and STB.

Epigraph

“I had some really structural, logistical difficulties that made me not so happy. It was a very stressful time. My backup plan was if I depleted everything and was on the streets, that I’d kill myself, because I didn’t know what else to do.”

Elliot, 60 year-old White trans man, Northeast

To Survive on This Shore (www.tosurviveonthisshore.com)

Chapter 1: Introduction

Homelessness is a serious public health issue that disproportionately burdens trans people (Fazel et al., 2014; James et al., 2015; Montgomery et al., 2017). It is known that trans people experience high rates of housing insecurity and suicidal behaviors (James et al., 2016; Morton et al., 2018a), with emerging evidence of substantial co-occurrence (Blosnich et al., 2017; Kidd, 2006; Rhoades et al., 2018; Tsai & Cao, 2019). Gender minority discrimination experienced in families, public settings, and social services contributes to experiences of homelessness and the associated exposure to violence that exacerbates mental health problems, including post-traumatic stress disorder (PTSD), depression, and suicide (Bender et al., 2015; Fazel et al., 2014; Montgomery et al., 2017; Nock et al., 2009). For instance, the use of shelters is compromised both by policies that restrict access based on gender assigned at birth and bullying (Abramovich, 2017; Morton et al., 2018b). Racism in the context of gender minority discrimination adds to risk exposure for homeless trans populations. Trans people of color are more likely to experience increased racism and exposure to adverse experiences while homeless than white trans people (Begun & Kattari, 2016; Saewyc et al., 2017). These experiences exacerbate prior trauma, family separation, and instability experienced earlier in life (Bender et al., 2014a, 2015).

Emerging adulthood or young adulthood introduces additional development complexities for trans young adults and trans young adults of color. Defined as a developmental period marking the transition from late adolescence to the mid-twenties or ages 18-25 (Arnett, 2000), young adulthood is a time of identity exploration and instability, as young adults explore pathways to adulthood through education, employment, and romantic relationships (Arnett, 2000). Housing mobility represents a normative experience for most young adults, and families typically provide a safety net for identity exploration through advice, financial help, and often a

place to stay when needed (Arnett, 2000, 2007). Family instability and young adults' homelessness reduce the availability of support (Belsky, 1993; Cicchetti & Lynch, 1993; Fowler et al., 2011). Trans young adults and trans young adults of color disproportionately report parental conflict, rejection due to gender identity, and foster care involvement (Annie E. Casey Foundation, 2016; Martin et al., 2016; McCann & Brown, 2021; Morton et al., 2018b; J. Shelton & Bond, 2018; Van Leeuwen et al., 2006). Moreover, a study of Black sexual minority young adults found that experiences of unsheltered homelessness led to increased discrimination, which in turn increased suicidal ideation (Gattis & Larson, 2016). Not only do experiences of racism increase stress and then contribute to poor mental health, but structural racism also impacts how socio-contextual resources, such as housing, are distributed, which also greatly influences mental health and well-being (Williams, 2012; Williams et al., 2019). This study will contribute to this knowledge and note gaps in the study of the mental health of gender minority homeless young adults of color (Adams et al., 2017; Adams & Vincent, 2019; McCann & Brown, 2021; Morton et al., 2018b).

Scholars have raised concern that the overwhelming focus on racial or gender identity as a risk factor for homelessness contributes to structural racism and cisgenderism by comparing against the "norm" (J. Shelton, 2015; Siller & Aydin, 2022; Tan et al., 2020). Other research has illuminated how connections to community resources based on identity provide protection and demonstrate how trans people, amongst other minoritized identities, are not just passive recipients of stress but actively engage in resistance and activism (Fabbre & Gaveras, 2020; Gaveras et al., 2023; Li et al., 2023; Schmitz et al., 2020; S.A. Shelton & Lester, 2022), including Latine LGBTQIA+ young adults (Schmitz et al., 2020), Black LGBTQIA+ young adults (Shaheed et al., 2022), and Black trans women (Sherman et al., 2022). Thus, there is also a

need to integrate better resilience strategies and contextual supports among homeless trans young adults of color (J. Shelton, 2016).

This dissertation intends to fill the knowledge gaps described above by establishing the association between suicide behaviors and housing insecurity and defining patterns of risk among trans young adults of color. The approach to this dissertation is informed by Brignone et al. (2018); there is a need within housing insecurity research to develop reliable estimates of the extent and composition of homelessness within a population based on the understanding that those who experience homelessness are not a homogenous group. The reasons for this are twofold: (1) to assess whether practice, programming, or policy have any impact on the extent of homelessness among trans people; and (2) to adjust programs and services to address the needs of trans people as a heterogeneous population (Brignone et al., 2018). To this end, this study looks at the co-occurrence of homelessness and suicide behaviors among trans young adults using the 2015 USTS, followed by a narrow, in-depth exploration of trans young adults of color using the HYM+TRUTH dataset.

To address the varied experiences among housing-insecure trans young adults, my dissertation takes an intersectional minority stress approach to the co-occurrence of suicidal behavior and housing insecurity. Intersectionality considers how multiple marginalized statuses contribute to how individuals experience the world beyond membership in one group. Grounded in Black feminist theory and first formally named by Kimberlé Crenshaw (1991), intersectionality provides a framework for discussing power and privilege. The theoretical approach to this study is further informed by Hill (2019), whose core constructs of intersectionality are (1) relationality, (2) power, (3) social inequality, (4) social context, (5) complexity, and (6) social justice. Briefly, Collins' (2019) guiding premise or assumption of an

intersectional theoretical approach is that systems of powers are interdependent, producing complex social inequalities based on race, class, and gender identity, among other marginalized identities. Individuals' positions in these complex systems contribute to how they experience and perceive the world, and to address social problems such as housing insecurity and suicide among trans people, it is vital to take an intersectional approach (Collins, 2019).

It is important to note that ongoing methodological discussions address combinations of stressors associated with different dimensions of identity. Approaches to measuring intersectional experiences of discrimination that are additive, cumulative, or multiplicative have limitations (Parra & Hastings, 2018; Sarno et al., 2021; S.A. Shelton & Lester, 2022). These approaches do not necessarily reflect the fluidity of intersectional social experiences (Parra & Hastings, 2018; Sarno et al., 2021; S.A. Shelton & Lester, 2022). Cognizant of these limitations, my dissertation will not only examine the role of racism and gender minority discrimination as a coefficient on housing and suicide outcomes but also consider experiences of socio-contextual factors and community resources that are intertwined with identity (Siller & Aydin, 2022) and the reproduction of interdependent systems of power (Collins, 2019).

Finally, this study also considers the range of positive and negative experiences and community connections as a source of strength. The importance of recognizing the skills homeless trans young adults hold to survive complex housing and mental health systems, as well as their desires to receive connections to resources and affirming community, is reflected in research illuminating the experiences and perspectives of homeless trans young adults (J. Shelton, 2016; J. Shelton & Bond, 2018), as well as how multi-level stigma manifests in the lives of transgender and gender diverse people (Fabbre & Gaveras, 2020). This approach also

integrates feedback from the TRUTH community board to include measures of positive experiences (Calvetti et al., 2022).

Approach to Examining Suicidal Behaviors

Theoretical development addressing suicidal behaviors among trans people is still in its early stages (McNeil et al., 2017), and the lack of trans-affirmative mental health measures has been referred to as a public health crisis (Abramovich & Cleverley, 2018). What is known is that the pain and hopelessness caused by stigma increase the risk for suicidal ideation and suicide attempts among trans people. Trans-specific factors contributing to pain and hopelessness include structural factors such as transphobia and other forms of discrimination, interpersonal factors such as family rejection, and individual feelings of hopelessness (Testa et al., 2017). While there is an awareness that trans young adults are exposed to high levels of stigma and discrimination, there is a significant gap in knowledge of how this escalates suicidal behaviors (dickey & Budge, 2020; McNeil et al., 2017), particularly among trans young adults of color who experience both racism and gender discrimination, which impacts access to housing resources (Begun & Kattari, 2016).

In addition to knowledge gaps, there are also methodological gaps in assessing how socio-contextual conditions impact mental health outcomes such as escalated suicide behaviors (Jacobucci et al., 2021). There is also a noted need to separately examine risk factors for suicidal ideation and attempts among trans people (dickey & Budge, 2020; Fulginiti et al., 2020; McNeil et al., 2017). This need is not unique to trans people and also constitutes a gap in the wider literature, which often measures ideation and attempts together (Jacobucci et al., 2021). One solution offered is the 3ST model. The 3ST model is built on the interpersonal theory of suicide but is specifically recommended for use in differentiating specific risk factors for different

suicidal behaviors (Jacobucci et al., 2021; May & Klonsky, 2016). The 3ST posits that distinct risk factors contribute to increasingly severe STB (Klonsky & May, 2014; May & Klonsky, 2016). Drawing from the 3ST, Jacobucci and colleagues (2021) suggest methodological innovation that focuses on patterns and the progression of STB. Thus, the approach to the study of STB in this dissertation is that SBT as an increase in symptom severity. Findings from this study will contribute to the noted gaps in testing the idea-to-action framework among trans young adults in crisis (Fulginiti et al., 2020) and fill an important knowledge gap in how housing contributes to different suicidal behaviors (i.e., ideation versus attempts) among trans people (McNeil et al., 2017).

Approach to the Use of Two Datasets

This dissertation aims to generate knowledge about the relationships between housing insecurity and suicidal behaviors, as well as relevant risk and protective factors. Secondary analyses of two well-designed surveys of trans young adults will investigate the associations between STB, housing insecurity (couch-surfing and homelessness), race, and community connections. Both studies will be guided by the following research questions, aims, and hypotheses.

Research Questions

1. What are the housing experiences and heterogeneous needs of trans young adults in the United States?
2. How does housing insecurity relate to suicide outcomes among trans young adults and racialized trans young adults?
3. Do suicidal thoughts and behaviors emerge over time in connection with housing insecurity among racialized trans young adults?

Aims and Hypotheses

The following hypotheses will address these research questions. These will be separated into two separate aims (Aim 1 for H1–H3, and Aim 2 for H4–H5).

Aim 1: Establish Cross-Sectional Associations between Housing Insecurity and Suicide

Thoughts and Behaviors among Trans Young Adults

Hypothesis 1. Trans young adults experiencing housing insecurity would report greater sociodemographic risks and fewer protective factors compared to securely housed trans young adults. Defined as living on the streets or couch surfing within the past 12 months, a logistic regression using the 2015 USTS tested an array of sociodemographic and young adult characteristics, including age, race/ethnicity, gender, sexual orientation, educational attainment, mental health, substance use, community and family supports, and discrimination experiences.

Hypothesis 2. Housing insecurity in the past 12 months would relate to a greater likelihood of escalating suicidal behaviors. Ordinal logistic regression using the 2015 USTS tests the associations between housing insecurity and suicidal ideation, plans, and attempts, controlling for sociodemographic risk and protective factors.

Hypothesis 3. Multiple identity discrimination would amplify the relationship between housing insecurity and suicidal behaviors, while community connections would buffer the relationship between housing insecurity and suicidal behaviors. Sub-group analysis examined whether experiencing multiple forms of discrimination based on identity had greater impacts on STB escalation for housing-insecure trans young adults compared to securely housed young adults in the USTS. It was hypothesized that community connections would decrease the risk associated with housing insecurity for escalating suicide outcomes among trans young adults. The hypothesis was tested in subgroup analysis of the ordinal regressions.

Aim 2: Define Developmental Patterns of Suicidal Thoughts and Behaviors Among Trans Young Adults of Color

Hypothesis 4. Trans young adults of color would fluctuate between higher and lower risks for suicidal thoughts and behaviors across a one-year follow-up. It was assumed that two distinct suicide risk patterns (i.e. high risk/ low risk) would emerge at baseline, six-month-, and 12-month follow-ups among trans young adults of color. This assumption was tested by developing a latent transition analysis model (LTA) using the HYM+TRUTH study (Fowler et al., 2015; Nylund et al., 2007; Nylund-Gibson et al., 2007).

Hypothesis 5. Among trans young adults of color, housing insecurity and other risk and protective factors at baseline would contribute to the probability of escalating and deescalating suicidal thoughts and behaviors over time. It is assumed that membership in the high-risk group would be predicted by experiences of homelessness. A two-step LTA approach was used to test this assumption (Asparouhov & Muthén, 2021; Nylund-Gibson et al., 2007, 2023).

Conclusion

Trajectories towards homelessness based on ecological contexts can increase the propensity for trans young adults to be exposed to multiple forms of violence, racism, gender discrimination, and stigma (Cicchetti & Lynch, 1993; dickey & Budge, 2020) and act as stressors for suicidal ideation among trans people (Perez-Brumer et al., 2015; Testa et al., 2017). A need exists for methodological innovation to untangle the complex constellations of risk factors to interrupt trans young adults' homeless trajectories and the associated suicidal behaviors. Housing may play an important role as a structural risk factor. This dissertation intends to fill these knowledge gaps.

Chapter 2: Literature Review

Death by suicide contributes to high premature mortality rates among homeless populations (Fazel et al., 2014). Trans young adults already experience disproportionately high rates of both housing insecurity (risk of homelessness or literal homelessness) and suicidal thoughts and behaviors (STB). Research based on the Voices of Youth Count, a nationally representative survey and qualitative study of homeless young adults in the United States, found that homeless LGBTQIA+ young adults experience a 2.2 times higher risk of homelessness than their non-LGBTQIA+ counterparts (Morton et al., 2018a), and increased premature mortality (Morton et al., 2018a). Mortality risks include increased exposure to violence, such as physical or sexual assault, and self-harm (Morton et al., 2018a). Research on homeless adults indicates that BIPOC trans women may experience the highest premature mortality risks, including exposure to violence, acute psychiatric symptoms, HIV, tuberculosis, and other chronic illnesses (Montgomery et al., 2017).

Given that trans people experience over three times the rate of homelessness and suicidal behavior than their cisgender peers (James et al., 2016), there is an urgent need to explore the co-occurrence of homelessness and STB and the trajectories that contribute to both events. Further, there is a need to examine appropriate and effective trans-affirmative services and supports that young adults can leverage during a crisis. This chapter explores the relationship between housing insecurity and suicide among trans young adults by reviewing (1) the scope of housing insecurity and STB among trans young adults, (2) what is known about the statistically significant relationship between housing insecurity and suicide, and 3) service needs among homeless or couch-surfing trans young adults. This chapter will also examine both homelessness and STB as a sequence of intertwined events contributing to complex constellations of risk factors,

influenced by discriminatory social contexts and contributing to both homeless trajectories and suicide outcomes among trans young adults. Conclusions from this chapter will lay the groundwork for further theoretical exploration of housing and suicide outcome trajectories among trans young adults and resilience strategies in the next chapter.

Scope of Trans Young adults Housing Instability

Understanding the scope of housing insecurity or risk of homelessness among trans young adults is essential to develop targeted housing services and homeless prevention programs (Brignone et al., 2018). Trans young adults experience disproportionate rates of housing instability as compared to their cisgender peers and trans people in the later stages of adulthood (AHAR, 2024; Kattari & Hasche, 2016). Housing instability is defined as either literal homelessness, lacking a “fixed, regular, adequate nighttime residence” (AHAR, 2024, p. 4), or being at risk of homelessness in the next two months (Montgomery et al., 2014). Thirty percent of trans people experience homelessness within their lifetime (James et al., 2016), approximately three times the lifetime homelessness prevalence of the general U.S. population (Tsai, 2018).

By nature, housing instability is episodic (Kuhn & Culhane, 1998). Many insecurely housed young adults experience multiple periods of literal homelessness as well as couch-surfing. Couch-surfing is defined as moving from one temporary housing arrangement to another, and an inability to stay safely with family or relatives (Curry et al., 2017). LGBTQ+ young adults are estimated to comprise approximately 40% of homeless and couch-surfing young adults (Curry et al., 2017). A national household survey on homelessness among young adults aged 18-25 found that LGBT young adults were 2.5 times more likely to report at least one experience of couch-surfing or homelessness (Morton et al., 2018a).

Based on the American Housing Annual Report (AHAR, 2024), trans young adults have disproportionate experiences of unaccompanied homelessness, as compared both to their cisgender peers as well as to trans adults. Unaccompanied homeless young adults are defined as young people under the age of 25 who are not living with their parents or legal guardians (AHAR, 2024). On the coldest night in January 2023, 719 (2.1%) trans young adults, 776 (2.2%) gender-expansive young adults, and 157 (0.5%) who were questioning their gender identity were experiencing unaccompanied homelessness (AHAR, 2024). Of unaccompanied homeless trans young adults, approximately 253 (35.2%) of unaccompanied homeless trans young adults were unsheltered, 303 (39.0%) of the gender-expansive young adults were unsheltered, and 88 (53%) of the questioning young adults were unsheltered. Except among questioning young adults, these figures are comparable to the 37% of homeless cisgender females who are unsheltered and 43% of cisgender homeless males who are who are unsheltered. According to other studies, reasons for unsheltered homelessness among trans young adults included fear of discrimination from housing services such as shelters or young adult mental health services (Kattari et al., 2016; Kattari & Hasche, 2016). Furthermore, trans young adults who are visually gender-nonconforming or a racial or ethnic minority may be more vulnerable to discrimination and adverse experiences within shelters, contributing to high rates of unsheltered homelessness (Begun & Kattari, 2016; Saewyc et al., 2017).

Scope of Suicidal Behaviors Among Trans People

Trans people experience disproportionate rates of suicidal ideation, plans, and attempts. An estimated 48% of trans people have attempted suicide in their lifetime – approximately 10 times the average of the U.S. population (James et al., 2015). In 2015 alone, an estimated 24% of trans people attempted suicide – a rate 12 times higher than that of the general population (James

et al., 2015). Estimates of lifetime suicidal ideation among trans people range from 45-84%, twice the estimated rates of lifetime suicidal thoughts of cisgender LGB people (House et al., 2011; Irwin et al., 2014; Perez-Brumer et al., 2015). Approximately 24-48% of trans people have attempted suicide, in comparison to 9% of cisgender LGB people, and 4% of the general population (Adams et al., 2017; Nock et al., 2009).

Scope of Combined Suicidal Behaviors and Housing Insecurity Among Trans People

Among both cisgender and transgender young adults, it is suggested that both homelessness and risk of homelessness increase rates of suicidal ideation, plans, and attempts (Institute for Child Health, 2018; Kidd, 2006). Cross-sectional research using the NESARC-III, a nationally representative epidemiological survey, found that persons with a lifetime of homelessness were 4.1 times more likely to report a suicide attempt than those without homeless episodes (Tsai, 2018). Among all LGBTQIA+ young adults ($N=524$), 32% had lifetime experiences of homelessness, and among those ($n=167$), 25.1% had experienced homelessness in the past month (Rhoades et al., 2018). According to Rhoades and colleagues (2018), among LGBTQIA+ young adults accessing crisis services, young adults who had experienced homelessness were more likely to experience a past suicide attempt or risk of a future attempt. Moreover, LGBTQIA+ young adults who had experienced lifetime homelessness were likely to experience depression and 3 times more likely to have symptoms of PTSD and hopelessness (Rhoades et al., 2018), which are associated with increased suicidal ideation and attempts among LGBTQIA+ young adults accessing crisis services (Fulginiti et al., 2021).

Longitudinal research using medical records of trans veterans found those with a positive screen for housing insecurity (homelessness or risk of homelessness) twice as likely to have been determined at risk for suicide by a Veterans Affairs (VA) medical provider (Blosnich et al.,

2017). Another national study of veterans within and outside the VA medical system, which used a cross-sectional sample recruited from Facebook, found that 11.8% of trans veterans experience housing insecurity and that homelessness was significantly associated with lifetime suicidal ideation, plans, and attempts (Lehavot et al., 2016).

Risk Factors for Housing Insecurity Among Trans Young Adults

Homeless trajectories among trans young adults in emerging adulthood often include significant gaps in or adverse experiences with developmentally appropriate supportive resources (i.e., family, educational environments, mental health services, and peers) and stressful social contexts in childhood and adolescence (Haber & Toro, 2004). For many housing-insecure trans young adults, there was not one single event that contributed to their housing insecurity (Morton et al., 2018b; J. Shelton et al., 2018; J. Shelton & Bond, 2018). Although, in some cases, coming out to family members contributed to homelessness, there is also often an accumulation of adverse circumstances over time that contributed to homeless experiences (Morton et al., 2018b; J. Shelton & Bond, 2018).

Shelton and colleagues (2018) examined the precipitants of housing insecurity among homeless gender minority young adults in seven cities, finding that young adults often cited a combination of reasons for their experiences of housing insecurity. When homeless trans young adults ($n=107$) were asked to select all reasons that contributed to their homeless experiences, the majority chose running away or being asked to leave their parental home, followed by another family member's home, a foster home, or a group home (J. Shelton et al., 2018). Additional reasons included inability to pay rent, aging out of foster care or juvenile justice, leaving a relationship with intimate partner violence, exiting the hospital, family homelessness, and needing to move but having no alternative place to live (J. Shelton et al., 2018, p. 201).

Thus, these trajectories towards homelessness among trans young adults can be understood because of complex dynamics that often cross many macrosystems, including those promoting child, adolescent, and adult well-being, such as family, educational, child welfare, mental health, and housing systems (McCann & Brown, 2021; Morton et al., 2018b; White Hughto et al., 2015).

The ecological developmental perspective helped conceptualize the complex constellations of risk factors that contribute to homelessness trajectories (Haber & Toro, 2004). The perspective draws from Bronfenbrenner's (1992) socioecological theory, which posits that these resources come from the mezzo levels (family, friends, and peers) and macro-levels (social systems), which are both influenced by larger social conditions, such as prevailing gender norms. Thus, homelessness results from a lack of developmentally appropriate resources provided by social supports (e.g. family, friends, service providers). For homeless trans young adults, this can be understood as a combination of young adult developmental needs with the social conditions necessary to support and affirm intersectional identity development and socio-economic stability.

During the developmental stage of young adulthood, young people gain the skills and experiences required for independence through trial and error. Strong connections to adults, mentors, and the community provide young adults with timely support, advice, emotional connection, financial assistance, and housing as needed. Investments of time and money pay off as young adults successfully navigate into secure adulthood (Arnett, 2000, 2007). Trans young adults are at increased risk of disruption in emerging adulthood due to family disruption, displacement, and violence stemming from the stigma associated with gender identities within family and structural systems. This disruption can contribute to reduced resources or contextual supports such as reduced economic and emotional support for gender affirmative care, education

and employment goals, and connections to supportive adult mentorship (Belsky, 1993; Bronfenbrenner, 1992; Fowler et al., 2011). Obtaining contextual support is necessary to support healthy development into adulthood and affirm gender identity and is an important protective factor for suicide among trans people (Bailey et al., 2014; dickey & Budge, 2020). Contextual supports also play an important role in secure housing in young adulthood. For example, it is developmentally normal during this period for young adults to be highly mobile and periodically return to their family home (Osgood et al., 2010).

According to Glick and colleagues (2020), the first experiences of homelessness among trans people are often due to a combination of family rejection and financial strain. Fragile family support may reduce access to the financial resources needed to secure education, employment, housing opportunities, and gender-affirming resources. Homeless trans young adults may be particularly vulnerable to family conflict compared to their peers (Factor & Rothblum, 2007; Morton et al., 2018b). Research on trans people and their siblings indicates that trans people experience higher maltreatment rates within their immediate families (Factor & Rothblum, 2007). Maltreatment that contributes to homelessness can manifest as a family removing a child from their home (such as in response to them coming out), a young person leaving an abusive or un-affirming environment, or aging out of foster care (Fowler et al., 2009; Morton et al., 2018b; J. Shelton & Bond, 2018).

Among homeless trans young adults, family conflict is often compounded by the *social context*, including the lack of gender-affirming social services for marginalized young people and bullying or discrimination in these settings for transgressing gender norms (J. Shelton & Bond, 2018). This institutional rejection, harassment, or exposure to violence often occurs in education settings and with mental or social services (Factor & Rothblum, 2007; Choi et al.,

2015; J. Shelton & Bond, 2018; Cutuli et al., 2020, Côté & Blais, 2023). According to Choi and colleagues (2015), homeless trans young adults experienced increased trauma across seven domains. Multiple studies have found that family rejection combined with school bullying or intimate partner violence (IPV) increases the risk of housing insecurity.

Many housing-insecure trans young adults have had interactions with social services, such as child welfare, before experiencing homelessness (Morton et al., 2018a). Data from the child welfare system indicates that LGBTQIA+ young adults comprise approximately 23% of the young people in care, and about 40% are in foster care due to being thrown out of their homes (Martin et al., 2016). As mentioned previously in this chapter, trans young adults running away from foster families due to rejection is a contributor to trans young adult homelessness (J. Shelton et al., 2018). Histories of family homelessness may alter the social resources trans young adults have to navigate family rejection (Schmitz & Tyler, 2018). There is evidence that trans young adults are more likely to have been enrolled in socioeconomic supports such as reduced school lunches in childhood (Rhoades et al., 2018). The available socioeconomic supports, including educational support, can alter how housing-insecure young adults navigate finding and maintaining employment or education resources after family rejection, contributing to increased housing insecurity (Schmitz & Tyler, 2018). Among trans young adults of color, racism combined with ageism and economic discrimination may further limit access to employment and education resources, potentially contributing to a higher representation of homeless young adults (Morton et al., 2018a). In sum, trans young adult homeless trajectories can be understood as a lack of developmentally appropriate multilevel resources to support the transition to a healthy adulthood.

Risk Factors for Suicide Among Trans Young Adults

Similar to housing trajectories among trans young adults, disproportionate rates of suicidal ideation and attempts among trans people can be understood as a combination of social or distal factors and the internalization of societal norms or proximal factors (Testa et al., 2015). For example, increased exposure to adverse gender-related experiences, such as discrimination, stigma, and exposure to violence, are thought to contribute to a higher prevalence of STB among trans people (Bauer et al., 2015; Goldblum et al., 2012; Grossman et al., 2016; Grossman & D'Augelli, 2007; House et al., 2011; Nuttbrock et al., 2010). Further, risk factors for lifetime suicidal ideation and attempts among trans people are not only associated with adverse gender-related experiences related to societal gender norms but also an individual's internalization of transphobic norms (Adams et al., 2017; Perez-Brumer et al., 2015; Rood et al., 2015; Tebbe & Moradi, 2016; Tucker, 2019).

The relationship between distal factors and proximal factors contributing to increased risk of suicidal ideation and attempts among trans people is illustrated in the Gender Minority Stress and Resilience Measure (GMSR) developed by Testa and colleagues (2015). The GMSR was adapted for trans people from Meyer's (2003) minority stress model which suggests that factors at the structural level, such as discriminatory social norms and prejudice, have a negative impact on individual-level health outcomes (Meyer, 2003). The GMSR posits a combination of distal stressors such as discrimination, rejection, victimization, and gender non affirmation and proximal factors such as the internalization of transphobic social norms contribute to poor mental health outcomes among trans people (Testa et al., 2015)

Both distal and proximal factors related to poor mental health outcomes across the life course for trans people (Goldblum et al., 2012; Hoy-Ellis & Fredriksen-Goldsen, 2017;

Nuttbrock et al., 2010). For example, distal factors such as gender-based violence experienced during adolescence were associated with increased risk for depression and suicidal behavior during adulthood (Goldblum et al., 2012; Nuttbrock et al., 2010). Furthermore, persistent gender-related abuse throughout the life course and new experiences of violence during life transitions (e.g., transitions to adulthood) were also associated with an increased likelihood of suicidal ideation and attempts among trans people of all ages (Nuttbrock et al., 2010). In terms of proximal factors, the fear surrounding potential future discrimination or violence was associated with increased anxiety, depression, and substance misuse (Nuttbrock et al., 2010; Reisner et al., 2015; Tebbe & Moradi, 2016; Hoy-Ellis & Fredriksen-Goldsen, 2017); all of which related with suicidal ideation and attempts among trans people (Clements-Nolle et al., 2006; Nuttbrock et al., 2010).

Research has indicated there is also a relationship between gender transition and suicidal ideation and attempts (McNeil et al., 2017). Trans people of all ages who have transitioned or are planning to transition are more likely to have experienced suicidal ideation or attempts (Barboza et al., 2016; Bauer et al., 2015, 2015; Goldblum et al., 2012; Grossman et al., 2016; Grossman & D'Augelli, 2007; House et al., 2011; Nuttbrock et al., 2010). Some argue that the risk for suicidal ideation and attempts may be due to increased gender-related violence or discrimination from coming out or increased visibility of one's gender nonconformity (Nuttbrock et al., 2010; Rood et al., 2015). It is possible that the fear of future rejection, discrimination, and violence contributes to stress surrounding coming out or planning to come out and increases these rates (Nuttbrock et al., 2010; Rood et al., 2015). This could also potentially relate to fears or experiences around housing insecurity and being kicked out of the home after transitioning or coming out.

In addition to gender minority stress, research has used the interpersonal theory of suicide (IPTS) to explain suicidal behavior among trans people (Chang et al., 2021; Fulginiti et al., 2020; Testa et al., 2017). The IPTS posits that death by suicide is a combination of “the desire to die by suicide and the ability to do so” (p. 2) (Joiner et al., 2009). According to Joiner et al. (2009), the combination of thwarted belongingness or social isolation, ostracism, alienation, and perceived burdensomeness that a person is placing a burden on their social support networks and their death would be a relief contributes to *the desire to die* – or ideation and attempts (Joiner et al., 2009). The *ability to do so* or the acquired capability to inflict self-directed violence either through previous attempt, previous exposure to physical abuse or injury of the self or others, including self-directed violence reducing the sensitivity to bodily harm, access to means to die by suicide (such as guns), familiarity with methods, pain tolerance, fearlessness of death (Joiner et al., 2009; Klonsky et al., 2018; May & Victor, 2018).

Among trans young adults, both perceived burdensomeness and thwarted belongingness are associated with ideation and attempts (Chang et al., 2021; Fulginiti et al., 2020; Testa et al., 2017). A study by Testa and colleagues (2017) found an association between the perceived burdensomeness and thwarted belongingness constructs of the interpersonal theory of suicide (IPTS) and internalized minority stress and expectation of negative events with suicidal ideation and behavior among trans people. However, according to Testa and colleagues (2017), the model fit indicated that there was variability in the data that neither the IPTS nor the gender minority stress and resilience measure (GMSR) explained. One reason for this could be that neither the IPTS nor the theory of gender minority stress fully captures external factors influencing high rates of suicide among trans people (Testa et al., 2017). Both perceived burdensomeness and thwarted belongingness are inherently about exclusion and stress related to social and

community-based factors; more research is needed to develop a culturally attuned model (Testa et al., 2017). There are also gaps in integration and testing of the capability construct among trans people in suicide research, despite evidence of the association between gender-related violence and suicidal behavior among trans people (Nuttbrock et al., 2010; Rood et al., 2015). As will be discussed in the next chapter, housing insecurity may exacerbate mental health and minority stress risks and could potentially be an important external factor contributing to elevated rates of suicidal behavior among trans young adults.

Conclusion

Trans young adults experience disproportionate rates and distinct patterns of housing instability as compared to their cisgender peers. Homelessness is associated with increased premature mortality among trans people, including the risk of death by suicide (Fazel et al., 2014). As previously discussed, it is developmentally normal for young adults to receive substantial support to explore their future identities. Young adults who are unable to receive these opportunities to establish economic stability are at a noted disadvantage later in life (Courtney et al., 2004; Elder, 1998; Gonzales, 2011). Given the increased mortality risk among homeless trans people, including the increased need for emergency psychiatric care (Montgomery et al., 2017), and evidence of the high levels of suicidal behaviors among housing-insecure young adults, it is vital to fill gaps in knowledge of the housing trajectories among trans young adults. It has been well established that trans people experience elevated levels of suicidal ideation, plans, and attempts, as well as high rates of housing insecurity (homelessness and risk of homelessness). However, the extent of the co-occurrence and the temporal relationship between the two is less explored (McCann & Brown, 2021; McNeil et al., 2017; Rhoades et al., 2018).

Chapter 3: Conceptual Overview

Risk factors for housing and suicidal behaviors are complex constellations that occur both at a single point in time or accumulate over time (Glick et al., 2020; Hjelmeland & Knizek, 2010; May & Klonsky, 2016). Simply put, conceptualizing co-occurring housing insecurity and suicidal behaviors is complex. Further complicating the relationship is the evidence that poor mental health outcomes are both a cause and an effect of housing insecurity (Balshem et al., 2011). As discussed in the previous chapter, a lack of developmentally appropriate resources contributes to the housing trajectories among insecure trans young adults. Adverse experiences often contribute to ruptures between young people and developmentally appropriate family and institutional resources necessary for housing security (Glick et al., 2020.). Furthermore, adverse experiences in childhood and adolescence experienced alongside housing insecurity can exacerbate mental health symptoms (Bender et al., 2014a; 2015; Fazel et al., 2014). For trans young adults of color, many of these vulnerabilities occur in the context of structural and interpersonal racism and gender discrimination. This increases stress and feelings of individual hopelessness and exacerbates symptoms of mental health disorders, including depression, substance use, and psychosis – all of which are associated with suicide outcomes (Budhwani et al., 2018; Fulginiti & Frey, 2018; Kcomt et al., 2020; Reisner et al., 2015b; White Hughto et al., 2015; Yanos et al., 2008). According to an ethnographic study by Glick and colleagues (2020) these constellations of intersecting vulnerability related to identity ‘intersect like a star’ (p. 337) create unique and individual constellations of vulnerability.

There are significant gaps in the theoretical understanding of both housing insecurity and suicidal behaviors among trans young adults (McCann & Brown, 2021; Testa et al., 2017). To illustrate the complex constellations contributing to the co-occurrence between housing

insecurity and suicidal behaviors, this chapter first presents a theoretical framework conceptualizing housing and mental health trajectories in the context of oppressive institutional gender norms. Next, it explores how the multilevel conceptualization of transgender stigma contributes to mental health outcomes among housing-insecure young adults.

Conceptualizing Homeless Trajectories and Mental Health Outcomes

While the association between mental health and homelessness is complex, poor mental health outcomes, such as suicidal behaviors, are likely related to the stress of housing crises and increased exposure to adverse experiences while homeless (Bender et al., 2015; Fazel et al., 2014). Adversity experienced earlier in life also contributes to poor mental health outcomes among housing-insecure trans young adults. The Web of Vulnerability, a framework developed by Hamilton and colleagues (2011), integrates early life experiences with experiences of institutional gender norms to explain escalating housing and mental health outcomes. While this framework was developed to explain the housing and addiction trajectories among homeless women veterans, it may be useful to apply among trans young adults.

The Web of Vulnerability adapts life course theory into a theoretical framework, with interlocking pathways or roots of homelessness linked to an accumulation of risks at specific points in time contributing to housing and adverse mental health outcomes. This framework is unique in that it integrates early childhood experiences within institutional settings and institutionalized gender norms – both of which are described by trans young adults to contribute to homeless trajectories (J. Shelton & Bond, 2017). The theory proposed by Hamilton and colleagues (2011) maps onto findings by Glick and colleagues (2020) whose ethnographic study described early housing insecurity among trans adults as driven by family disruption and

financial insecurity followed by a cyclical process of psychological strain and substance use for coping contributing to financial and employment difficulties.

In Hamilton and colleagues (2011) framework, Root 1 starts in childhood with messages received around help-seeking and services for marginalized young adults. It is known that trans young adults are overrepresented in the child welfare system (Annie E. Casey Foundation, 2016), and in-depth interviews with trans young adults cite the lack of gender-affirmative services for marginalized trans young adults and their contribution to homeless trajectories. Root 2 is institutional gender norms that contribute to experiences of discrimination due to transgressions of gender norms. This root is explored in depth in the next section on multilevel stigma.

Root 3 is violence such as domestic violence or violence experienced on the street, and Root 4 relates to mental health, addiction, and physical health. Roots 3 and 4, poor mental health and addiction, form a self-reinforcing loop with homelessness, highlighting how both its cause and effect can contribute to and exacerbate each other. Housing-insecure trans young adults are more likely to experience bullying within shelters (Abramovich, 2017) and unsheltered homelessness which increases risk of exposure to violence (Montgomery et al., 2017). Further, the stressors of housing insecurity are often compounded by adverse experiences earlier in life, both of which are suggested to exacerbate mental health conditions associated with suicide, such as post-traumatic stress disorder (PTSD) and depression (Bender et al., 2015; Fazel et al., 2014; Nock et al., 2009). A cross-sectional, multi-city study of homeless emerging adults (18-24) illustrates the relationship between childhood experiences of trauma, violence experienced while homeless, and subsequent mental health outcomes. According to Bender and colleagues (2014; 2015), among young people who had experienced previous trauma, each additional type of abuse experienced while homeless increased the odds of the young person meeting the clinical criteria

for PTSD or substance use disorders (Bender et al., 2014; 2015), both of which are risk factors for suicidal ideation and attempts (Nock et al., 2009). As discussed in the previous chapter, trans young adults are more likely to experience poly victimization prior to homelessness than their cisgender peers, which likely contributes to increases in compounded adverse experiences (Choi et al., 2015; Côté & Blais, 2023; Cutuli et al., 2020).

Root 5 is unemployment, which in the trans young adult context may be connected to discriminatory work environments encountered during the life course (Porter et al., 2016), leading to reduced economic stability, which can serve to reinforce homeless trajectories. As described in the previous chapter, socio-economic inequalities and discrimination, including ageism and racism, impact access to employment resources, contributing to adverse housing outcomes (Schmitz & Tyler, 2018). Thus, for housing-insecure trans young adults, it is likely that adverse events in childhood and adolescence are intertwined with housing trajectories, reinforcing escalating housing insecurity and suicide outcomes (Fitzpatrick, 2005; Hamilton et al., 2011). Gender discrimination and the addition of minority stressors complicate this relationship, as discussed in the next section.

Multilevel Gender Minority Stigma

Multilevel gender minority stigma magnifies the risk factors for co-occurring housing insecurity and suicidal thoughts and behaviors. The role of gender-based discrimination and institutional gender norms on housing and mental health has been explored amongst veterans, such as in the framework of Hamilton and colleagues (2011) presented in the last section. How gender-based and other forms of discrimination, such as racism, contribute to homeless trajectories among trans young adults of color has been less explored. However, it has been established that across multiple domains of social life, homeless trans young adults experience

disadvantages and stigmas that contribute to housing insecurity and suicidal behaviors (Hatzenbuehler & Pachankis, 2016; Morton et al., 2018b; J. Shelton, 2015; J. Shelton & Bond, 2018; White Hughto et al., 2015). Stigma is defined as an attribute or mark indicating status that devalues a person in the eyes of others, and as a social process of othering those with devalued identities (Pescosolido & Martin, 2015). The multilevel stigma framework suggests that stigma influences the health and well-being of trans people on individual, interpersonal, and structural levels (White Hughto et al., 2015). This multilevel conceptualization of stigma is informed by the work of sociologist Irving Goffman (Pescosolido & Martin, 2015), the minority stress model (Meyer et al., 2008, 2014), and Bronfenbrenner's socio-ecological model.

Developed by White Hughto and colleagues (2015), the multilevel conceptualization of the impact of stigma on the health and well-being of trans people can be understood as a social process of receiving social messages and reduced access to services such as social services, education, or health services from structural sources; interpersonal stigma received from family and friends; and the subsequent internalization of being less deserving than individuals without a stigmatized identity. The interaction between these three levels often creates significant amounts of stress, including increased emotional distress (Reisner et al., 2015a; Reisner et al., 2015b) and suicidal ideation (Perez-Brumer et al., 2015).

Structural stigma is conceived of as the broad social, economic, and political forces, such as laws and public policies, that limit the resources and opportunities of stigmatized individuals (Hatzenbuehler et al., 2013; Hatzenbuehler & Link, 2014). Stress and experiences of public discrimination associated with homelessness may increase the risk of adverse mental health outcomes among trans young adults (Fitzpatrick, 2005; Gattis & Larson, 2016). Trans young adults may also be more prone to unsafe housing experiences, public discrimination, and abuse

within shelters, compounding experiences of marginalization and institutional distrust earlier in life (Begun & Kattari, 2016; Gattis & Larson, 2016). According to Abramovich (2017), LGBTQIA+ homeless young adults in the Toronto area report a normalization of homophobia and transphobia in the shelter system. This normalization process includes segregation of young adults in the shelter by the sex assigned at birth, and lack of staff training (Abramovich, 2017).

Street contexts such as experiences of panhandling, sex work, or involvement in illegal activities also increase the risk of exposure to violence and exacerbate mental health symptoms among homeless young adults (Barnes et al., 2021; Gattis & Larson, 2016; Kidd, 2006; Kidd et al., 2021). Trans young adults experience disproportionate rates of unsheltered homelessness, which LGBTQIA+ young adults housing argues is due to policies restricting shelters and other safe housing resources to sex-at-birth, as well as a deficit of affirmative crisis mental health and housing resources (Abramovich, 2017; Maccio & Ferguson, 2016; J. Shelton, 2015; J. Shelton & Bond, 2018). Unsheltered homelessness is associated with increased exposure to violence and mortality risk (Montgomery et al., 2017). While the research on adverse experiences while housing-insecure among trans young adults is limited, what is known is that gender minority young adults experience higher rates of sexual assault while homeless than their cisgender peers (Flatley et al., 2022; Santa Maria et al., 2019).

In addition to physical violence, many housing-insecure trans young adults may have increased exposure to racism and gender discrimination, as well as other forms of discrimination. A study conducted by Gattis and Larson (2016) examined the relationship between racism, gender discrimination, and mental health outcomes among Black adolescent and sexual minority homeless young adults; the study found that young adults who experienced racial discrimination and unsheltered homelessness showed increased symptoms of depression and past-year

suicidality (ideation or attempts). Further, young adults who experienced unsheltered homelessness were more likely to engage in publicly visible behaviors associated with homelessness, such as panhandling, and thus experienced increased amounts of homelessness discrimination and public harassment (Gattis & Larson, 2016). Among homeless sexual minority young adults of color, experiences of racism were associated with both depression and past-year STB (Gattis & Larson, 2016). Thus, it is important when considering the adverse effects of trans-related stigma among housing-insecure young adults to consider the implications of combined racism and gender discrimination.

Interpersonal Level Stigma

Interpersonal level stigma refers to interactions with members of the social environment that are known to an individual (White Hughto et al., 2015). This includes stigmatizing encounters with family, partners, coworkers, and classmates (White Hughto et al., 2015). Gender-affirming families (Bouris & Hill, 2017) and friends have been found to have an important protective effect among trans populations (Simons et al., 2013; White Hughto et al., 2015). As discussed in the previous chapter on homeless trajectories, conflict with family and other sources, such as teachers and peers in school, contribute to homeless trajectories among trans young adults (Morton et al., 2018b; J. Shelton & Bond, 2018).

National studies from the U.S. (Sterzing et al., 2017; Stotzer, 2009) and Canada (Rotondi et al., 2011) demonstrate that trans people experience higher rates of polyvictimization than their cisgender peers. Factor and Rothbaum (2007) found that trans people have a significantly higher rate of experiences of explicit rejection or exposure to violence (from family, peers, and within educational and religious settings) during childhood due to gender identity than their siblings.

Within housing services, LGBTQIA+ young adults report experiences of bullying and overt homophobia and transphobia from staff. In addition, they also experience interpersonal stigma in the form of a lack of intervention on the part of the staff who either disregard instances of bullying or are overworked and do not have time to intervene (Abramovich, 2017).

Individual Level Stigma

Individual level stigma, or the internalization of either interpersonal or structural stigma, can be understood as a dual social process of receiving social messages through *enacted* stigma, such as being singled out for harassment by peers or trusted adults, and the subsequent processing by persons with stigmatized identities (Bockting, 2014; Hatzenbuehler et al., 2013; Link & Phelan, 1995; White Hughto et al., 2015). These experiences may contribute to an individual's awareness that their identity is devalued in society, which in turn may lead to awareness of the possibility of social status loss, lowered self-esteem, and withdrawal (Link & Phelan, 2014). This process among trans people has been linked to identity concealment, avoidance of potentially stigmatizing experiences, and social isolation at the individual level (Siverskog, 2014; White Hughto et al., 2015). Social isolation has substantial negative consequences on physical and mental well-being and contributes to withdrawal from vital supportive resources due to real or perceived threats of discrimination. Internalized stigma contributes to risks of suicide outcomes through increasing feelings of hopelessness (Yanos et al., 2008) and the exacerbation of mental health symptoms (Testa et al., 2015, 2016; Yanos et al., 2008).

What we know from research on gender-minority young adults is those who had experienced lifetime homelessness were likely to experience depression and PTSD three times more so than those who did not experience homelessness. Both depression and PTSD are

associated with increased STB among sexual and gender-minority young adults seeking crisis services (Fulginiti et al., 2021). According to Rhoades and colleagues (2018), lifetime homelessness was also significantly associated with higher rates of perceived burdensomeness, with trans young adults reporting higher rates of homelessness due to parental rejection. Thus, as discussed more in the next chapter, further testing and research are warranted to examine housing instability in relationship to suicidal behaviors, whether it differently impacts ideation versus attempts, and whether addressing community connectedness de-escalates crisis trajectories.

The Role of Contextual Supports

Positive identity development, pride, and community connections reduce stigma and are protective for escalating STB (Testa et al., 2017). For homeless trans young adults, types of desired connectedness include connection with the broader trans community and links to resources for exploring identity development (Wagaman et al., 2019). What is also known from qualitative studies interpreting biographical interviews of transgender older adults is that engagement with informal support within the trans community is vital for long-term recovery from crises (Fabbre & Gaveras, 2020; Gaveras et al., 2023). Political activism, giving back to the trans community, or having one trusted friend can all be important resilience strategies against the mental health-damaging effects of gender minority stress (Fabbre & Gaveras, 2020; Li et al., 2023; Fabbre et al., 2023), and an important part of recovering from suicidal ideation, plans, or attempts (Gaveras et al., 2023). Further, mental health providers and community connections were perceived as providing a reciprocal referral network or social support network (Fabbre & Gaveras, 2020; Gaveras et al., 2023). These findings from the life stories of transgender older adults point to a need to further explore the protective role of community connections among

trans young adults facing a dual crisis of housing insecurity and suicidal ideation, plans, and attempts.

Conclusion

Multilevel drivers contribute to both STB and housing insecurity among trans young adults. Complicating the conceptualizing of both housing insecurity and STB trajectories is the role of contextual resources, or lack thereof, that provide vital support for emotional and financial well-being. Disruptions in these relationships, often due to gender discrimination and racism, reduce these vital contextual supports. Thus, there is a need to explore these multilevel drivers and how they are associated with housing insecurity, STB, and their cooccurrence.

Chapter 4: Methodology

The aim of this dissertation was to quantitatively illustrate the relationship between housing insecurity and suicidal behaviors through an intersectional lens. The study adapted Creswell, Plano Clark's (2006) exploratory sequential design for mixed methods research for use with multiple quantitative inquiries conducted with young persons (Lobe et al., 2006). The dissertation leverages two datasets specifically developed to address gaps in knowledge of the health and well-being of trans people and of trans people of color. Aim 1 examined the association of housing insecurity with suicidal ideation, plans, and attempts in the context of other risk and protective factors among a large cross-sectional sample of trans young adults collected in the USTS. Findings informed the development of an analytic plan to investigate how homelessness and other covariates contribute to differing patterns of suicide risk among trans young adults of color involved in the HYM+TRUTH study. The results led to subsequent refinements of the USTS analyses, reflecting the exploratory subsequent inquiry.

A pre-determined matrix guided the analyses and interpretation of findings across datasets and evaluated how they compare, contrast, complement, and add different dimensions of knowledge to the question (Creswell & Plano Clark, 2006; Lobe et al., 2006). The matrix was used for a process of guided notetaking to explore and triangulate the two datasets. Columns of the matrix were (C1) 2015 USTS; (C2) HYM+TRUTH; (C3) Similarities; (C4) Differences; (C5) Remaining gaps and recommendations. The rows represented two main areas (R1) data source and methodology; (R2) Results. R1 assessed the sample, the dataset generation aim, recruitment strategy, measure development and analytical approach. R2 aligned with the study research questions.

Aim 1: Establish Cross-Sectional Associations between Housing Insecurity and Suicide Thoughts and Behaviors among Trans Young Adults

Study Design and Sampling Frame

Secondary analysis of the 2015 United States Transgender Survey (USTS) examined the association between housing insecurity and suicide risk behaviors among trans young adults (James et al., 2015). The USTS was a 32-domain online questionnaire aimed to provide a snapshot of the health and well-being of trans people in the United States. Developed in consultation with community stakeholders and academic partners (James et al., 2015b), data collection combined previously administered surveys (e.g., American Community Survey, National Survey on Drug Use and Health) and new measures developed to focus on the experiences of trans people. A sample of 100 participants piloted the data collection instruments for acceptability (James et al., 2015b). Overall, the survey intended to compare the general U.S. population inclusive of the specific needs of trans people, the non-probability sample did not allow generalization to the U.S. trans population.

Purposive sampling recruited trans and gender-non-confirming adults from all states and territories across the United States in the summer of 2015 (James et al., 2015b). The population of interest included people who identified as “transgender, trans, genderqueer, non-binary or any identities on the transgender spectrum” at any life or gender transition stage (James et al., 2015b). Participants were excluded if they were under the age of 18, lived outside of the United States or U.S. territories, or if they failed to provide complete sociodemographic information. Secondary analysis focused on eligible trans young adults ages 18-25 years (see Appendix 1 for a description of measures collected by the USTS used in secondary analysis).

Procedures

The 2015 USTS used a multipronged “point-of-access” recruitment approach to maximize the engagement of marginalized trans adults, especially trans adults of color, those residing in rural areas, and trans older adults from places where they receive services (James et al., 2015b). The NCTE enlisted over 800 local organizations working with LGBTQIA+ communities to share information on the online survey; individuals who pledged assistance received updates about the survey. The NCTE also conducted a social media marketing campaign and special awareness-raising outreach. Survey-taking events organized by 72 community organizations provided internet access for participants to take the survey. Participants took the USTS survey online (www.ustranssurvey.com) on a website hosted by the private consulting firm Rankin & Associates (James et al., 2015b). Consent was recorded by electronically signing the end of an information sheet. Participants were offered an opportunity to enter raffles for one \$500 and two \$250 prizes; those interested were redirected to a NCTE website to enter their contact details (James et al., 2015). To protect privacy, the encrypted survey data was stored on secure firewall-protected servers only accessible by computers on a local network, and nightly security audits were conducted during the survey period (James et al., 2015).

Despite NCTE efforts to recruit underrepresented groups, the 2015 USTS over-sampled White, college-educated, younger trans adults. To address these discrepancies, survey weights were created based on the American Community Survey (ACS) to adjust for age, race, and education (James et al., 2015b). The final and anonymized 2015 USTS dataset was accessed through the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan. The ICPSR has permitted the researcher to analyze the dataset. The

researcher has possession of the data, which has been stored, per the requirements of ICPSR, in a locked cabinet on an encrypted hard drive. The analysis of the data also received exempt status from the Washington University Internal Review Board (IRB: 2020009214).

Measures

Suicidal Thoughts and Behaviors (STB). Suicidal behavior was measured through a sequence of dichotomous (Yes/No) questions about the past 12 months. An initial item asked whether they had serious thoughts of killing themselves. If yes, participants were asked whether they had made any plans to kill themselves in the past 12 months. Those who answered Yes were then asked if they had tried to kill themselves in the past 12 months. Items came from the National Comorbidity Survey Revision (NCS-R) and have been validated for use in measuring risk of suicidal behaviors (Borges et al., 2006). A four-level ordinal variable indicated (0) No Suicidal Behaviors, (1) Suicidal Ideation Only, (2) Suicide Plans (and Suicidal Ideation), and (3) Suicide Attempts (and Suicidal Plans and Ideation). Higher scores indicated more severe suicidal behavior and escalating risk, validated in prior research, including with adolescents (Jacobucci et al., 2021; Nestor et al., 2022).

Housing Insecurity. Housing insecurity measured whether participants had experienced either homelessness or couch-surfing in the past 12 months. Participants were asked, “Have you ever experienced homelessness?” which the USTS defined as “staying in a shelter, living on the street, living out of a car, or staying temporarily with family or friends because you can’t afford housing” (James et al., 2015c) (see Chapter 6: Study Strengths and Limitations for further discussion of USTS’ definition of homelessness). Another question asking about housing situations that had happened in the past year included “I slept in different places for short periods of time, such as on a friend’s couch.” A dichotomous variable (0/1) indicated whether young

adults had experienced homelessness or couch surfing in the past 12 months, consistent with prior research on the housing experiences of emerging adults (Fowler et al., 2009; Fowler et al., 2011; Fowler et al., 2015).

Psychological Distress. Psychological distress was measured using the 6-item Kessler Distress (K6) Scale (Kessler et al., 2002). The measure captured symptoms of anxiety and depression. The K6 was designed for short surveys and has been validated for various educational statuses and races (Kessler et al., 2002; Mitchell & Beals, 2011). Research using this measure of the USTS has shown a relationship between this measure and past experiences of discrimination among trans people (Kachen et al., 2022).

Substance Use. *Illicit substance* use was defined as the 30-day use of cocaine/crack, opiates, methamphetamine, inhalants, poppers, or unprescribed prescription drugs. Current marijuana use was defined as endorsing at least one instance of marijuana use in the past 30 days. *Binge Drinking* was defined as consuming 4 or more drinks on the same occasion within a couple of hours at least one day in the past month. *Heavy alcohol use* was defined as four or more drinks on 5 or more days in the past 30 days. The binge drinking and heavy alcohol use definitions were based on the Substance Abuse and Mental Health Services Administration (SAMHSA) definition of binge drinking, which has been shown to be reliable for assessing drug and alcohol use history (Substance Abuse and Mental Health Services Administration, 2010, 2018). Validation of alcohol misuse measures is in process and the 2015 USTS uses the lowest threshold, four or more drinks in one sitting, to measure binge drinking (see Implications Chapters for further discussion of validation of alcohol misuse measures among trans people).

Multiple Identity Discrimination. Participants were asked to indicate whether they experienced any verbal harassment or physical harassment in any setting (public or private), or

unequal treatment by service providers such as health or social service providers based on race/ethnicity, gender, sexual orientation, age' Participants were coded as experiencing multiple minority stressors if they had reported any experiences discrimination for more than on identity. This study's construction of the discrimination variable adapted the approaches of Glick and colleagues (2018) and Kachen and colleagues (2022) to capture the impact of multiple minority stress.

Contextual Supports. *Family Support* was defined as whether at least one immediate family member (mother, father, brother, or sister) was aware and actively supportive of their trans identity. Participants were coded as having no support if their family members were neutral about their trans identity or if the participant was not out to their family. Lerner and Lee (2022) used a similar measure of family support with the USTS to examine family support in relation to discrimination and exposure to family violence. *Kicked out of the home* was defined as whether immediate family the participant grew up with ever kicked them out of their house due to their trans identity. *Community connections* was defined as the number of places participants have sought out peer support from the trans community. Sources of community include activism, in person or online support groups, or other. Participants were assigned a score of zero if they reported no connections to the trans community. This measure was developed by the USTS Committee at the NCTE (James et al., 2015). While there has been little exploration of this measure in the literature, assessing the availability of trans peers is like a two-item measure by Bockting and colleagues (2013) validated for use with a national sample (see Discussion).

Visual Non-Conformity. Visual non-conformity was defined as whether a participant reported in the affirmative that they have been visually identified as trans without telling a

person they are trans. Visual non-conformity has been previously used to examine discrimination experiences among homeless trans people (Begun & Kattari, 2016).

Outness. The 2015 USTS study developed the outness score to measure how many people in the participants' lives were aware of their trans identity. A score was created by dividing the total number of groups the participant was out to (friends in different communities, immediate, family, extended family, and others) by the total number of possible groups the individual could be out to (e.g., if the participant reported having no friends, friendship would not be part of the possible group dominator). Then, a count was created for the average number of groups to which the participant was out (James et al., 2015). This measure of outness was previously used by Lerner and Lee (2022) to examine discrimination, violence, and family support among Asian American trans people. Based on the Cronbach alpha this measure had acceptable reliability ($\alpha = 0.80$ $SD=0.81$).

Sociodemographics. Age in years was reported by young adults from 18-25 years. *Drop out* was re-coded from a six-category variable that asked participants to select their highest level of education: less than high school, high school graduate or GED, some college (no degree), Associates degree, Bachelor's degree, or Graduate or professional degree; a binary indicator captured whether the participant had earned a high school or General Equivalency Degree (GED) (1) or completed at least high school (0). *Race/ethnicity* measured whether young adults identified as Alaskan Native/Native American; Asian/Native Hawaiian; Pacific Islander; Black/African American; Latine; White/Middle Eastern/North African. In the analysis, White/Middle Eastern/North African was selected as the reference group based on societal privilege and power (Parra et al., 2023). *Sexual orientation* was measured through a categorical variable where young adults self-identified as: Straight, Asexual, Bisexual, Gay/Lesbian,

Straight, Pansexual, Queer, or sexual orientation not listed; the measure was developed by the USTS committee (James et al., 2015b). *Gender Identity* was measured with one item that asked participants to choose one of the four gender identities they most closely identify as: trans man, trans woman, or non-binary/genderqueer (James et al., 2015).

Data Analysis

Initial analysis computed descriptive statistics and conducted univariate and bivariate analyses among study variables. Although missing data was minimal with less than five percent across study variables, multiple imputation of missing values using 30 imputed datasets and five iterations was conducted using the MICE package for R (van Buuren & Groothuis-Oudshoorn, 2011). To test Hypothesis 1, a logistic regression predicting housing insecurity in the past 12 months (Yes/No) included an array of sociodemographic characteristics and risk and protective factors. Multicollinearity was evaluated as a variance inflation factor below five, and the Pearson Chi-square test and receiver operating characteristic curve (ROC) assessed model fit. The logistic regression was run in R using the lme4 package (Bates et al., 2015).

Hypothesis 2 (housing insecurity as a risk factor) used an ordinal regression with category-specific effects to explore the relationship between housing problems and increasing severity of suicidal behaviors (Jacobucci et al., 2021; Bürkner & Vuorre, 2018). Analysis was conducted using the BRMS package for R (Burkner, 2021) Analysis of category-specific effects allowed for examination of factors that contributed to crossing the thresholds from no suicide behaviors into thoughts of suicide, and from there into plans for dying by suicide, and from there into suicide attempts. Models included several assumptions developed based on the idea-to-action framework (Klonsky & May, 2014; May & Klonsky, 2016). First, we assumed that an individual had to pass through less severe states (e.g., ideation) to reach more severe states (e.g.,

attempts). The second assumption was that the transition to higher levels was not a metric, meaning that the outcome variable is not continuous and has no normal distribution. Third, regarding category-specific effects, it was assumed that independent variables did not necessarily have equal effects on crossing the threshold from no ideation to ideation to attempts.

While several types of ordinal regressions have been recommended, Jacobucci and colleagues (2021) suggested that an adjacent ordinal regression and a sequential ordinal regression were most in line with existing theoretical approaches to suicidal behaviors. We tested both as part of model building and validation. An adjacent ordinal regression compared the probability of a participant being in a category with the adjacent category of lesser severity (e.g., the odds of having made a suicide attempt in the past year as compared to only plans). A sequential ordinal regression compared the probability of a participant being in a category (e.g., the odds of a past-year suicide attempt) as compared to the probability of all the categories of lesser severity (e.g., no suicidal behaviors, suicidal ideation, and suicide plans). Model fit was used to select the final model using the leave-one-out cross-validation information criteria (LOOIC) examination, where a lower LOOIC indicated a better model fit (Burkner & Vuorre, 2019). Statistical analysis was conducted using the R and Brukner packages.

Hypothesis 3, which tested the moderating effects of discrimination and community connections, was conducted using multiple group analyses (Jöreskog, 1971). Ordinal regressions (H2) were fit separately for housing-insecure and housing-secure young adults to examine whether the effects of discrimination, community connections, and other contextual supports on the escalation of suicidal behaviors varied by housing experiences. Comparison of coefficients by group were conducted using z -tests with a 1.96 threshold to indicate significant differences.

Multiple group analyses were chosen instead of the inclusion of various interaction terms for parsimony.

Sensitivity analyses compared model fit when including and excluding USTS-derived sampling weights based on sociodemographics collected in the 2015 five-year American Community Survey (ACS). Models were compared through visual inspection of the results and examination of the Akaike Information Criteria (AIC) as an indicator of fit.

Aim 2: Define Developmental Patterns of Suicidal Thoughts and Behaviors Among Trans Young Adults of Color

Study Design & Sampling Frame

A longitudinal observational study – Trans Youth of Color (TRUTH) – assessed transgender and gender-diverse young adults of color living in Los Angeles, CA, at baseline, 6-month, and 12-month follow-ups (Azucar et al., 2022). The TRUTH study was embedded into the Healthy Young Men’s (HYM) Cohort Study of minority men who have sex with men (Calvetti et al., 2022), and both aimed to understand the risk and protective factors for HIV infection and transmission. Purposive sampling recruited transgender young adults of color from social media, community listservs, LGBTQIA+ events, and participants nominated up to three potentially eligible friends for a snowball sampling. In addition, the study included participants of the HYM study who identified as transgender or gender diverse. The design of both the TRUTH and HYM studies were guided by intersectional and minority stress theory, recruitment approaches, and measurement.

Eligibility criteria for the TRUTH study included the following (Calvetti et al., 2022; Rusow et al., 2022). First, participants needed to identify as transgender or gender diverse, defined as not identifying as the same sex assigned at birth. Second, participants were Latine,

Black/African American, Indigenous, or another group of color. Third, participants were between the ages of 16 to 24, living in Los Angeles County, and English or Spanish speaking. For the secondary analysis, despite defining young adulthood as 18-25, 16- and 17-year-old participants were still included to better longitudinally examine the developmental process of aging from adolescence into young adulthood. Fourth, participants were excluded from the study if they appeared to be under the influence of drugs or alcohol or could not commit to participating in all study waves (Azucar et al., 2022).

Procedures

A community board informed the TRUTH study design of policymakers, service providers, and a young adults community board of trans young adults of color based in Los Angeles (Calvetti et al., 2022; Rusow et al., 2022). The TRUTH sample was recruited between May 25th and December 7th, 2018. To enroll, participants completed a short screen and provided their contact information. If participants were eligible, they were contacted by the study team and invited to the study office or another private place to take the survey (Rusow et al., 2022). Participants aged 18 years and over consented to the survey, while 16- and 17-year-olds received consent from their legal caregivers. Surveys were administered by research assistants using Audio-Computer Assisted Self-Interview for sensitive questions (Rusow et al., 2022). Participants received written study information with infographics. Participants received incentives for monthly check-ins, providing information on address changes, and completing surveys. Incentives for completing all study procedures totaled \$105 (Calvetti et al., 2022).

Data for the TRUTH study was deposited with the University of Southern California Keck School of Medicine. The researcher reviewed it with the Scientific Advisory Board and received permission to use the data. Per the terms of the agreement, the researcher did not store

the data on her laptop computer and agreed neither share nor publish the data without review from the TRUTH study team and the Children’s Hospital of Los Angeles. The study received ethical review approval from the Children’s Hospital of Los Angeles (CHLA-14-0027).

Measures

Suicidal Thoughts and Behaviors (STB). Suicidal ideation, plans, and attempts in the past six months were measured on a stepwise escalating scale. Participants who endorsed ideation were asked about plans, and those who reported plans were asked about attempts. Dichotomous indicators recorded whether young adults endorsed each behavior (Yes = 1) versus or not progressing to the item (No = 0). The stepwise scale reflected the idea-to-action framework (Klonsky & May, 2015; May & Victor, 2018) and has been used in the Young adults Behavioral Surveillance System (Mpofu, 2023) and the 2015 USTS (James et al., 2015), making it suitable for this study.

Housing Insecurity. Prior housing insecurity was assessed at the baseline interview by asking young adults “Has there ever been a time when you didn't have a place to sleep?” (Yes = 1, No = 0). The item was developed as part of the HYM study protocol (Kipke et al., 2019) and had been used in previous longitudinal developmental research into young adult homelessness (Heerde et al., 2020, 2021).

Contextual Supports. Contextual support was defined as the availability of *family support* or *peer support* who are aware and supportive of the participants’ trans identity. Participants were asked about support from extended and immediate family (e.g., partner or children) and social time and contact with the peer community. The four questions on contextual supports were adapted from Bockting and colleagues (2013). Questions were measured on a 7-point Likert scale (1= Not at All Supportive to 7= Equals Extremely Supportive. Additionally,

there was an option if the participant had not disclosed their trans identity to family and if the participant did not have an immediate family member or partner or friends. Family and peer support was then recoded separately. A participant was coded as having no family support (0) if they reported their family was not supportive, they had not come out to family, or they had no family or a partner. A participant was coded as having no peer support (0) if they reported their peers were not supportive of their trans identity, they were not out to their peers, or they had no peers.

Discrimination. *Racism* was defined as stressful experiences or harassment related to race or ethnicity based on existing power structures and ranking, and categorization based on ideologies of white supremacy (Bond et al., 2008) and was measured using the Racism and Life Experiences Scale (RaLES) (Harrell, 1997). Internal reliability of this measure within the HYM+TRUTH sample was excellent with a Cronbach alpha of 0.91. *Gender Discrimination* was defined as actions taken to avoid discrimination. A five-item scale included actions such as changed jobs or delayed gender transition which was developed for the HYM+TRUTH study. Internal reliability was excellent with a Cronbach Alpha of 0.90.

Depression. Depression was assessed using the 18-item subscale of the Brief Symptom Inventory (BSI) developed by Meijer and colleagues (2011). The scale has been previously validated in a national study of stigma, resilience, and mental health among trans people in the United States (Bockting et al., 2013).

Substance use. *Problematic drinking* was defined as alcohol misuse or alcohol use that has harmful effects. The ten-item Alcohol Disorder Use Test (AUDIT) measured alcohol use and associated problems (Saunders et al., 1993). A score of 8 or more indicated problematic or hazardous drinking (Saunders et al., 1993). The AUDIT has been validated for diverse

populations (Gilbert et al., 2018). Evidence has demonstrated that the AUDIT validly measured hazardous drinking among trans populations (Dermody et al., 2023; Gilbert et al., 2018). Illicit substance use was defined as past 6-month cocaine, heroin, hallucinogens, poppers, inhalants, ketamine, methamphetamine, and prescription drugs used without a prescription. Questions about illicit substance use were from the 2014 National Survey on Drug Use and Health (Hedden et al., 2014).

Sociodemographics. *Age* was measured through a continuous variable calculated from birthdays, and the mean age of the sample was 21 years (Calvetti et al., 2022). *Race/Ethnicity* asked young adults to select from an eight-item categorial measure where more than one option can be chosen: (1) AI/NI; (2) Asian; (3) Black or African American; (4) Native Hawaiian or other Pacific Islander; (5) Hispanic or Latine; (6) White; (7) Bi-racial or Multi-racial; (8) Other. Race was then further collapsed into (1) Black or African American, (2) Hispanic or Latine and (3) Asian, Pacific Islander, or Native Hawaiian, Bi-racial or Multi-racial. Then race was collapsed down into Black/African American, Latine, and Asian/Pacific Islander or Bi-racial/Multiracial. *Gender* was measured by a ten-item categorial variable including ‘other’ and ‘not sure/questioning.’ Participants were asked to select all genders that apply. Finalizing the gender measurement will be part of the model building. *Sexual orientation* was measured by a 12-item measure, including ‘unsure’ and ‘questioning.’

Data Analysis

Initial analyses computed descriptive statistics and conducted univariate and bivariate analyses among study variables. Missing data patterns were examined, and multiple imputation of 30 imputed datasets and five iterations was conducted using the MICE package for R (van Buuren & Groothuis-Oudshoorn, 2011). Primary analyses examined whether participants

transitioned between high and low suicidal risk groups over time using the two-step approach for Latent Transition Analysis (LTA) developed by Methun and Asparouhov (2011), Asparouhov and Muthén (2014), and Nylund-Gibson (2007; 2023). The first step conducted cross-sectional unconditional latent class analysis (LCA) with the binary indicators of whether young adults reported suicidal ideation, plans, or attempts at baseline, 6-month, and 12-month follow-ups. The LCA assumed measurement invariance across waves by holding threshold parameters to be equal across time, and we also assumed two-class solutions at each wave indicated high- versus low-risk classes. Exploratory analyses compared models with a one-, three-, and four-classes at each wave to ensure the two-class model best fit the data. Model fit was assessed using several criteria, including the Pearson chi-square tests, sample-size adjusted Bayesian information criterion (ABIC), entropy, and inspection of class results (Kaplan & Muthén, 2004; Nylund et al., 2007; Nylund-Gibson et al., 2023, p. 202).

The second step specified the conditional latent transition model that regressed latent class membership at subsequent times on prior class memberships (i.e., $Class_2$ on $Class_1$, $Class_3$ on $Class_1$ and $Class_2$). To achieve measurement invariance across time, we fixed latent class membership to log ratios derived in Step 1 (Asparouhov & Muthén, 2011, 2014; Nylund-Gibson, 2007; 2023). This allowed the examination of covariate effects on latent class membership and transition probabilities independent of the influence of prior observations. Covariates included housing insecurity, depression, illicit substance use, gender and racial discrimination, contextual supports, and sociodemographic. Data analysis was conducted using Mplus version 8.11 (Muthén & Muthén, 1998-2017), and data were prepared using the Mplus Automation package for R (Hallquist & Wiley, 2018).

Conclusion

In sum, this study uses a sequential approach informed by Criswell, Plano, and Clarke (2006) and Lobe et al. (2006) to leverage two robust datasets to fill gaps in knowledge about housing insecurity and suicidal behaviors among trans young adults. An ordinal regression of trans young adults (18-25) using the 2015 USTS ($n=11,840$) and a latent transition analysis of trans young adults (16-25) using the HYM+TRUTH study ($n= 110$) will be analyzed to explore the relationship between housing insecurity and increased risk of suicidal behaviors. Result and implications are discussed in the following chapters.

Chapter 5: Results

The overall aim of this dissertation is to examine the associations between housing insecurity and other contextual factors among transgender young adults. Aim 1 establishes the association between housing insecurity and escalating STB using the 2015 USTS ($N=11,840$) a purposive national sample. To explore the association between housing insecurity and escalating STB, the first step of Aim 1 explores contextual factors associated with housing insecurity using a logistic regression. Results from the logistic regression are then used to inform the second step an ordinal regression testing the association between housing insecurity, other contextual risk factors, and STB. Aim 2 defines patterns of STB risk among trans young adults of color living in Los Angeles using the HYM+TRUTH study ($n=110$). To explore patterns of STB risk among trans young adults of color, a latent transition analysis that explores STB risk transition over time will be built. Results from the analysis of both datasets demonstrate an association between housing insecurity and a higher risk of escalated suicidal behaviors [See next Chapter for further discussion of triangulated results].

Aim 1: Establish Cross-Sectional Associations between Housing Insecurity and Suicide Thoughts and Behaviors among Trans Young Adults

Sample Characteristics

Table 1 describes the sociodemographic characteristics of trans and gender non-conforming young adults aged 18 to 25 years in the USTS ($n=11,840$) by housing status. Overall, the average age of the sample was 20.60 ($SD=2.06$). Most of the sample (80.3%) identified as White/Middle Eastern or North African (MENA), followed by 6.5% Latine, 6.1% Bi-Racial or Multiracial, 3.7% Asian or Pacific Islander, 2.5% Black/African American, and 0.9% American Indian or Alaskan Native. The majority of the sample were part of the LGB+

community or sexual minorities (76.3%), followed by asexual (17.2%), and heterosexual (6.5%). Half of the participants identified as non-binary or genderqueer (50.7%), 31.6% identified as transmen, and 17.7% identified as trans women. A quarter of the sample 24.4% of reported binge alcohol use and 5.5% reported heavy alcohol use. Around 40% reported marijuana use and illicit substance use was less common (10.9%). A minority of the sample never completed high school or received their GED (5.7%). Suicidal thoughts and behaviors (STB) in the past year were common among trans young adults. Over a quarter ($n=3287$, 27.8%) reported suicidal ideation only and an additional 2627 (22.2%) reported suicidal plans. One in ten ($n=1224$, 10.3%) reported a suicide attempt in the past year.

A total of 1,641 (11.6%) of trans young adults experienced housing insecurity in the past year. Nearly half of those ($n=791$, 49.1%) experienced a combination of homelessness and couch-surfing. Over one-third ($n=567$, 35.2%) reported only couch-surfing, while relatively few ($n=242$, 1.5%) reported only experiencing homelessness. Differences and characteristics among homeless and couch-surfing young adults can be found in Appendix B. Table 1 also indicates bivariate differences between housing secure and housing insecure young adults that were investigated further using multivariate statistics for testing Hypothesis 1, as discussed next.

Table 1**Sociodemographic and Risk and Protective Factors by Housing Status**

Variable	Total (N=11,840)	Housing-Secure (n=10,228) Frequency/Mean (%/SD)	Housing-Insecure (n=1,612)
Age*	20.60 (2.06)	20.57 (2.07)	20.90 (1.97)
Race/Ethnicity*			
<i>AN/AI</i>	105 (0.9%)	18 (1.1%)	87 (0.9%)
<i>Asian/PI</i>	436 (3.7%)	56 (3.4%)	56 (3.4%)
<i>Bi/Multiracial</i>	579 (5.7%)	145 (9.0%)	145 (9.0%)
<i>Black/African American*</i>	436 (3.7%)	380 (3.7%)	56 (3.4%)
<i>Latina/o</i>	764 (6.5%)	658 (6.4%)	106 (6.5%)
<i>White/MENA (ref)</i>	9513 (80.3%)	8262 (76.8%)	1239 (76.9%)
Gender			
<i>Trans man*</i>	3741 (31.6%)	570 (35.0%)	3171 (31.1%)
<i>Trans woman*</i>	2093 (17.7%)	381 (23.4%)	1712 (16.8%)
<i>Non-binary gender queer*</i>	6006 (50.7%)	678 (41.6%)	5328 (52.2%)
Sexual orientation			
<i>Asexual</i>	1955 (16.5%)	3171 (31.1%)	570 (35.0%)
<i>LGB+*</i>	9122 (77.0%)	1712 (16.8%)	381 (23.4%)
<i>Heterosexual</i>	763 (6.4%)	663 (6.5%)	100 (6.1%)
Outness*	2.45(0.59)	2.43 (0.584)	2.62 (0.604)
Gender non-conforming	4816 (40.7%)	3940 (38.6%)	876 (53.8%)
No high school diploma or GED*	670 (5.7%)	557 (5.4%)	113 (7.0%)
Psychological distress*	13.0 (5.49)	12.7 (5.47)	14.8 (5.30)
Community connections*	2.02(1.12)	1.98(1.11)	2.27(1.17)
Past 12-month illicit substance use*	1290 (10.9%)	982 (9.6%)	308 (19.1%)
Part 12-month marijuana use*	4852 (41.0%)	3929 (38.4%)	921 (57.1%)
Binge Alcohol Use *	2887 (24.4%)	2356 (23.1%)	531 (32.6%)
Heavy Episodic Drinking	508 (5.0%)	140 (8.6%)	648 (5.5%)
Kicked out of home*	742 (6.3%)	458 (4.5%)	284 (17.4%)
No family support*	5941 (58.2%)	1126 (69.1%)	7067 (59.7%)
Suicidal thoughts and behaviors			
<i>No Suicidal Behaviors</i>	4723 (39.9%)	4311 (42.2%)	412 (25.3%)
<i>Suicidal Ideation</i>	3283 (27.7%)	2891 (28.3%)	392 (24.1%)
<i>Suicide Plans*</i>	2619 (22.1%)	2158 (21.1%)	461 (28.3%)
<i>Suicide Attempts*</i>	1215 (10.3%)	851 (8.3%)	364 (22.3%)
Multiple minority stressors*	5571 (47.1%)	4379 (42.9%)	1192 (73.2%)

Note. Asterix (*) indicates significant difference between housing secure and insecure trans young adults at the $p \geq 0.05$ with housing insecure trans young adults experiencing higher rates.

Hypothesis 1

H1: Trans young adults experiencing housing insecurity would report greater sociodemographic risks and fewer protective factors compared to securely housed trans young adults.

Table 2 summarizes results from a logistic regression model that included sociodemographic characteristics in predicting housing insecurity in the past 12 months. The model met statistical assumptions and demonstrated adequate fit; Variance Inflation Factor (VIF) values fell below 2, ruling out multicollinearity, while the Receiver Operating Characteristic (ROC) curve showed acceptable alignment between the predicted and observed outcomes with an Area Under the Curve (AUC) of 0.72.

Generally, results supported the hypothesis that trans young adults would exhibit greater risk and fewer protective factors. Housing-insecure young adults were somewhat older, more likely to be biracial or multiracial (versus White), and less likely to have earned a high school degree or equivalent. Young adults who identified as transgender instead of non-binary or gender-queer, were visually non-conforming, and who were out to friends and family exhibited higher rates of housing insecurity. Moreover, young adults who did not have available family support or had been kicked out of their homes had approximately two to three times the odds of being housing insecure. Trans young adults who reported past-year illicit drug use, marijuana use, binge drinking, and greater psychological distress were also more likely to experience past-year housing insecurity. Sensitivity analysis indicated that results did not significantly differ between the weighted and unweighted models. See Appendix C for the weighted logistic regression results. Given differences in the propensity for experiencing homelessness, subsequent hypothesis testing focused on subgroup analyses.

Table 2**Logistic Regression of Trans Young adults Characteristics Predicting Past-Year Housing****Insecurity**

Variable	OR	Standard Errors	95% CI
Age	1.07	1.01	1.04-1.10
Race/Ethnicity			
<i>AN/AI</i>	1.23	1.30	0.71-2.03
<i>Asian/PI</i>	0.93	1.171	0.67-1.25
<i>Bi/Multiracial</i>	1.61	1.11	1.31-1.97
<i>Black/African American</i>	1.26	1.18	0.90-1.73
<i>Latine</i>	1.05	1.12	0.84-1.31
<i>White/MENA (ref)</i>	—		—
Gender			
<i>Trans man</i>	1.22	1.07	1.07-1.40
<i>Trans woman</i>	1.39	1.08	1.19-1.62
<i>Non-binary gender queer (ref)</i>	—		—
Sexual orientation			
<i>Asexual</i>	0.90	1.13	0.68-1.20
<i>LGB+</i>	1.09	1.16	0.86-1.39
<i>Heterosexual (ref)</i>	—	—	—
Outness	1.47	1.06	1.33-1.64
No high school diploma or GED	1.30	1.12	1.03-1.63
Psychological distress	1.07	1.01	1.06-1.08
Past 30-day illicit substance use	1.31	1.14	1.01-1.34
Part 30-day marijuana use	1.76	1.06	1.56-1.99
Binge Drinking	1.16	1.07	1.01-1.34
Heavy Alcohol Use	1.03	1.13	0.81-1.29
Kicked out of home	3.08	1.09	2.59-3.66
No family support	1.89	1.07	1.67-2.15
Visually gender non-conforming	1.43	1.06	1.27-1.60

Hypothesis 2

Housing insecurity in the past 12 months would relate to a greater likelihood of escalating suicidal behaviors.

Descriptive statistics reported in Table 3 show that trans young adults who experienced housing insecurity reported higher rates of STB ($\chi^2(1) = 419.58, p \leq 0.001$). Three-quarters of housing insecure trans young adults reported past-year suicidal ideation compared with less than half of securely housed trans young adults, and almost one-quarter of housing-insecure trans young adults had attempted suicide in the past year compared to less than one-tenth of securely housed trans young adults.

To build the ordinal regressions for hypothesis testing, initial analyses assessed fit of adjacent versus sequential models using the overall sample of young adults. Adjacent models exhibited better fit, as indicated by a lower LOOIC value of 26806.90 ($SE=139.90$) versus 27011.70 ($SE=142.20$). Figure 1 plots the posterior draws of predicted (lighter lines) and observed (dark line) probabilities of suicide escalations by housing status; the four oscillations represent the thresholds for escalating from no ideation to suicidal ideation, escalating to suicide plans, and escalating to suicide attempts. Visual inspection of the posterior draws using the total sample illustrated convergence of the predicted and observed thresholds that decreased in probability with each suicide risk level; thus, subsequent modeling compared the probability thresholds of reporting no ideation to ideation, ideation to plans, and plans to attempt.

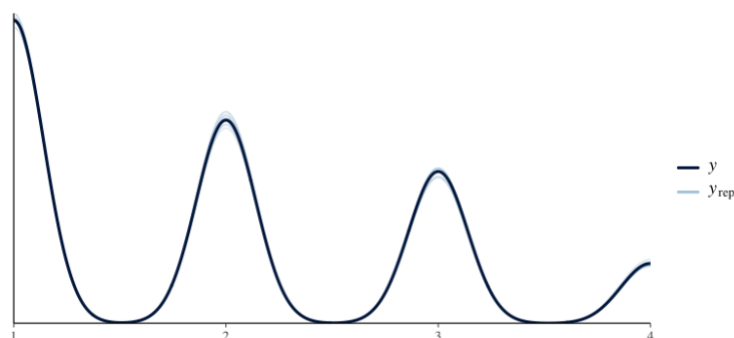
Table 3.**Sequential Ordinal Regression**

	OR	SE	95% Credible Interval
Housing Insecurity	1.35	1.03	1.27-1.43
Age	0.93	1.01	0.92-0.94
Gender			
<i>Transman</i>	1.09	1.03	1.04-1.15
<i>Transwoman</i>	1.21	1.03	1.14-1.28
<i>NBGQ (ref)</i>			
Sexual orientation			
<i>Asexual</i>	1.12	1.06	0.96-1.22
<i>LGB+</i>	1.09	1.06	1.02-1.27
<i>Heterosexual (ref)</i>			
No high school	1.04	1.05	0.95-1.15
Depression	1.12	1.00	1.11-1.12
Past 30-day illicit substance	1.13	1.07	1.00-1.26
Part 30-day marijuana use	1.04	1.03	0.98-1.09
Binge Drinking	1.05	1.06	0.85-1.07
Heavy Alcohol Use	1.01	1.03	0.91-1.12
Visually gender non-	0.99	1.03	0.94-1.03
Outness	1.11	1.02	1.06-1.16
Kicked out	1.26	1.06	1.15-1.36
No family support	1.12	1.03	1.06-1.17
Race			
<i>AN/AI</i>	1.07	1.13	0.81-1.32
<i>Asian/PI</i>	0.91	1.07	0.84-1.04
<i>Bi/Multiracial</i>	1.06	1.05	0.96-1.17
<i>Black/African American</i>	1.02	1.08	0.90-1.19
<i>Latine</i>	1.02	1.05	0.94-1.14
Multiple identity discrimination	1.23	1.03	1.17-1.28
Community connections	0.99	1.01	0.97-1.02

Results from the total sample showed that housing-insecure young adults reported a 35 percent increase in the odds of suicide risk (OR=1.35, SE=1.30, CI=1.27-1.43) in the context of other covariates, as reported in Table 3. The inclusion of housing insecurity as a category-specific effect did not significantly improve model fit, as indicated by similar LOOIC values. Yet, models were run separately for housing-secure and -insecure young adults for hypothesis testing.

Figure 1

Posterior draws from an adjacent ordinal regression of suicidal thoughts and behaviors (STB) predicted by housing and contextual factors with the total sample of trans young adults (n=11,840). The Y-axis represents the probability (0 to 1) of endorsing riskier STB from ideation (far left) to attempts (far right). The darker line represents observed thresholds, while the lighter lines indicate predicted probabilities.

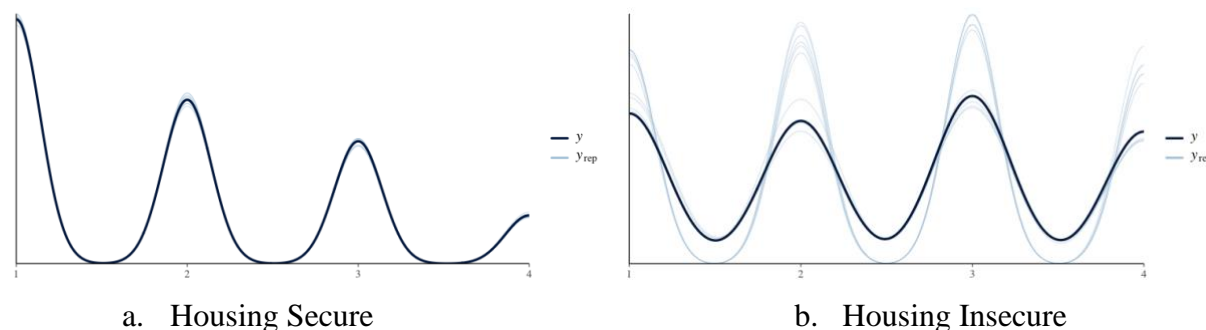


Subgroup analyses confirmed that the adjacent ordinal regression models provided the best fit for housing-secure and housing-insecure trans young adults, akin to the total sample. Figure 2 shows that posterior predictions for housing-secure young adults corresponded with the total sample, whereas greater variation existed for housing-insecure young adults. The observed probabilities for housing-insecure young adults did not exhibit similar declines in severity as those for housing-secure young adults, and greater variation existed in the predicted transitions.

Specifically, the observed and predicted threshold probabilities for securely housed young adults fell closely along increasingly lower probabilities of STB, fitting the theoretical progression of suicide risk. Predictions for housing-insecure young adults deviated from the observed values and did not progressively decline across thresholds. Together, the findings suggested that trans young adults who experienced housing insecurity were more likely to escalate STB after accounting for support and risk factors.

Figure 2.

Posterior draws from an adjacent ordinal regression of suicidal thoughts and behaviors (STB) predicted contextual factors for (left) housing-secure (n=10,228) and (right) housing-insecure (n=1,612) trans young adults. The Y-axis represents the probability (0 to 1) of endorsing riskier STB from ideation (far left) to attempts (far right). The darker line represents observed thresholds, while the lighter lines indicate predicted probabilities.



Hypothesis 3

H3: Multiple discrimination would amplify the relationship between housing insecurity and suicidal behaviors, while community connections would buffer the relationship between housing insecurity and suicidal behaviors.

Subgroup adjacent ordinal regression results are presented in Table 4. Model results illustrated the adverse relationship between escalating suicide outcomes and multiple identity

discrimination, coming out to multiple social groups, lack of family support, and being kicked out of the house. The odds of escalating STB were significantly lower among older trans young adults and higher among young adults identifying as transgender instead of non-binary or genderqueer. Psychological distress was associated with escalating suicide outcomes.

Table 4**Subgroup Sequential Ordinal Regressions by Housing Status**

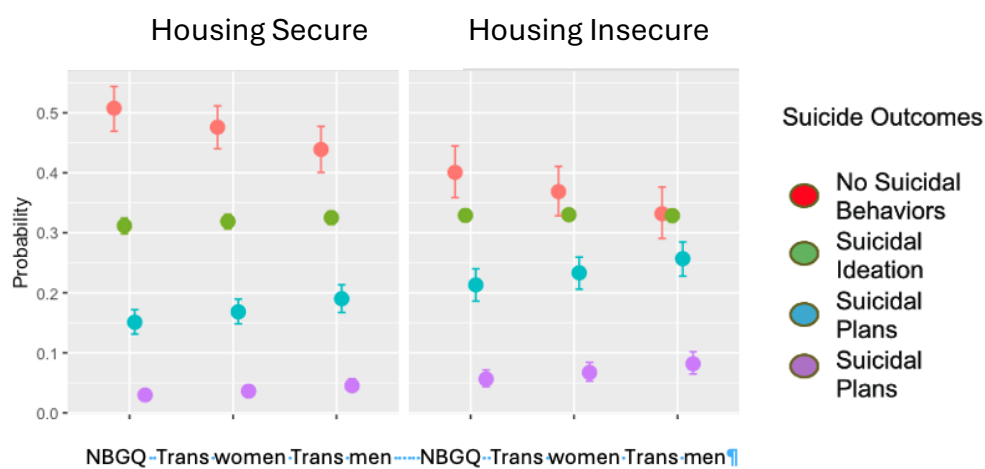
	Housing Secure			Housing Insecure			z test
	OR	SE	95% Credible Interval	OR	SE	95% Credible Interval	z-score
Age	0.93	1.01	0.92-0.94	0.93	1.01	0.90-0.96	0.00
Gender							
<i>Transman</i>	1.06	1.03	1.00-1.12	1.31	1.07	1.15-1.49	2.76
<i>Transwoman</i>	1.20	1.03	1.12-1.28	1.34	1.07	1.16-1.55	1.44
<i>NBQ (ref)</i>							
Sexual orientation							
<i>Asexual</i>	1.08	1.06	0.96-1.22	1.25	1.12	0.96-1.63	0.92
<i>LGB+</i>	1.14	1.06	1.02-1.27	1.16	1.15	0.93-1.45	0.16
<i>Heterosexual (ref)</i>							
No high school	1.06	1.05	0.97-1.17	0.98	1.11	0.80-1.21	-0.72
Depression	1.12	1.00	1.12-1.13	1.11	1.01	1.08-1.12	-1.00
Past 12-month illicit substance	1.09	1.07	0.96-1.26	1.16	1.13	0.92-1.48	0.43
Part 12-month marijuana use	1.04	1.03	0.98-1.09	1.06	1.06	0.95-1.20	0.30
Binge Drinking	0.96	1.06	0.85-1.07	1.13	1.12	0.92-1.38	1.28
Heavy Alcohol Use	1.06	1.03	1.00-1.13	1.03	1.07	0.91-1.17	-0.39
Visually gender non-Outness	0.98	1.03	0.93-1.03	1.05	1.06	0.94-1.17	1.04
Kicked out	1.11	1.02	1.06-1.16	0.99	1.05	0.90-1.09	-2.04
No family support	1.25	1.06	1.12-1.39	1.27	1.07	1.11-1.46	0.22
Race	1.12	1.03	1.06-1.17	1.14	1.06	1.01-1.28	0.30
<i>AN/AI</i>	1.03	1.13	0.81-1.31	1.25	1.30	0.76-2.05	0.66
<i>Asian/PI</i>	0.91	1.07	0.80-1.04	1.07	1.16	0.79-1.45	0.97
<i>Bi/Multiracial</i>	1.06	1.05	0.96-1.17	1.03	1.09	0.86-1.23	-0.29

<i>Black/African American</i>	1.02	1.08	0.87-1.19	1.15	1.17	0.84-1.57	0.67
<i>Latine</i>	1.04	1.05	0.95-1.15	0.93	1.11	0.76-1.15	-0.98
Multiple identity discrimination	1.23	1.03	1.17-1.30	1.19	1.06	1.05-1.34	-0.60
Community connections	0.99	1.01	0.97-1.02	1.00	1.02	0.96-1.05	0.45

Table 4 also partially supports the hypothesized risk and protective factors for housing insecurity. Specifically, multiple identity discrimination significantly elevated suicide risk for housing-secure and housing-insecure young adults, while community connections were unrelated to suicide behaviors for both groups. Significant moderating effects with housing status were found for gender and outness. As illustrated in Figure 3, gender significantly related to escalated suicidal behavior among housing-secure and insecure trans young adults as compared to genderqueer and non-binary young adults; however, only housing-insecure trans men had significantly higher odds than housing-secure trans men.

Figure 3

A conditional effect plot for housing status predicting suicide outcomes by gender.



Note. Significant differences exist in escalating suicide outcomes for housing-secure and insecure trans men as compared to housing-insecure and secure trans women and non-binary people.

In contrast, outness, or the number of social groups a trans young adult was out to, only significantly increased the odds of escalated suicidal behaviors among housing secure young adults, as shown in Figure 4. All trans young adults, whether securely or insecurely housed, were more vulnerable to increased suicidal behaviors when they did not have family support or were kicked out of their homes.

Figure 4

A conditional effect plot for housing status predicting suicide outcomes by outness. Note that significant differences exist in escalating suicide outcomes by outness.



Note. Outness is a composite score of the proportion of social groups who are aware of a participant's trans identity to over the number of existing social groups in a participant's life. A score of 1 indicates out few available social groups and a score of 4 equals out to most available social groups.

Summary

Results from the analysis of the 2015 USTS indicate that housing insecure trans young adults were at increased risk of STB as illustrated by lower thresholds to transition to higher risk STB. In this sample, housing insecurity amplified risk among trans men as compared to housing secure trans men. Transgender young adults as compared to their non-binary or genderqueer

peers were more likely Illicit substance, binge drinking, and marijuana use were associated with housing insecurity but not associated with risks for escalated suicidal behaviors. Analyses also highlight future exploration of contextual support variables including family rejection and coming out to different social groups for both housing insecurity and STB. Results also highlight the adverse effect of trans young adults with histories of being thrown out of the house and multiple identity discrimination. In the next section, results from Aim 2 further explore how housing insecurity, gender, family support, and discrimination, as well as psychiatric covariates, contribute to a higher risk of STB among trans young adults of color living in Los Angeles.

Aim 2: Define Developmental Patterns of Risk Among Trans Young Adults of Color

Sample Characteristics

Table 5 presents the unimputed frequency descriptive statistics. The average of trans young adults of color living in Los Angeles in the HYM+TRUTH study is 21.39 ($SD=2.08$). The majority of the sample identified as non-binary or gender-queer, followed by trans men, who were a little over a quarter of the sample, and trans women, who were seven percent of the sample. A little under half of the participants (42.7%) identified as Asian/Pacific Islander, Indigenous, or Bi/Multiracial, 38.2% identified as Latine, and 18.2% identified as Black/African American. As a sample, participants reported high levels of contextual support. Three-quarters reported a family environment supportive of their trans identity. Approximately a quarter of participants reported past-year illicit drug use and a third reported hazardous alcohol use. The mean depression score on the Brief Symptom Inventory (BSI) depression scale (range =32.12-74.81) was 49.76 ($SD=11.47$).

Table 5**Descriptive Statistics Used in Latent Transition Analysis (N= 110)**

	Baseline (N=110)
Prior Housing Insecurity	48 (43.6%)
Age	21.39(SD=2.08)
Gender Identity	
Non-binary/Gender-queer	74 (67.3%)
Trans woman ¹	7 (6.4%)
Trans man	29 (26.4%)
Race/Ethnicity	
Black/African American	20 (18.2%)
Other or Bi-racial/Multiracial	48 (43.6%)
Latine	42 (38.2%)
Contextual Supports	
Has Peer Support	108 (98.2%)
Has Family Support	84 (76.4%)
Psychiatric Covariates	
Illicit Substance Use	30 (27.3%)
Depression (34.65-74.81), <i>mean</i> (<i>SD</i>)	50.01 (6.06)
Hazardous Drinking	44 (40.0%)
Racism (0.7-4.7)	2.5 (0.92)
Gender Discrimination (0-10)	4.06 (3.36)

Note. Unimputed descriptive statistics. Peer support was not included in the final model due to lack of variability.

Over time, the frequency of suicidal behaviors in the sample of trans young adults of color decreased, as seen in Table 6. Suicidal ideation over the course of the study decreased from 45.5% at baseline to 30.9% at the end of the study. Frequency of plans to die by suicide reduced by 50% between baseline and 12-month follow-up, and attempts reduced by approximately one-third. At baseline, 43.6% percent reported ever experiencing housing insecurity in their lifetime. Over the 12 months of the study, five new cases of housing insecurity, making a total of 51.0% or half of the sample who had ever experienced housing insecurity.

Table 6**Suicidal Thoughts and Behaviors Across Waves**

	Baseline	6-Months	12-Months
No Suicidal Thoughts and Behaviors	44 (40.0%)	51 (46.4%)	69 (62.7%)
Suicidal Ideation	51 (46.4%)	43 (39.1%)	27 (24.5%)
Suicide Plans	36 (32.7%)	31 (28.2%)	14 (12.7%)
Suicide Attempts	17 (15.5%)	17 (15.5%)	5 (4.5%)

Note. Unimputed descriptive statistics

Hypothesis 4

H4: Trans young adults of color would fluctuate between higher and lower risks for suicidal thoughts and behaviors across a one-year follow-up.

Initial analysis used the binary indicators of whether young adults reported ideation, plans, and attempts to construct two-class solutions at each wave independent of prior class memberships. The model provided adequate fit to the data with an *ABIC* of 847.29 and a non-significant Pearson Chi-Square ($\chi^2=274.50$), and an overall model entropy of 0.85, indicating relatively strong classification. Exploratory analyses that tested models with 1, 3, and 4 classes had higher *ABIC* values and poorer fit. Class indicators held equal across waves were significant, including ideation ($b = -2.612$, $SE = 0.59$, $p < .001$), plans ($b = -1.378$, $SE = 0.585$, $p = 0.02$), and attempts ($b = 0.61$, $SE = 0.29$, $p = 0.037$). The two-group solution comprised a high-risk group and a low-risk group at each time point. For instance, at baseline, there was a 93.2% probability of trans young adults in the high-risk group reporting suicidal ideation, a 79.9% chance of reporting suicide plans, and a 6.08% chance of reporting suicide attempts. In comparison, trans young

adults in the low-risk group had a 19.0% chance of reporting suicidal ideation, a 1.50% chance of reporting suicide plans, and less than 1% chance of reporting suicide attempts at baseline.

The chances that trans young adults remained in the high-risk group lessened over time. At baseline, 45.0% of young adults were in the high STB group, 40.3% six months later, and 16.9% at 12 months. The estimated latent transition probabilities showed greater stability for young adults in the low-risk group, as shown in Table 7. From baseline to six months, it was more likely that trans young adults remained in the high-risk group and at six to 12 months than in the low-risk group. At 12 months, the probability of remaining in the high-risk groups reduced by almost half. Participants in the low-risk group had a 90% probability of remaining in the low-risk group over the course of the study.

Table 7

Transition probabilities are based on unconditional latent status at baseline, 6-months, and 12-months

		Latent Status Probabilities	
Baseline	Low Risk	0.92	0.08
	High Risk	0.21	0.79
		Latent Status Probabilities	
6-Month Follow-up	Low Risk	0.94	0.06
	High Risk	0.67	0.33

Note. The main diagonal denotes stability over time, while the off diagonal denotes a transition in status.

Hypothesis 5

H5: Among trans young adults of color, housing insecurity and other risk and protective factors at baseline would contribute to the probability of escalating and deescalating suicidal thoughts and behaviors over time.

A conditional LTA that included covariates on the likelihood of class membership and transition probabilities was fit for hypothesis testing. Model fit improved over the unconditional model ($ABIC=345.12$) by increasing the number of freely estimated parameters to fix class membership; however, overall classification quality lowered ($entropy = 0.77$). Notably, classification performed relatively worse at baseline ($entropy = 0.74$) and six months ($entropy = 0.74$), whereas it remained relatively high at 12 months ($entropy = 0.82$). The inclusion of covariates seemed to introduce uncertainty in predicting early class membership and transition probabilities, yet the model detected the substantial de-escalation of risk at 12 months, as observed in the conditional model. For instance, high-risk young adults at six months were over seven times more likely to be in the low-risk group at 12 months ($OR=7.17$, $CI=3.43-15.37$) and 86.1% ($OR=0.14$, $CI=0.065, 0.299$) less likely to be in the high-risk group, when holding covariates at sample means. Confidence intervals crossed one for the earlier adjusted transition probabilities.

Table 8 presents results from the conditional LTA that included covariates on the likelihood of class membership. The low-risk group serves as the reference group for the regressions. Participants who reported prior housing insecurity were almost eight times more likely to be in the high-risk STB class at baseline after accounting for contextual factors. Young adults who reported clinically meaningful depression exhibited a 9.3% more likely to be high-risk at baseline, while older young adults were less likely to be in the high-risk group.

Table 8

Odds Ratios and 95% Confidence Intervals of Predictors of High-Risk Suicidal Thoughts and Behaviors Latent Class Membership at Baseline, 6-, and 12-months

	Baseline	6-Month	12-Month
Logistic Regression Odds Ratio (95% CI)			
Age	0.580 (0.39-0.86)	0.75(0.57-0.99)	0.89(0.65-1.22)
Gender			
Transgender	0.20 (0.03-1.26)	0.17 (0.03-0.93)	4.12 (0.86-19.65)
Prior Housing Insecurity	7.92 (1.35-46.61)	3.08(0.72-13.15)	1.45 (0.29-7.35)
Has Family Support	0.67(0.17-2.64)	0.79(0.22-2.90)	0.69(0.17-2.92)
Psychiatric Covariates			
Illicit Substance	1.44 (0.47-4.45)	1.53 (0.5-4.70)	1.33 (0.10-16.94)
Depression scale	1.25(1.12-1.40)	1.16 (1.06-1.27)	1.15(0.97-1.36)
Hazardous Drinking	2.43(0.46-12.78)	0.44 (0.09-2.17)	3.33(0.94-11.85)
Racism	1.82(0.81-4.12)	1.72 (0.78-3.81)	0.89(0.65-1.22)
Gender Discrimination	1.06(0.80-1.40)	1.05(0.88-1.25)	1.10(0.93-1.29)

Table 9 presents covariate effects on latent transition probabilities. Notably, depression and age also served as risk and protective factors, respectfully, on transition probabilities from baseline to six months, making it more likely for young adults to escalate and de-escalate risk. Identifying as trans also reduced transition risks between baseline and six months, such that trans men and women in the high-risk class were six times more likely than non-binary young adults to de-escalate to high-risk and 83.5% less likely to escalate. The influences on transition probabilities also explained the significant prediction of STB class membership at six months by depression, age, and trans identity.

Table 9.**Odds and 95% confidence intervals of covariate effects on latent transition probabilities.**

	Baseline to Six Months		Six to 12 Months	
	Escalation	De-escalation	Escalation	De-escalation
	OR (95% CI)			
Prior Housing Insecurity	3.08 (0.72-13.15)	0.33 (0.08-1.39)	1.45 (0.29-7.4)	0.69(0.14-3.48)
Age	0.75 (0.57-0.99)	1.33 (1.01-1.76)	0.89(0.645-1.22)	1.13(0.82-1.55)
Transgender	0.17(0.03- 0.93)	6.05(1.08-33.93)	4.12(0.86-19.65)	0.24(0.05-1.16)
Has Family Support	0.79 (0.22-2.90)	1.26(0.35-4.61)	0.69(0.17-2.92)	1.44(0.34-6.08)
6-Month Illicit Substance	1.17(0.34-4.07)	0.85(0.25-2.97)	1.21(0.28-5.28)	0.83(0.19-3.59)
Depression scale	1.06(1.01-1.12)	0.94(0.90-0.99)	1.05 (0.99-1.10)	0.96(0.91-1.01)
Hazardous Drinking	0.44(0.09-2.17)	2.25(0.46-11.01)	3.33(0.94-11.85)	0.30(0.08- 1.07)
Racism	1.72(0.78-3.81)	0.58(0.26-1.29)	0.89(0.40-1.99)	1.12(0.50-2.50)
Gender Discrimination	1.05(0.88-1.25)	0.95 (0.80-1.14)	1.01(0.93-1.30)	0.91(0.77-1.07)

Note. De-escalation represents the odds of moving to the lower STB group from the high-risk, while escalation is the likelihood of transitioning to the high-risk group from the low-risk group.

Conclusion

Results from both studies contribute to a better understanding of the prevalence of housing insecurity (past-year, lifetime, and any homelessness versus couch surfing). Further, results pointed to potential sub-groups and risk factors that need further in-depth exploration into their role in influencing housing insecurity among young trans adults. These sub-groups and risk factors include gender, substance use, racism and other forms of discrimination, and family disruption. Also, based on results on any homelessness from the HYM+TRUTH study of Black, Latine, and other trans young adults of color, there is a need to explore how early experiences of housing insecurity (whether within a family or unaccompanied) contribute to housing outcomes in young adults. Discussion and implications of combined findings are discussed in the next chapter.

Chapter 6: Discussion, Conclusions, & Future Considerations

Trans young adults, particularly trans young adults of color, are highly underrepresented in the homelessness and suicidality research literature, let alone within the suicide prevention and housing insecurity literature. These two rare but urgent public health issues are disproportionately experienced by trans people. Through an exploratory study using two datasets, this study aims to address critical gaps in the research vital to developing housing and suicide prevention interventions for trans young adults. A matrix of the process of comparing results from the two analyses informed by Creswell and Plano Clark (2006) and Lobe et al. (2006) was developed to generate recommendations for future practice, policy, and results [See Appendix 5 for sample of notation method]. Overall, the results from each study indicated that housing-insecure trans young adults were more likely to be at high risk for suicidal behaviors than their counterparts. Gender, hazardous alcohol use, and illicit substance use were significant risk factors associated with housing insecurity warranting further research exploration. Further research into family disruption and experiences of combined gender discrimination and racism, regardless of housing status, is also needed. The following sections of this chapter further discuss the study's implications, limitations, and recommendations.

Results from the 2015 USTS study highlighted the relationship between gender-related variables, family support, substance use, and housing insecurity. The odds of housing insecurity increased both with the number of social groups participants had come out to and their visual non-conformity. Previous studies have found how the time periods around coming out can be precarious for both housing insecurity and suicidal behaviors (Goldblum et al., 2012; McNeil et al., 2017; Nuttbrock et al., 2010). Housing loss during transition or coming out can be due to family kicking young people out of the house, significant housing insecurity, housing

discrimination, or increased conflict or violence with a romantic partner (Cutuli et al., 2020; Flatley et al., 2022; J. Shelton et al., 2018). Our findings also support a previous study by Begun and Kattari (2016), which found that visually non-conforming trans people were more likely to experience discrimination when seeking housing services, contributing to less housing stability.

Significant differences in past-year housing insecurity between racial and ethnic groups were found in the 2015 USTS study. The results indicated that biracial or multiracial trans young adults were more likely to experience past-year housing insecurity. It is also important to note that the lifetime rates of housing insecurity among the Black, Latine, biracial/multiracial and other trans young adults in the HYM+TRUTH sample are striking. Forty-eight percent of the participants in the HYM+TRUTH study had experienced lifetime housing insecurity. This is compared to 20% of the 2015 USTS national purposive sample who had experienced lifetime housing insecurity. These differences could be due to several reasons, including but not limited to national versus local to Los Angeles housing trajectories or racial and ethnic disparities in family and childhood homelessness. Combined consideration of the results from these two analyses point to the need to approach trans young adults' housing insecurity trajectories through a developmental lens examining both family and unaccompanied young adults' homelessness and regional variations in housing experiences.

Major Findings

Results from this dissertation add to growing evidence of the significant relationship between housing insecurity and suicidal behaviors (Blosnich et al., 2017; McCann & Brown, 2021; Rhoades et al., 2018). Housing-insecure trans young adults who participated in the 2015 USTS were 1.55 times more likely to experience escalating suicide outcomes than their counterparts.

significant association between housing insecurity and suicidal behaviors among trans young adults. Housing insecurity also amplified STB risk among trans men in the USTS. However, in the HYM+TRUTH analysis non-binary and genderqueer young adults were at high risk. Thus, there is a need to further explore the intersection of gender and race/ethnicity in relationship to housing insecurity and suicidal behaviors among trans young adults.

Both studies contribute to the knowledge that housing insecurity acts as a risk factor contributing to escalated suicidal behaviors among trans young adults. However, questions about temporality remain. As discussed in Chapters 1 and 2, poor mental health can be understood as a cause and effect of housing insecurity (Balshem et al., 2011; Bender et al., 2014, 2015). In the HYM+TRUTH results, prior housing insecurity was significantly associated with being in the high-risk group for STB at baseline. But the effect of housing insecurity did not endure. Depression was significantly associated with a higher risk of STB at baseline and at 6 months. Further, as trans young adults age, their SBT risk is reduced. STB risk reducing as adolescents age is in line with existing literature on reduced suicidal behaviors in trans young adults as compared to adolescents (Nuttbrock et al., 2010). Results from the USTS also align with Nuttbrock and colleagues (2010) identifying the coming out process as a time of increased risk for suicidal behaviors. Housing-insecure trans young adults were more likely to have come out to more social groups. Notably, coming out to more social groups was only associated with STB among housing-secure young adults. While results from the USTS cannot imply temporality, there is a need to further examine the process of coming out and outness as a possible source of both stability and instability among housing-insecure young adults and how the process of coming out relates to housing insecurity among housing secure trans young adults. As described by Fish and Russel (2022), as sexuality and gender minority rights are becoming more visible a

paradox surrounding coming out is emerging where coming out can both support young person's (adolescent and young adult) well-being and identity development and introduce them to increased interpersonal discrimination, including removal from their homes. However, in this dissertation trans youth with a history of housing insecurity improved over time and outness was not associated with STB among housing insecure young adults. Future research examining resilience strategies among housing insecure trans young adults may want to explore how experiences such as trans joy and embracing their marginalized identity (Shuster and Westbrook, 2024) contributes to stabilization after a potentially shorter period of crisis.

Results from the 2015 USTS contribute to the significant body of knowledge on the harmful effects of multiple identity discrimination on trans young adults of color. Based on the results of the ordinal regression of the 2015 USTS, those who experienced discrimination due to multiple identities had 1.34 the odds of escalated suicidal behaviors compared to trans young adults who experienced discrimination based on one identity or less. The significant relationship between multiple identity discrimination did not significantly differ between secure housing and insecure trans young adults. As will be discussed further in the limitations section, it is essential to note that this study did not use a validated measure of multi-minority stressors (Nicholson et al., 2022; Rivas-Koehl et al., 2023).

In the 2015 USTS, nearly 100% of the sample experienced gender discrimination. In the HYM+TRUTH study, all participants reported at least one experience of racism, limiting the ability to conclude due to the saturation of the variable. While it would be possible to examine the number of events, it would not capture the nuanced intersectional experience of how these events could have impacted mental health and well-being during specific times in the life course (Rivas-Koehl et al., 2023, S.A. Shelton & Lester, 2022). Findings add to the need to develop

better and more comprehensive measures of intersectional minority stressors, given that nearly all the sample had experienced multiple forms of discrimination.

Within the 2015 USTS, family disruption was a crucial contextual support related to both housing insecurity and escalated suicidal behaviors. According to results from the 2015 USTS, trans young adults who had been kicked out of the house were about three times more likely to have reported past year housing insecurity than their counterparts. Also, they had twice the odds of housing insecurity if they reported no family support. Thus, these findings add to the research literature on the role of family rejection on STB (Adams & Vincent, 2019; Klein & Golub, 2016; Wolford-Clevenger et al., 2018) and housing insecurity (McCann & Brown, 2021). Notably, evidence suggests no moderating effect of housing insecurity on the association between being kicked out and suicide risk; the family disruption equally impacted trans young adults. This finding indicates that a need exists to address the adverse effects of family rejection even after housing security is reached.

Family support was not significantly associated with STB in the HYM+TRUTH study. Notably, trans young adults in the HYM+TRUTH study had high rates of prior homelessness and family support (almost 100% had at least one supportive family member by wave 3). Inconsistencies in family support between 2015 USTS results and HYM+TRUTH results reflect conflicting evidence in the broader literature around housing insecurity and STB among trans young adults (Anderson et al., 2023; Austin et al., 2022). Previous studies on social networks among homeless young adults have had inconsistent findings on the quality and quantity of housing and mental health support received by insecurely housed homeless young adults, particularly from peers and service providers (Barman-Adhikari et al., 2016; Fulginiti et al., 2020; Wenzel et al., 2012). Some studies find that peers provided more support than family

(Barman-Adhikari et al., 2016; Curry et al., 2017; de la Haye et al., 2012); others suggest providers to be primary supports, especially among homeless young adults with a history of victimization (de la Haye et al., 2012). Among young adults seeking suicide crisis services, LGBTQIA+ homeless young adults have fewer connections with familial and social supports than their securely housed peers (Semborski et al., 2022). This may be due to stigmatizing family environments (Morton et al., 2018b) or housing insecurity due to parental rejection of trans identity (J. Shelton, 2016; Castellanos, 2016; Rhoades et al., 2018).

Both depression and hazardous drinking were included in both studies as covariates. There is ample evidence of the relationship between depression and suicidal behaviors (Nock et al., 2009), while our findings contribute a more nuanced understanding of the role of it plays for trans young adults. The USTS shows that depression increases the risk for experiencing housing insecurity, and depression contributes to suicide risk. Yet, housing insecurity does not significantly amplify the risk from depression. This suggests universal interventions targeting mood among trans young adults could also prevent homelessness. Findings from HYM+TRUTH emphasize the importance of addressing depression, given the influences on transition probabilities that prolong high suicide risk group membership. This study fills a significant gap in knowledge on the significant relationship between depression and STB among trans young adults of color (Adams & Vincent, 2019; Anderson et al., 2023; McNeil et al., 2017).

Substance use played a more direct role for understanding suicidal thoughts and behaviors across studies. In the USTS, illicit substance use, binge drinking and heavy alcohol use, and marijuana use increased risk for housing insecurity. Whereas only heavy alcohol use among housing-secure young adults relates with STB. Findings from HYM+TRUTH suggest illicit substance use and heavy drinking are unrelated with membership in high-risk STB among

trans young adults of color. Hazardous drinking has been more studied in the experiences of homeless and housing insecure cisgender people (McMorris et al., 2002; Tyler & Schmitz, 2013; Wenzel et al., 2009). Studies among homeless young adults relate hazardous drinking to coping with adverse experiences such as familial issues that contribute to homelessness (Tyler, 2008; Tyler & Schmitz, 2013). Previous research on hazardous alcohol use among trans people also highlighted the relationship between hazardous drinking and gender discrimination (Kcomt et al., 2020; Reisner, Pardo, et al., 2015). According to an ethnographic study conducted by Glick and colleagues (2020), among housing insecure trans people substance use was described as a coping method for dealing with family rejection and financial strain. Thus, a potential area for future research includes examining substance use and coping among housing insecure trans young adults. Furthermore, more research is needed to examine the role of substance use in developmental pathways among trans young adults, including types of use and chronicity to assess the need for substance use prevention and intervention among trans young adults.

Findings from this study not only contribute to the literature on risk and protective factors among trans young adults and trans young adults of color, but also to the theoretical development for understanding STB. This study took a unique approach to examining suicidal behaviors. Specifically, based on the methodological work by Jacobucci and colleagues (2020), this study considers the escalation of suicidal outcomes as a latent variable that underlies the risk of transitioning to higher-risk suicidal behaviors, such as moving from ideation to attempt. One reason for this approach is criticism of testing suicidal ideation and attempts as two mutually exclusive groups, or of conceptualizations such as suicidality that limit knowledge of the risk of transition from ideation to attempts (Anderson et al., 2023; Bryan et al., 2020; Jacobucci et al., 2021). There is also emerging research and theoretical development, such as the fluidity

vulnerability of suicide theory (Bryan et al., 2020) that suggests multiple pathways to attempts beyond the linear progression from ideation to plans to attempt.

Housing insecurity can be considered an economic or catastrophic risk factor that is understudied in relationship to suicide prevention and may or may not fit the 3-step model of suicide (Bryan et al., 2020; May & Klonsky, 2016). The study findings give insight into whether newer theoretical developments, such as the fluid vulnerability theory of suicide, better reflect patterns of suicidal behaviors. In addition to the identification of significant risk factors for escalated suicidal behaviors, model fit findings demonstrated variability among housing-insecure trans young adults, indicating that the 3-step model of suicide may not adequately reflect suicidal behaviors among trans young adults. The HYM+TRUTH analysis indicated there were two classes among trans young adults of color: high- and low-risk, and over time, among housing-secure and insecure, there was significantly less transition to the high-risk group across all waves. Additionally, only among the participants who had experienced housing insecurity between baseline and follow-up had a significantly lower likelihood of transitioning to the low-risk group between baseline and 6-month follow-up. Consideration of the findings combined from both studies indicates the need to collect data that asks all participants questions about suicidal behaviors without skip patterns to tease apart transition pathways to higher-risk suicidal behaviors and their relationship to housing insecurity.

Study Strengths and Limitations

This dissertation fills a vitally important need in both suicide prevention and housing services research for trans young adults. It is hoped that this study will contribute to important insights into the scope of, and relationships between, housing insecurity and suicidal ideation, plans, and attempts among trans young adults. By using two separate datasets, this research

contributes to a fuller picture of the need for homelessness and suicide prevention practice, policy, and research interventions, especially for trans young adults and young adults of color who are underrepresented in the literature. These two datasets explicitly fill gaps in data and research that address the health and well-being of trans people (Blosnich et al., 2017; Carter et al., 2019; McCann & Brown, 2021; Rhoades et al., 2018, 2024). Both datasets are unique in asking questions about housing and suicidal behavior among trans young adults. Additionally, the TRUTH dataset captures extensive data on trans young adults of color, unlike other datasets such as the USTS, which oversamples white trans people (James et al., 2016) or clusters trans people within sexual minorities (Haas et al., 2011; McNeil et al., 2017). Thus, the results from the TRUTH analysis provide a more nuanced interpretation of the experience of trans young adults of color than the USTS, which had low engagement from trans young adults of color.

Limitations specific to the USTS include the fact that, as a cross-sectional study, it limits exploration of causality, further the longitudinal design of HYM+TRUTH alone also cannot imply causality. Also, additional psychiatric measures would have been useful to test the influence of other conditions, such as PTSD, as well as more robust measures of depression, hazardous drinking, and substance use. These factors are strongly associated with STB (Nock et al., 2009). Evidence supporting the use of an ordinal regression for suicide research is still emerging (Jacobucci et al., 2021; Nestor et al., 2022). Therefore, this study adds to the evidence of how ordinal regression in suicide research can be used to examine the association between covariates on the transition to different STB.

Limitations specific to the HYM+TRUTH portion of the study include the small sample size, because for an LTA the sample needs to be large enough to explore the full range of potential latent classes (Nylund-Gibson et al., 2023). However, according to Nylund-Gibson and

colleagues (2023), it is also important to note that “no consensus exists regarding a one-size-fits-all sample strategy” (p. 88). Further, as van de Schoot and Miočević (2014) argue, trying different approaches to fit an LCA or LTA with a small sample size is important because if all options were exhausted, it would mean rare phenomena would go unexamined. Concerns about small sample sizes are suggested to contribute to the underrepresentation of trans young adults of color in the literature (Rusow et al., 2022). It is therefore important to conduct studies such as this dissertation, even with the limited sample. While challenges related to sample size were expected prior to analysis, the analyses did not have to make any significant adjustments. One reason for this is that both housing insecurity and suicidal behaviors were not unusual for this sample but instead three times that of the cisgender sexual majority population. As suggested by Miočević and colleagues (2017), there should be a replicating study with a larger dataset or with an analysis of future waves of the HYM+TRUTH data collection to strengthen the findings presented in this study.

STB among participants in the HYM+TRUTH study significantly declines. Testing of covariates in the LTA model did not give insight into the substantial reduction in STB in wave 3. It is possible that study participation and referral community support as part of retention efforts could have influenced the reduction in STB seen in the 12-month follow-up. As part of the HYM+TRUTH study, participants were given HIV prevention counseling at the end of each study visit. However, counseling did not include advice about risky substance use or mental health advice. As part of retention efforts, participants were encouraged to develop a text relationship with study assistants, including a community resource guide if local services were requested. While the interventions were not planned interventions, they share characteristics with micro-interventions or short information-giving interventions (Baumel et al., 2020). While it

does impact the interpretation of the HYM+TRUTH results, given the reduction in mental health symptoms over time, it would be interesting to examine whether depression rates declined to the same extent of STB in this sample and the possible effect of mental health micro-intervention through contact with HIV prevention counselors and study assistants.

Interpretation from analysis of both datasets uses triangulation to determine how results differ, how they complement each other, and what knowledge gaps they fill. Although both datasets may have similar aims, there are still some significant differences in addressing the large gaps in research on trans people. For example, USTS is a nationally based survey, whereas TRUTH is based in Los Angeles. It is known that both homelessness and suicide prevention are substantively different in rural and urban areas (Forchuk, 2011; Mohatt et al., 2021). There are different homeless young adults protection and trans prevention policies which vary by state and local communities (Waguespack & Ryan, 2020). California, where data were collected, is rated by the LGBTQIA+ young adults organization as having one of the strongest policies in place protecting homeless young adults (Waguespack & Ryan, 2020). Despite these limitations, research in these areas is still emerging, and analysis of the two datasets fill important gaps. Given the limitations of the available data and the urgency of rapidly changing policy environments impacting transgender health, an important part of the dissertation's synthesis of findings is to develop the best models (ACLU, 2023).

A substantial limitation to this study is the lack of available validated measures for trans young adults, the limitation A notable limitation of several measures in both the USTS and TRUTH datasets is that they are unvalidated for trans young adults or trans young adults of color. Several measures within the USTS were created specifically for the USTS (James et al., 2016). The dearth of validated measures within the wider trans mental health literature is well

recognized (Abramovich & Cleverley, 2018; dickey & Budge, 2020), particularly outside of trans veterans (Blosnich et al., 2014, 2017, 2018; Carter et al., 2019; Downing et al., 2018; Montgomery et al., 2017). A strength of this dissertation is that both datasets used community boards to give input and adapt measures, providing an opportunity to develop translational research on an issue that needs rapid solutions. As this study is exploratory in nature, the triangulation of results between the two also contribute to identifying measures for future development most vital to both housing and suicide research among trans young adults.

Another strength of this study is that it contributes to knowledge about alcohol misuse measures among trans people. One of the reasons this is this important to both housing and suicide research among trans people is that it is suggested to be related with both (Glick et al., 2020; McNeil et al., 2017). However, existing gendered definitions such as the SAMSHA's definitions of heavy drinking and binge drinking are based on number of drinks to reach a blood alcohol level of 0.08 between men (≥ 5) or women (≥ 4), often interchangeably using sex and gender (Dermody et al., 2023; Gilbert et al., 2018). According to Gilbert and colleagues (2018), these definitions do not consider the complexities of physical sex and gender as well the influence of gender transition on blood alcohol level. Surprisingly few studies have used validated measures to examine alcohol misuse among trans people and trans people of color (Dermody et al., 2023; Gilbert et al., 2018). The 2015 used the lower threshold of the SAMSHA definition and the ungendered alcohol use disorders identification test (AUDIT). Neither study found a relationship between alcohol misuse and STB in contrast to previous studies (Coulter et al., 2015; McNeil et al., 2017). However, results should be interpreted with caution given the lack of validation of alcohol misuse measures among trans people.

There were also limitations to outcome STB measures. The skip pattern used for measures asking suicidal behaviors for both the 2015 USTS and the HYM+TRUTH study reflects the idea-to-action framework, which posits that a person progresses through phases of increasingly severe suicide behaviors (no behaviors -> suicidal ideation -> suicide plans -> suicide attempts). New evidence suggests that there is a sub-group of suicide patterns where a person may report never experiencing ideation or plans but report attempts (Bryan et al., 2020). There is some evidence that the experience of attempts without ideation is related to risky alcohol use (Bryan et al., 2020) which was associated with increased odds of housing insecurity in this dissertation. Results from the HYM+TRUTH study showed that as trans young adults got older their suicide risk decreased. Impulsivity and risk-taking also decrease as adolescents transition to young adulthood, reducing STB (Hooven, Snedker, & Thompson, 2012). Analyses are limited in their ability to examine these risk patterns, and thus lower-risk groups may include participants who experience attempts without ideation. However, findings contribute to the investigation of alternate pathways of suicidal behaviors. Furthermore, the ideation-to-action framework, based on the interpersonal theory of suicide, is still, despite new theoretical developments, the prevailing theory of suicidal behaviors and the one used by the CDC's Youth Risk Behavior Surveillance System (Mpofu, 2023).

Results regarding multiple identity discrimination should be interpreted with caution, given that the 2015 USTS is a non-representative sample and there are more formal validated measures of multiple minority stress and gender minority stress. Despite these limitations, given the sample size, breadth, and width of the 2015 USTS results, they still represent one of the most robust investigations into the intersection between housing insecurity and STB using currently developed and available data.

Recommendations For Practice, Policy, and Research

Practice

In terms of recommendations for practice, addressing co-occurring trans young adults' homelessness and suicide requires an integrated response from multiple service providers and systems such as housing providers, mental health providers, emergency health services, and child welfare (Abramovich, 2017; Maccio & Ferguson, 2016; McCann & Brown, 2021; Ream & Peters, 2021). There is evidence that homeless trajectories among trans young adults often include non-affirming interactions with services for marginalized young adults (J. Shelton & Bond, 2018). Given findings on the impact of multiple identity discrimination, it is vital that gender discrimination and racism within these settings are addressed. Finally, this study adds to the evidence that interventions addressing the lasting mental health effects of being thrown out of the house by trans young adults are needed (DeChants et al., 2022; Marquez-Velarde et al., 2023; Ream & Peters, 2021).

There is evidence of successful housing interventions which reduce the prevalence of homelessness as is exemplified by the decline in homelessness among veterans (AHAR, 2019-2023), and cities including Miami, Milwaukee, and Houston have reduced housing insecurity through implementation a wide range of comprehensive community services ranging from emergency shelters, prevention screening, and supportive housing (NHLC, 2024). The experience of trans young adults within these housing services among trans youth is less known. Findings from this study point to the importance of addressing interventions to reduce gender and race-based discrimination and bullying interventions are needed within housing services and shelters and in other settings with specific attention to reducing the negative of multiple minority stressors (Abramovich, 2017; Saewyc et al., 2017). Further, implications include expanding the

capacity of housing service providers to deliver evidence-based gatekeeper suicide prevention programs such as ASSIST (Gould et al., 2013) and connections to both community resources and longer-term mental healthcare – all important existing evidence-based interventions encompassing community-based suicide prevention programs (SPRC, 2020).

Practice implications also include the integration of housing screening and services into service settings that provide gender-affirmative care. Definitions of gender affirmative care are inconsistent as to whether they include services to address the socioeconomic and emotional needs of trans people beyond the provision of medical services. For example, the US Department of Health and Human Services defines gender-affirming care as medical and non-medical services. However, the intervention listed is social affirmation (i.e., access to affirming clothes, hairstyles, restroom) and medical (i.e., hormone therapy and gender-affirming services (OASH, 2022)). This dissertation adds evidence that gender-affirming services should provide access to structural needs, such as housing. An example of the integration of housing services into primary care medical services is that the VA has successfully implemented a homelessness risk tool and referred to housing case managers within primary healthcare services (Montgomery et al., 2013). A similar intervention may be useful for trans community health service providers and gender affirmation providers.

Policy

In terms of policy recommendations, amendments to the Fair Housing Act that provided protections based on gender identity were only passed in 2020 due to a Supreme Court ruling (U.S. Department of Housing and Urban Development (HUD), 2024). At the time of writing, there has been a recent and unprecedented rise in anti-trans policies around the country.

Preliminary results from the 2022 USTS indicate that thousands of trans people have left states

with anti-trans policies on the dockets (James et al., 2022). The states that have passed the most robust trans protection policies also have some of the highest housing costs in the entire country (Federal Finance Housing Agency, 2024).

While the housing and mental health impact of the anti-trans laws and internal migration is still occurring, there is still the potential to implement interventions to mitigate risks. In addition to challenging state-level anti-trans policies, local policies within multiple domains of housing, child welfare, education, and juvenile justice can potentially reduce homelessness risks for trans young adults (Waguespack & Ryan, 2020). State-level policies, such as Missouri Rev. Stat. §431.056, which allows unaccompanied homeless youth at 16 to contract housing and access services without parental consent if they have been removed from the home, reformed financial support, or experienced abuse, is an example of a policy increasing access to a wide range of services.

Juvenile justice diversion may become an increasingly relevant issue in relationship to trans young adult homelessness considering the most recent Supreme Court ruling in *City of Grants Pass, Oregon v. Johnson* which determined sleeping outside or in encampments can be punished by arrest or fines (NHLC, 2024). Due to historically segregated shelters based on sex-at-birth, trans young adults may be disproportionately affected by the criminalization of housing insecurity. There are more effective interventions for unsheltered homelessness than criminalization. At state and local levels, it is important to advocate for housing solutions that do not criminalize housing insecurity and ensure that laws punishing sleeping in public spaces are not enacted (NHLC, 2014). Solutions include community capacity build leveraging grants such as the Runaway and Homeless Youth Act, support communities to provide services addressing and preventing young adult homelessness including street outreach, transitional

living, a national resource support call line, and Basic Center Programs including emergency shelter, crisis services, individual and family counseling, and follow-up services (NN4Y, 2022). It is important that policies such as the Runaway and Homeless Youth Act, which provided over \$500 million between 2018-2022 in funding, are renewed and expanded upon (NN4Y, 2022). Moreover, future areas of expansion include funding to strengthen suicide prevention within these existing services and build capacity for housing providers to be gender affirmative and address bullying within housing services.

Research

As discussed in the previous sections, while it is disappointing that housing-insecure trans young adults likely had multiple service interactions that could have prevented housing insecurity (Shelton & Bond, 2018), it is also hopeful because there are multiple potential future intervention points (Samuels et al., 2018). Providing a response to suicide risks among trans homeless young adults requires the response of a complex system that addresses multiple layers, including housing trajectories, networks of crisis service providers (housing and mental health), individual stressors and supports for housing stability, and finally, national and local contexts (Fowler et al., 2019). A complex systems response to homelessness can be conceptualized as a multilevel model where at the center vicarious and vicious circles of individual stressors and supports contributing to housing instability. Community participatory service mapping uses the lived experience of housing insecure trans young adults, advocates, and service providers to identify leverage points and future interventions to prioritize within these complex systems (Hovmand, 2014).

Much remains unknown about the leveraging of resilience strategies and outreach to community supports. For homeless young adults experiencing STB, outreach to both formal and

informal support is vital to stabilization after crises (Chang et al., 2021; Fabbre & Gaveras, 2020; Fulginiti et al., 2020; Gaveras et al., 2023). There is less knowledge of ongoing supports provided after seeking crisis services, including access to ongoing mental health services. What is known is that many trans people have had adverse experiences when seeking mental health services (Kattari & Hasche, 2016). Young adults housing service providers report referring sexual and gender minority homeless young adults to mental health services once and then never again (Maccio & Ferguson, 2016). Quantitative evidence supporting this service pattern among gender-minority young adult homeless young adults has found that, while young adults may reach out to service providers, there may not be continued support, or, after a negative experience, young adults do not return to the provider (Barman-Adhikari et al., 2016).

Further research is needed to tease apart developmental pathways between housing insecurity, STB, and other mental health covariates. Findings from this study contribute to the emerging evidence of the relationship between housing insecurity and STB, not only among trans young adults, but also in terms of the intersection of these two events. Results raise questions about potential pathways between housing insecurity and covariates, such as hazardous drinking and depression. Additionally, more insight is needed into illicit substance use among homeless trans young adults as compared to their cisgender peers. Finally, these analyses were limited in the psychiatric measurements that could be analyzed. There is a need to include housing insecurity measures in existing national representative surveys such as the NSDUH.

Conclusion

This dissertation will contribute to the urgently needed evidence of STB among housing-insecure trans young adults, as well as their resilience strategies. Given the over 300 bills to limit gender-affirming care currently under consideration across the United States (Human Rights

Campaign, 2023), this robust investigation contributes to the growing literature in multiple areas, both in the mental health of trans young adults and trans young adults of color, as well as in the relationship between housing insecurity and STB. This dissertation establishes the association between housing insecurity and STB and delineates the scope of the problem of housing insecurity among trans young adults. On a more hopeful note, it is important to state that there are evidence-based suicide prevention and housing interventions available that can be adapted for trans people, and there are multiple points of opportunities for intervention and community capacity building to address STB among housing insecure trans young adults.

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Appendix A. USTS Survey Measures

Variable Name	Nominal Definition	Source	Description
Past 12mo. suicidal behaviors	Ordinal: (0) No suicidal behaviors (1) Suicidal ideation; (2) Suicide Plans; (3) Suicide Attempts	NCS-R ¹	Ordinal variable of escalating suicidal behavior. Combines item measuring suicidal behaviors from the NCS-R. Based on the conceptualization of Jacobucci et al. (2021) and used in a large survey by Nestor et al. (2022).
Past 12 mo. housing insecurity	Dichotomous variable yes/no	NCTE	Housing insecurity is defined as experiencing either homelessness or couch surfing in the past year.
Multiple minority stressors	Dichotomous variable yes/no	NCTE	Multiple minority stressors is defined as discrimination (verbal harassment, physical harassment, or unequal treatment) due to more than one marginalized identity experienced in the past year. Concept of multiple minority stressors validated for use by Glick et al. (2018) and Katchen et al. (2022).
Family support ⁵	Dichotomous variable yes/no	NCTE	Participant is out to at least one member of their immediate family (mother, father, brother, sister) and the family member is supportive of their trans identity. Measure has been used in Lerner and Lee (2022).
Ever been kicked out of the home	Dichotomous variable yes/no	NCTE	Has been forced to leave their home by a parent or family member due to their trans identity.
Trans community connections	Continuous scale Range = 0-5	NCTE	The number of sources participants uses to develop relationships in the trans community.
Outness	Continuous Scale	NCTE	The number of social groups participant reported are aware of their trans identity. Included social groups are immediate family, extended family, friends in the LGBTQIA+ community, friends not in the LGBTQIA+ community and others.
Visually gender non-conforming	Dichotomous variable yes/no	NCTE	Recoded from a 4-item Likert scale response to the question people can tell I am transgender
Current psychological distress	Continuous scale Range = Range = 0-24	Kessler Distress Scale	6-item scale to estimate psychological distress at the time of taking the survey. Has been used to examine the influence of

			discrimination on current distress using the USTS (Katchen et al., 2022)
Past 30-day illicit substance use	Dichotomous yes/no	NSDUH ³	Use of illegal or illicit drugs (such as cocaine, crack, heroin, LSD, meth, inhalants like poppers or whippits) or misuse of prescription medication.
Past 30-day Heavy drinking	Dichotomous yes/no	NSDUH	Participant reported having 4 or more drinks in one sitting (a couple of hours)
Problematic Alcohol Use	Dichotomous yes/no	NSDUH	Participant reported binge drinking more than 4 days in the past month.
Age	Continuous Scale Range = 18-25	ACS ⁴	Definition of emerging adults based on Arnett (2000).
Gender	Three-item categorical variable (1) Transwoman; (2) Transman; (3) Non-binary or genderqueer	NCTE	Participant choice to select the option that most closely describes your gender identity.
Race	Categorical variable: (1) Alaskan Native/Native American; (2) Asian/Native Hawaiian; (3) Pacific Islander; (4) Black/African American; (5) Latino/a/e; (6) White/Middle Eastern/North African	ACS	Participant choice to select the option which most accurately describes your racial/ethnic identity.
Sexual orientation	Categorical variable (1) Asexual; (2) Bisexual; (3) Gay/Lesbian; (4) Straight; (5) Pansexual; (6) Queer; (7) S.O not listed	NCTE	What best describes your current sexual orientation?

Appendix B. Logistic Regression by Housing Status: Couch-Surfing, Homelessness, and Housing Insecurity

Characteristic	Housing Insecurity			Couchsurfing			Any Homelessness		
	OR	95% CI	<i>p</i> value	OR	95% CI	P-value	OR	95% CI	P-value
Age	1.07	1.04, 1.10	0.00	1.01	0.97, 1.06	0.7	1.09	1.06, 1.13	0.00
Race/Ethnicity									
<i>AN/AI</i>	1.17	0.67, 1.95	0.60	1.07	0.41, 2.27	0.90	1.26	0.64, 2.27	0.50
<i>Asian/PI</i>	0.93	0.67, 1.25	0.60	1.03	0.64, 1.57	>0.9	0.89	0.59, 1.28	0.50
<i>Bi/Multiracial</i>	1.57	1.28, 1.93	0.00	0.95	0.66, 1.33	0.80	1.85	1.46, 2.33	0.00
<i>Black/African</i>									
<i>American</i>	1.28	0.92, 1.76	0.13	0.57	0.27, 1.06	0.11	1.74	1.21, 2.45	0.00
<i>Latina/o/e</i>	1.02	0.81, 1.27	0.90	0.77	0.51, 1.11	0.20	1.17	0.89, 1.51	0.20
<i>White/MENA (ref)</i>									
Gender	1.24	1.08, 1.42	0.00	1.09	0.89, 1.34	0.40	1.33	1.13, 1.57	0.00
<i>Trans man</i>	1.37	1.17, 1.60	0.00	1.02	0.80, 1.30	0.90	1.53	1.27, 1.84	0.00
<i>Trans woman</i>									
<i>Non-binary</i>									
<i>gender queer (ref)</i>									
Sexual Orientation									
<i>Asexual</i>	0.91	0.69, 1.22	0.50	1.52	0.89, 2.74	0.14	0.76	0.55, 1.05	0.09
<i>LGB+</i>	1.08	0.86, 1.38	0.50	2.17	1.36, 3.71	0.00	0.81	0.63, 1.06	0.11
<i>Heterosexual (ref)</i>									
No high school diploma or GED	1.27	1.01, 1.60	0.04	1.20	0.83, 1.68	0.30	1.26	0.95, 1.66	0.10
Depression	1.07	1.06, 1.08	0.00	1.04	1.02, 1.05	0.00	1.08	1.06, 1.09	0.00
Outness	1.47	1.32, 1.63	0.00	1.12	0.95, 1.32	0.20	1.60	1.41, 1.82	0.00
Past 12-month illicit substance use	1.47	1.25, 1.73	0.00	1.27	0.98, 1.62	0.06	1.50	1.24, 1.81	0.00

Part 12-month marijuana use	1.67	1.47, 1.90	0.00	1.52	1.25, 1.85	0.00	1.64	1.40, 1.91	0.00
Past 12-month alcohol use	1.08	0.95, 1.23	0.20	1.17	0.96, 1.42	0.13	1.04	0.89, 1.21	0.60
Family kicked out of the house	3.00	2.52, 3.56	0.00	1.93	1.46, 2.50	0.00	2.88	2.37, 3.48	0.00
Does not have family support	1.90	1.67, 2.15	0.00	1.50	1.24, 1.83	0.00	1.96	1.68, 2.28	0.00
Visually gender nonconforming	1.44	1.29, 1.62	0.00	1.44	1.20, 1.73	0.00	1.35	1.17, 1.56	0.00

**Appendix B. Weighted Logistic Regression Characteristics Associated With Past-Year
Homelessness**

Characteristic	OR	97.5% Confidence Interval		p-value
Age	1.1	1.0	1.1	0.02
Race/Ethnicity				
<i>AN/AI</i>	1.5	0.8	2.8	0.26
<i>Asian/PI</i>	0.8	0.5	1.1	0.16
<i>Bi/Multiracial</i>	1.5	1.2	2.0	0.00
<i>Black/African</i>				
<i>American</i>	1.4	0.9	2.1	0.16
<i>Latina/o/e</i>	0.9	0.7	1.2	0.49
<i>White/MENA</i>				
(<i>ref</i>)				
Gender				
<i>Trans man</i>	1.1	0.9	1.4	0.20
<i>Trans woman</i>	1.1	0.9	1.4	0.32
<i>Non-binary</i>				
<i>gender queer (ref)</i>				
Sexual orientation				
<i>Asexual</i>	0.8	0.5	1.2	0.21
<i>LGB+</i>	1.0	0.7	1.4	0.92
<i>Heterosexual</i>				
(<i>ref</i>)				
No high school diploma or GED	1.6	1.1	2.3	0.01
Depression	1.1	1.1	1.1	0.00
Outness	1.6	1.4	1.9	0.00
Past 12-month illicit substance use	1.5	1.2	1.9	0.00
Part 12-month marijuana use	1.8	1.4	2.3	0.00
Past 12-month alcohol use	0.9	0.7	1.1	0.24
Family kicked out of the house	2.8	2.1	3.6	0.00
Does not have family support	2.3	1.9	2.7	0.00
Visually gender non-conforming	1.5	1.2	1.8	0.00

Appendix C. Adjacent Ordinal Regression Thresholds for Suicidal Thoughts and Behaviors

	Total Sample	Housing Secure		Housing Insecure		z test	
	OR	95% Credible Interval	OR	95% Credible Interval	OR	95% Credible Interval	z-score
Escalating to ideation	2.25	1.72-2.94	2.34	1.75-3.13	1.43	0.71-2.92	-1.26
Escalating to plans	2.86	2.16-3.78	3.03	2.23-4.06	1.62	0.79-3.29	-1.62
Escalating to attempts	7.03	5.31-9.39	8.00	5.87-10.80	3.10	1.52-6.23	-2.41

Variable Name	Wave	Nominal and Operational Definition	Developer	Sample Question
Suicide				
Past 12 mo. suicidal ideation	1-2	Dichotomous yes/no	HYM+TRUTH ¹	In the last 12 months, have you seriously considered attempting suicide?
Past 6 mo. ideation	3	Dichotomous yes/no	HYM+TRUTH	In the last 6 months, have you seriously considered attempting suicide?
Past 12 mo. plans of suicide	1-2	Dichotomous yes/no	HYM+TRUTH	In the last 12 months, did you make a plan about how you would attempt suicide?
Past 6mo. plans of suicide	3	Dichotomous yes/no	HYM+TRUTH	In the last 6 months, did you make a plan about how you would attempt suicide?
Past 12 mo. suicide attempt	1-2	Categorical (0=none, 1 = 1 or more times)	HYM+TRUTH	In the last 12 months, how many times have you actually attempted suicide?
Past 6mo. suicide attempt	3	Categorical (0, 1 time, 2-3times, 4-5 times, 6 or more times)	HYM+TRUTH	In the last 6 months, how many times have you actually attempted suicide?
Housing				
Lifetime homelessness	1	Dichotomous yes/no	HYM+TRUTH	Has there ever been a time when you didn't have a place to sleep?
Past 6-month homelessness	1-2	Dichotomous yes/no	HYM+TRUTH	Since your last TRUTH survey, has there been a time when you didn't have a place to sleep?
Community Connection Variables				
Contextual Supports	1-3	Four questions about family and peer support asked on a 1-7 Likert scale	Adapted from Bockting et al. ²	The following questions are about your peer group and others living near you. What portion of your social time is spent with transgender, gender nonconforming or non-binary people? ;?
Mental Health				

Depression	1-3	18-item continuous measure	Meijer et al. ²	Below is a list of problems people sometimes have. Read each one carefully and circle the number of the response that best describes how much that problem has distressed or bothered you the past 6 months: Feelings of worthlessness
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Sociodemographic Factors				
Age	1-3	2-item categorical variable (under 18 and over 18)	HYM+TRUTH	Actual age based on date of birth
Race	1-3	3-item categorical variable	HYM+TRUTH	What is your ethnicity? Check all that apply
Gender	1-3	9-item categorical variable	HYM+TRUTH	Which of the following terms is the best fit for your gender right now?
Sexuality	1-3	11-item categorical variable	HYM+TRUTH	What would you say is your sexual identity or orientation?

Note.

¹ Calvetti, S., Rusow, J. A., Lewis, J., Martinez, A., Slay, L., Bray, B. C., Goldbach, J. T., & Kipke, M. D. (2022). A trans youth of color study to measure health and wellness: Protocol for a longitudinal observation study. *JMIR Research Protocols*, *11*(11), e39207. <https://doi.org/10.2196/39207>

² Bockting, W.O., Miner, M.H., Swinburne Romine, R.E., Hamilton, A., Coleman, E. (2013). Stigma, mental health, and resilience in an online sample of the U.S. transgender population. *American Journal of Public Health*, *109*(5):943-951. [doi: [10.2105/AJPH.2013.301241](https://doi.org/10.2105/AJPH.2013.301241)]

³ Meijer, R. R., de Vries, R. M., & van Bruggen, V. (2011). An evaluation of the Brief Symptom Inventory-18 using item response theory: Which items are most strongly related to psychological distress? *Psychological Assessment*, *23*(1), 193–202. <https://doi.org/10.1097/a0021292>

Appendix E: 2015 USTS and HYM+TRUTH Analysis Matrix Sample

	2015 USTS	HYM+TRUTH	Similarities	Differences	Gaps
What results tell us about escalation patterns of suicidal behaviors?	<p>There is a lot more variability among homeless trans young adults.</p> <p>Covariates: outness, kicked out, family support, depression</p>	<p>Covariates: age, housing insecurity, depression</p>	<p>Clear escalation patterns</p> <p>Risk reduces with age</p> <p>Escalation is a useful concept in terms of thinking about how a single covariate might</p> <ul style="list-style-type: none"> - We are also asking questions about why some people who have ideation go on to attempts and some don't 	<p>Family support</p>	<p>We need to look at how housing might cause the escalation</p> <p>Instant versus lasting?</p> <p>I would test the fluidity model of suicidal behavior to better understand escalation patterns</p> <p>Test variables about fear about coming out and positive trans identity among trans young adults of color.</p> <p>Family support is inconsistent in much of the literature</p>
What do results tell us about the relationship about the association between housing	<p>Some covariates amplify suicidal behaviors</p>	<p>Housing insecurity associated with</p>	<p>Both significant – even though were tested</p>	<p>HYM+TRUTH – was a measure of prior homelessness</p>	<p>Differentiation between family and young adults unaccompanied homelessness</p>

<p>insecurity and suicidal behaviors?</p>	<p>Is associated with escalation and a lower threshold.</p>	<p>baseline high risk STB.</p>			<p>Testing of the interaction between gender and race/ethnicity among housing insecure trans young adults?</p> <p>Are there gender specific pathways to housing insecurity among trans young adults? How does this influence suicide outcomes?</p> <p>Where does the coming out process and positive identity development fit within the relationship between housing and suicidal behaviors?</p>
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