

THE RELATIONSHIP BETWEEN LGBTQ IDENTITY, SERVICE UTILIZATION, AND
MENTAL HEALTH AND SUBSTANCE USE IMPAIRMENT OVER TIME AMONG
HOMELESS YOUTH

By

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ABSTRACT

THE RELATIONSHIP BETWEEN LGBTQ IDENTITY, SERVICE UTILIZATION, AND MENTAL HEALTH AND SUBSTANCE USE IMPAIRMENT OVER TIME AMONG HOMELESS YOUTH

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Homeless youth who identity as lesbian, gay, bisexual, transgender, or queer (LGBTQ) face considerable issues including victimization, mental health needs, and substance use, yet are less likely than their heterosexual, cisgender homeless peers to utilize services. Although research in this area is growing, studies are largely cross-sectional and tend to focus on the experiences and service use of homeless youth in drop-in or emergency shelters, instead of longer-term transitional living programs (TLPs). Therefore, the purpose of this study was two-fold: 1) to examine the differences in sociodemographic characteristics, victimization, mental health and substance use histories, and service utilization patterns by LGBTQ identity of homeless youth in a TLP, and 2) explore the relationships between their LGBTQ identity, service utilization, and mental health and substance use impairment over time. This study used secondary longitudinal data, which I extracted from the closed case files of runaway and homeless youth ($N = 101$) between the ages of 16 and 20 who accessed services in a mid-Michigan TLP between 2011 and 2018. I used independent sample t-tests and Chi-square to assess differences by LGBTQ identity in sociodemographic characteristics, victimization, mental health, and substance use histories. I used multilevel modeling (MLM) to examine the relationship between LGBTQ identity, service utilization and mental health and substance use impairment over time.

LGBTQ homeless youth in this sample were more likely than their heterosexual, cisgender homeless peers to identify as female, report being sexually victimized, and have greater mental health-related issues. Overall, youth underutilized available services, but LGBTQ youth had higher mental health impairment at intake and their use of services did not reflect this difference. LGBTQ identity was associated with increased mental health impairment at intake, but not substance use impairment at intake. LGBTQ identity was not associated with a change in mental health or substance use impairment over time. Number of months in the program was inversely related to mental health and substance use impairment over time, regardless of LGBTQ identity. Utilization of substance use treatment was associated with a decrease in mental health and substance use impairment over time for all youth. Finally, average number of clinical sessions per week was inversely related to substance use impairment over time for both LGBTQ and non-LGBTQ youth, but no relationship was found between average number of clinical sessions per week and mental health impairment over time.

The findings from this exploratory study confirm the vulnerability of LGBTQ homeless youth in TLPs and provide essential information regarding service utilization for homeless youth practitioners and policy makers including the need for trauma-informed and LGBTQ-specific services. Additionally, the data suggest that service providers must engage and encourage youth participation in services that are offered within TLPs. Future studies should include larger and more diverse samples of homeless LGBTQ youth in TLPs, examine youth experiences sequentially in relation to identity disclosure, and include youth perception of the usefulness of services within TLPs.

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CHAPTER ONE: OVERVIEW OF DISSERTATION TOPIC AND RESEARCH

Introduction

Although some reports indicate that youth homelessness is declining, as many as 550,000 young people under the age of 24 experience homelessness for at least one week annually; homeless youth and young adults are more likely to be unsheltered than any other homeless subgroup, with the exception of chronically homeless adults (National Alliance to End Homelessness, 2016a). Homeless youth have been categorized as “runaways,” meaning they have left home without the permission of a parent or guardian, “throwaways,” indicating that they have been kicked out of their homes, or “street youth,” which encompasses youth and young adults who are currently residing on the streets (Slesnick, 2004). Finally, youth who have shelter but are doubling up with friends or acquaintances, residing in hotels, or sleeping in public locations such as bus stations and parks, have emerged as a new category of homeless youth referred to as the “unstably or inadequately housed” (Pergamit et al., 2013).

In accordance with federal guidelines, the number of sheltered and unsheltered homeless youth are counted and reported on an annual basis, but the actual number of homeless youth is largely unknown (Housing and Urban Development, 2014; Pergamit et al., 2013). Youth and young adults who are homeless tend to remain hidden; they are less likely than adults to access formal shelter services and often do not identify themselves as homeless to their schools, two primary locations where the annual counts occur (Fernandes-Alcantara, 2018; National Alliance to End Homelessness, 2016b; Pergamit et al., 2013). Estimating the number of homeless youth who identify as lesbian, gay, bisexual, transgender, or queer (LGBTQ) is even more complicated as these youth are often “doubly marginalized” based on their homeless status and sexual

orientation or gender identity, leading to greater invisibility and reduced utilization of services (Grafsky, Letcher, Slesnick, & Serovich, 2011).

Multiple studies have investigated the pathways to homelessness for LGBTQ youth and young adults; most frequently, LGBTQ youth have reported that they were kicked out or left their home due to family conflict, abuse and neglect, or familial substance use (Gangamma, Slesnick, Toviessi, & Serovich, 2008; Heinze, Jozefowicz, Toro, & Blue, 2012; Ray, 2006). LGBTQ homeless youth experience additional adversities, including higher rates of sexual and physical victimization, depression and posttraumatic stress disorder (PTSD), and more frequent substance use when compared to their heterosexual or cisgender homeless peers (Cochran, Stewart, Ginzler, & Cauce, 2002; Gattis, 2013; Whitbeck, Chen, Hoyt, Tyler, & Johnson, 2004). Despite these experiences, LGBTQ homeless youth are less likely than their heterosexual or cisgender peers to access runaway and homeless youth (RHY) programs and services due to concerns about harassment and discrimination from peers and agency staff (Abramovich, 2013, 2016; Maccio & Ferguson, 2016; Shelton, 2015); when these youth do engage in services, little is known about what services LGBTQ youth utilize and if these services address their current needs.

Conceptual Framework

This study, guided by tenets of minority stress theory (MST) and the positive youth development practice model (PYDPM), examines the different issues LGBTQ homeless youth face when compared to heterosexual or cisgender homeless youth, as well as the relationship between LGBTQ identity, type and frequency of service utilization, and mental health and substance use impairment while residing in a transitional living program in mid-Michigan. In the following section, I will introduce MST and PYDPM and its applicability to the present study.

Minority Stress Theory. Meyer (1995) developed minority stress theory in an effort to better understand why individuals who identify as a sexual or gender minority have a much higher prevalence of mental health disorders when compared to those who identify as heterosexual or cisgender. MST posits that LGBTQ-identified individuals experience chronic levels of stress as a result of their sexual orientation or gender identity; specifically, these levels of stress are experienced at much higher rates than the general population and are placed on the individual by different outside social processes and institutional structures. Individuals who belong to a marginalized group, such as LGBTQ homeless youth, experience chronic minority stress in addition to every day stressors which may manifest as internalized homophobia, and actual or perceived stigma, discrimination, or violence (Meyer, 1995, 2003), all of which may reduce the likelihood of these youth accessing and utilizing services. For the current study, I will use MST to help guide my understanding of the differences in victimization, mental health, and substance use histories at intake into a transitional living program (TLP) between LGBTQ and non-LGBTQ homeless youth. Further, when examining the relationship between LGBTQ identity, service utilization, and mental health and substance use impairment, I will control for prior victimization to isolate the effects of LGBTQ identity.

Positive Youth Development Practice Model. The PYDPM model is an asset-based approach to social work practice that focuses on healthy adolescent development through services that emphasize developing youth competence, usefulness, belonging, and empowerment, while also promoting the importance of connection to others and the individual's community (Hamilton, Hamilton, & Pittman, 2004). Key elements of the PYDPM include providing physical and psychological safety for all youth, appropriate structure, supportive relationships, clear and attainable expectations and goals, and opportunities to belong (FYSB,

2012). The PYDPM is not only widely accepted in the homeless youth service sector but is also required to be included in the programming structure for all federally funded TLPs (FYSB, 2012). Although not previously evaluated within TLPs, the use of this model suggests the longer a youth is immersed in a program with a PYDPM approach to daily programming and offered services, the greater benefit to that youth's overall functioning (Jensen, Alter, Nicotera, Anthony, & Forrest-Bank, 2013). Drawing on PYDPM, I will examine changes in youths' mental health and substance use impairment over time via the number of months they were in the program, and the types and frequency of services they used while in the TLP.

Issues Facing Homeless Youth: Differences by LGBTQ Identity

Abuse and Victimization. Homeless youth who identify as LGBTQ report significantly higher rates of childhood and adolescent sexual abuse than their heterosexual or cisgender peers (Cochran et al., 2002; Rew, Whittaker, Taylor-Seehafer, & Smith, 2005; Tyler, 2008; Whitbeck et al., 2004). Further, risks for sexual victimization while homeless for the LGBTQ youth population are high and increase if youth experienced physical or sexual abuse within their family of origin prior to becoming homeless (Cochran et al., 2002; Gattis, 2009; Tyler & Cauce, 2002; Whitebeck & Hoyt, 1999). In some cases, sexual orientation or gender identity was the strongest single predictor for experiencing sexual victimization while homeless (Tyler & Beal, 2010; Whitbeck et al., 2004). However, other studies have found that exposure to multiple risk factors including childhood physical or sexual abuse, mental health related issues, substance abuse, or engaging in risky subsistence strategies most frequently explained the considerable increase in sexual victimization (Frederick, Ross, Bruno, & Erickson, 2011; Tyler, 2008). When comparing homeless youth who identify as LGBTQ and homeless heterosexual or cisgender youth, LGBTQ youth not only experienced higher rates of sexual victimization since becoming

homeless, but also reported a greater number of perpetrators of sexual violence (Cochran et al., 2002; Tyler, 2008; Tyler & Beal, 2010; Whitbeck et al., 2004).

In addition to sexual victimization, homeless youth who identify as LGBTQ are also more likely to experience physical abuse. For instance, LGBTQ homeless youth are more likely to have left home as a result of physical abuse when compared to heterosexual or cisgender homeless youth (Whitbeck et al., 2004). Once homeless, LGBTQ youth are also at an increased risk for subsequent exposure to physical victimization; multiple studies have found that LGBTQ homeless youth experience significantly higher levels of physical victimization including being beaten up, robbed, and threatened or assaulted with a weapon when compared to their heterosexual homeless peers (Cochran et al., 2002; Frederick et al., 2011; Tyler & Beal, 2010; Whitbeck et al., 2004). Further, research has indicated that LGBTQ youth who have experienced physical victimization, are also more likely to engage in sexual and non-sexual subsistence strategies which also increases the likelihood of further sexual victimization, as well as depression and posttraumatic stress disorder (PTSD) symptoms (Tyler & Beal, 2010; Whitbeck et al., 2004).

Mental Health Issues. High rates of mental health-related issues have been found in the overall homeless youth population; these issues have been linked to the youth's abuse history and lack of support, as well as the daily stress associated with the experience of being homeless (Johnson, Whitbeck, & Hoyt, 2005; Whitbeck, 2009). Further, LGBTQ youth who are homeless experience significantly higher rates of depression, posttraumatic stress disorder (PTSD), and anxiety symptoms when compared to homeless heterosexual or cisgender youth (Cochran et al., 2002; Gattis, 2013; Gangamma et al., 2008; Frederick et al., 2011; Noell & Ochs, 2001; Unger et al., 1998; VanLeeuwen et al., 2006; Whitbeck et al., 2004). In one study, nearly two-thirds of the

LGBTQ homeless youth reported a history of mental health related symptoms and/or diagnoses such as depression or anxiety (Durso & Gates, 2012), while another study found that homeless youth who identify as LGBTQ also report higher rates of withdrawn behavior, somatic complaints such as pain or fatigue, social isolation, and aggression, when compared to their heterosexual or cisgender homeless peers, all of which impaired the youth's ability to maintain self-sufficiency (Cochran et al., 2002).

Substance Use. Many LGBTQ youth have been exposed to substance use prior to becoming homeless, by witnessing their parents or guardians use, using with their parents or guardians, or using with peers, all of which increase the likelihood that substance use will either continue or increase during episodes of homelessness (VanLeeuwen et al., 2006; Whitbeck et al., 2004). When compared to their cisgender or heterosexual homeless peers, LGBTQ homeless youth are more likely to start using at a younger age (Moon et al., 2000), use a greater number of substances (Cochran et al., 2002; Frederick et al., 2011; Gattis, 2013), and also report greater frequency of lifetime use (Salomonsen-Sautel et al., 2008; VanLeeuwen et al., 2006). Further, LGBTQ homeless youth who use a greater number of substances and use more frequently, are at an increased risk for dependency on substances (VanLeeuwen et al., 2006). From an MST perspective, this increased use of substances is potentially a means of coping with stress the youth experiences as a result of their minority status in addition to the stress associated with being homeless, which may also decrease the likelihood that they will seek services to treat their substance use issues (Hatzenbuehler, 2009; Meyer, 2003). However, due to the limited amount of available runaway and homeless youth research in transitional living settings, little is known about the substance use patterns with LGBTQ youth who take this first step in accessing TLPs and services.

Transitional Living Programs and Services

The federal RHY program is administered by the Family and Youth Services Bureau (FYSB), which falls under the Health and Human Services (HHS) Administration for Children and Families (ACF) (FYSB, 2014; Perl et al., 2014). The RHY program was established in 1974 as a part of the Runaway and Homeless Youth Act (RHYA), and has been reauthorized five times, most recently in 2008 as the Reconnecting Homeless Youth Act (P.L. 110-378). This law currently authorizes federal funding for three RHY programs: basic center, transitional living, and street outreach; each program varies somewhat with regards to age of youth served, length of time youth can access services, and overarching goals, but all focus on providing immediate safety for homeless youth (Fernandez-Alcantara, 2013). Transitional living programs (TLPs), the focus of this study, were established as a component of the 1988 reauthorization of RHYA in response to a need for longer term housing and services for older homeless youth (FYSB, 2018). These programs provide housing for up to 18 months in a safe environment for youth ages 16 to 21 who have left home, run away, or been kicked out and are unable to return home. TLPs offer a range of services in a supportive environment designed to aid the youth in transitioning from homelessness to self-sufficiency including counseling, independent living skills, education assistance, employment training and placement, and connection to health care (Fernandez-Alcantara, 2018; Perl et al., 2014).

Although TLPs have been in existence for approximately 30 years, there is very little research that examines utilization and subsequent effectiveness of TLPs and services, and even less that evaluates differences between LGBTQ and heterosexual or cisgender homeless youth. The service utilization literature has focused predominantly on homeless youth's use of drop-in centers to get their immediate needs met such as food, hygiene, and basic medical care (DeRosa

et al., 1999; Kort-Butler & Tyler, 2012; Pergamit & Ernst, 2010). The literature that evaluates differences in RHY service utilization between LGBTQ homeless youth and their heterosexual or cisgender counterparts, although slim, largely focuses on sexual health related matters such as sexually transmitted infection (STI) testing with samples that are drawn from drop-in centers (Johnson DeRosa, Montgomery, Hyde, Iverson, & Kipke, 2001; Solorio, Millburn, Rotheram-Borus, Higgins, & Gelberg, 2006; Tyler, Akinyemi, & Kort-Butler, 2012; VanLeeuwen et al., 2006). There have been a handful of studies that have examined TLPs, but they focus predominantly on the characteristics of the programs themselves (Gwadz et al., 2017; Heinze, Hernandez Jozefowicz, & Toro, 2010; Prock & Kennedy, 2017) or youth perspectives on the services that they received while residing in a TLP (Curry & Petering, 2017; Heinze & Hernandez Jozefowicz-Simbeni, 2009; Holtscheneider, 2016). There is one study that has specifically examined change in education and employment from intake to discharge of 40 LGBTQ homeless youth in a TLP; the results suggest that the longer a youth remains in the TLP, the more likely they are to improve their education and employment status from intake to discharge (Nolan, 2006).

Homeless Youth Service Utilization by LGBTQ Identity

Understanding patterns of service utilization among homeless youth who identify as LGBTQ can provide insight into understanding why some youth do not utilize these services, and how we might improve programs and services so there is less unmet need. However, much of the literature on homeless youth service utilization focuses more on barriers to service use and does not delineate between LGBTQ and cisgender or heterosexual youth, nor does it examine specific service use within longer-term housing programs. In general, the literature indicates homeless youth most frequently utilize drop-in centers to get their immediate needs met such as

food, clothing, and basic support services (DeRosa et al., 1999; Kort-Butler & Tyler, 2012; Pergamit & Ernst, 2010); far fewer youth report using housing programs services, such as basic centers or TLPs (Carlson, Sugano, Millstein, & Auerswald, 2006; DeRosa et al., 1999; Pergamit & Ernst, 2010).

Despite the demonstrated need for RHY services, homeless youth who identify as LGBTQ face many barriers to utilizing these services (Abramovich, 2016; Cray, Miller, & Durso, 2013; Dunne, Prendergast, & Telford, 2002; Hunter, 2008; Shelton, 2015, 2016; Spicer, 2010, Whitbeck et al., 2004). Specifically, homeless LGBTQ youth have reported lack of available and appropriate shelters and having to travel great distances to get to service providers as tremendous barriers (Burwick, Oddo, Durso, Friend, & Gates, 2014; Cray, Miller, & Durso, 2013; Dunn et al., 2002). Further, transgender homeless youth report that at times they are required to go to multiple different agencies to get everything that they need, as opposed to being able to access services at one central location (Shelton, 2015). Any one of these barriers could prove to be insurmountable for a young person, and these youth often experience more than one barrier at any given time.

In addition to the above structural barriers, LGBTQ homeless youth also face additional barriers to service utilization such fear of prejudice, discrimination, or violence based on their sexual or gender minority identity. Overwhelmingly LGBTQ homeless youth have reported that personal safety concerns surrounding their sexual orientation or gender identity prevent them from accessing RHY services (Dunne et al., 2002; Hussey, 2015; Quintana, Rosenthal, & Krehely, 2010; Shelton, 2015, 2016). For instance, LGBTQ youth have reported that they were denied access to shelter services because they did not present as the gender they were assigned at birth or were made to wear orange jumpsuits so that they were easily identifiable as LGBTQ by

shelter staff (Ray, 2006). Some LGBTQ youth have even reported that they would rather stay on the streets than experience the violence, harassment, and bullying from peers and staff in youth shelters (Dunne et al., 2002; Hunter, 2008; Shelton, 2016; Whitbeck et al., 2004).

Despite these barriers, some LGBTQ youth do choose to utilize RHY programs and services, yet there is limited literature that examines differences in service utilization between LGBTQ homeless youth and their cisgender or heterosexual counterparts. The studies that have evaluated these differences are largely emergency shelter or street-based samples, and focus predominantly on sexual health related matters such as sexually transmitted infection (STI) testing and health-related treatment (Johnson DeRosa et al., 2001; Tyler et al., 2012; Solorio, et al., 2006; VanLeeuwen et al., 2006) or the type of program (i.e. shelter, food, counseling) that the youth accessed (Tyler et al., 2012); all of these studies were cross-sectional, which only provides a picture of that one point in time. When considering utilization of longer-term runaway and homeless youth housing programs, only one study was identified. This study examined the abuse history, length of stay, reason for discharge, and educational and vocational status at discharge for 40 LGBTQ youth exiting a LGBTQ-specific TLP (Nolan, 2006). In her study, Nolan (2006) found that 50% of the youth had been physically abused, while 32.5% of the youth reported sexual abuse. The average length of stay in the TLP was 10.5 months; 32.5 % of the youth completed the program, 25% left early, and 42.5% were expelled. Further, youth who resided in the program for longer periods of time were less likely to be expelled, and more likely to improve their education and employment status from intake to discharge from the program (Nolan, 2006). To my knowledge, there are no studies that evaluate differences in mental health or substance use outcomes over time between LGBTQ and non-LGBTQ homeless youth who have utilized TLPs and services.

Focus of the Study

There is limited research on homeless youth who identify as lesbian, gay, or bisexual; empirical studies that also include transgender or gender non-conforming homeless youth are even rarer. The research that does examine LGBTQ homeless youth is cross-sectional and predominantly focused on the prevalence of youth characteristics in samples drawn from emergency or drop-in shelters; the existing literature fails to examine the characteristics of homeless youth who access longer-term housing programs, or the role of program services in addressing mental health and substance use needs of LGBTQ homeless youth. This study adds to the literature by examining 1) differences in sociodemographic characteristics (e.g., age, race/ethnicity, gender, history of homelessness), victimization, mental health and substance use histories of LGBTQ and non-LGBTQ homeless youth who accessed services within a TLP in mid-Michigan between 2011-2018, 2) the types and frequency of services they utilized while in the TLP, by LGBTQ identity, and 3) the relationship between LGBTQ identity, service utilization patterns, and mental health and substance use impairment over time.

Significance of the Study

This study contributes to the literature on LGBTQ homeless youth programs and services by exploring sociodemographic characteristics, victimization, mental health, and substance use histories, and service utilization by identity (LGBTQ vs. non-LGBTQ) for homeless youth in a TLP in mid-Michigan. This study also examines the relationships between their LGBTQ identity, service utilization patterns, and mental health and substance use impairment over time, which has never been evaluated. Although there is a moderate amount of literature on homeless youth who utilize emergency shelters or drop-in centers, little is known about youth who access longer term housing programs. It is essential that we not only understand the needs of LGBTQ homeless

youth in these longer-term housing programs, but also are able to provide services that address these needs to improve the youth's overall well-being and trajectory from homelessness to self-sufficiency. Further, this knowledge can also be used to inform service providers, programs administrators, and funding sources to assess current and emerging programs and subsequently channel the limited federal, state, and local resources towards programs that are working to effectively address the mental health and substance needs of all homeless youth, including those who identify as LGBTQ.

CHAPTER TWO: LITERATURE REVIEW

The following review of the homeless youth literature examines differences in issues facing LGBTQ homeless youth when compared to their non-LGBTQ homeless peers, service utilization, and intervention-based research on homeless youth programs. When available, the studies presented will include the population (LGBTQ homeless youth) and program type (TLPs) of interest; in some instances, literature that includes one or both is extremely limited or does not exist therefore requiring a broader examination of the literature to include LGBTQ and non-LGBTQ samples as well as street-based, emergency shelter, and TLPs.

This review of the literature is comprised of several key content areas that were introduced in the previous chapter and are further examined here. The review begins with an overview of youth homelessness including the definition and prevalence of LGBTQ homeless youth, a review of minority stress theory and the positive youth development practice model, including research that supports the use of MST and PYDPM, and the research that examines issues facing LGBTQ homeless youth. The review will conclude with a discussion of the literature that focuses on homeless youth services including service utilization, and finally research that examines changes over time among youths accessing RHY programs. The chapter will conclude with a description of the present study and research questions.

Overview of LGBTQ Youth Homelessness

Definition of Youth Homelessness. There is not one single federal definition of what “youth homelessness” means. Instead, the United States Department of Health and Human Services (DHHS) relies on definitions based on legislation that authorizes specific programs of service (Fernandez-Alcantara, 2018). For this study, which focuses on homeless youth in TLPs, I will use the Family and Youth Services Bureau (FYSB) definition for unaccompanied youth and

young adults who are seeking community-based housing programs. Specifically, Section 387 of the Runaway and Homeless Youth Act of 1974 (RHYA) (P.L. 110-378) defines “homeless youth” as:

1. an individual who is less than 22 years of age and who is currently residing in an emergency shelter, transitional housing, motel or hotel, staying with others, or is unsheltered, and
2. for whom it is not possible to live in a safe environment with immediate family or a relative; and/or
3. has no other safe alternative living arrangement.

RHYA further defines “runaway youth” as:

1. an individual under the age of 18 who has been absent from their legal residence at least overnight without permission from their parent or guardian.

As indicated by this definition, “homeless” and “runaway” are separated, but there are two key components that overlap and provide a basis for determining eligibility for FYSB-funded programs: age and lack of safe or stable housing. Although the homeless youth literature often includes youth ranging in age from 12 to 24 years old (Moore, 2005), to be eligible for FYSB-funded TLPs, RHYA requires that the youth must be between the ages of 16 and 21 years old at intake (FYSB, 2018). Therefore, for this study, runaway and homeless youth are defined as youth between the ages of 16 and 21 who have left home or have been kicked out, and lack a fixed, safe, and/or stable residence.

Prevalence. It is critical to obtain accurate counts of the number of youth who experience homelessness each year, including the prevalence of youth who identify as LGBTQ to fully understand the scope and significance of the problem and appropriately plan programs and

services that are designed to meet their unique needs. Unfortunately, the actual number of youth who experience homelessness each year is unknown due to a variety of factors including variations in the definition of homelessness, what ages are designated as “youth,” and how the youth are counted (Fernandez-Alcantara, 2018; Morton et al., 2018; Perlman, Willard, Herbers, Cutuli, & Garg, 2014). Estimating the number of homeless youth who identify as LGBTQ becomes more difficult as these youth are often doubly marginalized based on their homeless status as well as their sexual orientation or gender identity, leading to greater invisibility (Grafsky et al., 2011). Past estimates have indicated that as many as 1.7 million youth experienced at least one night of homelessness annually (Sedlak, Finkelhor, Hammer, & Schultz, 2002). However, the *Voices of Youth Count*, a recent national study conducted in collaboration with Chapin Hall at the University of Chicago reported that nearly 700,000 youth ages 13 to 17, and 3.5 million young adults ages 18 to 25 experience at least one night of homelessness annually; approximately 20% of these youth identified as LGBTQ (Morton et al., 2018; Voices of Youth Count, 2017).

One of the most frequently cited homeless youth prevalence estimates comes from the National Incidence Study of Missing, Abducted, Runaway, and Thrownaway Children (NISMAART-2) which reports an estimated 1.7 million youth experience at least one episode of homelessness each year. However, this study is nearly 20 years old and only includes youth ages 14 to 17 who have voluntarily left or been forced to leave their home, a foster home, juvenile justice facility, or residential program for at least one night (Sedlak et al., 2002). Although NISMAART-2 included youth data from three national studies (National Household Survey of Adult Caretakers, National Household Survey of Youth, and Juvenile Facilities Study), it fails to include any data on youth and young adults ages 18 and older who have experienced

homelessness, significantly limiting the accuracy of the count. Further, this study does not include any data on the number of youth who identify as LGBTQ.

There are two additional methods that are currently used to count the number of youth who are experiencing homelessness on a yearly basis in the United States: the annual Housing and Urban Development (HUD) point in time (PIT) counts, and the count of the number of youth who access services through McKinney-Vento legislation programs within school districts (Fernandes-Alcantara, 2018). The HUD PIT count, which occurs during the last ten days of January each year, is a count of sheltered and unsheltered individuals and families who are currently experiencing homelessness. This count is completed by local agencies and includes a count of all individuals who are residing in shelters, transitional housing, or rapid rehousing programs, as well as a street-based count including unaccompanied youth under the age of 18, and unaccompanied youth ages 18 to 24 (HUD, 2014). Additionally, school districts that receive federal money to provide services for homeless youth and their families are required to report the number of children served on an annual basis. However, this number only includes school-aged children and adolescents who present for services and assumes that each district has a McKinney-Vento liaison who is responsible for gathering and reporting the data (National Center for Education, 2017). So, although these two additional methods of counting are broader with regards to age range and nature of homelessness that is captured, LGBTQ youth remain unidentifiable in these data. Further, accuracy remains limited due to the transient and somewhat hidden nature of this population, and the fact that homeless youth are often not engaged in formal services or are disconnected from their school, the two locations where the counts occur (Moore, 2005).

Conceptual Framework

Minority Stress Theory and LGBTQ Individuals. As introduced in the previous chapter, minority stress theory was developed by Meyer (1995, 2003) to understand the higher prevalence of mental health related disorders experienced by LGBTQ individuals in comparison to their heterosexual or cisgender counterparts. This theory, based on sociological and social psychological theories of stress, has three underlying assumptions: 1) minority stress is unique to the minority population, 2) minority stress is chronic and occurs above and beyond other stress in the person's life, and 3) the sources of minority stress extend beyond the individual to the larger community (Meyer, 2003). This model recognizes that LGBTQ individuals experience ongoing internal conflict and stress as a result of living in a society where the minority person's values are contradictory to the dominant societal values which are often heterosexist, prejudicial, and stigmatizing. The ongoing experiences of internalized homophobia and exposure to rejection, prejudice, and discrimination in a social environment results in high levels of chronic stress, which subsequently results in higher rates of mental health and substance use disorders (Hatzenbuehler, 2009; Meyer, 1995, 2003).

Within-group Studies. There are several studies that have used minority stress theory as a basis for examining mental health disparities such as depression, anxiety, and PTSD symptoms, as well as substance use among LGBTQ individuals, but few use this model to examine differences between LGBTQ and non-LGBTQ individuals (Meyer, 2013). Instead, the studies focus predominantly on within group differences with this population that examine the relationships between different types of minority stress and mental health or substance use related issues. For instance, one longitudinal study of 128 gay and bisexual men found that experiencing stigma surrounding an individual's sexual identity was associated with increased

levels of depression and social anxiety symptoms over time (Pachankis, Sullivan, Feinstein, & Newcomb, 2018). In another study, which focused exclusively on the experiences of lesbian and bisexual women ($N = 326$), internalized heterosexism was positively linked to PTSD symptoms (Straub, McConnell, & Messman-Moore, 2018). Further, Gonzalez and colleagues (2017) used secondary data to examine substance use patterns associated with minority stress in a sample of 1,210 transgender men and women. They found that internalized stigma was positively associated with marijuana use among transgender women, and alcohol use among transgender men (Gonzalez, Gallego, & Bockting, 2017).

When considering LGBTQ youth and young adults, similar results were found. In a cross-sectional study of gay, lesbian, and bisexual young adults between the ages of 15 and 21, minority stress in the form of identity-related victimization and duress associated with the coming out process were positively related to depression symptoms and suicidal ideation (Baams, Grossman, & Russel, 2015). At present, there are two known studies that use minority stress theory as a guide to understanding mental health disparities among LGBTQ youth or young adults who have experienced homelessness. In one study with 200 young men who have sex with men, internalized identity stigma was positively associated with depressive symptoms in the past week, but not episodes of homelessness (Bruce, Stall, Fata, & Campbell, 2014). In the other study with 30 LGBTQ young adults, Forge (2012) reported no significant relationship between minority status and mental health variables, though he noted the small sample size as a limitation.

Between-group Studies. Although less prevalent, there are a few studies that have used the minority stress framework to examine mental health disparities between LGBTQ and non-LGBTQ adults. Mays and Cochran (2001) used secondary data from the National Survey of

Midlife Development (MIDUS) ($N = 2,917$) to examine risk for mental health disorders. The MIDUS measures the presence of mental health disorders using a structured diagnostic screening based on the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised* (DSM-III-R). Mayes and Cochran (2001) found that lesbian, gay, and bisexual men and women were more likely than heterosexual men and women to report experiencing at least one of five mental health disorders (depression, anxiety, panic disorder, alcohol dependence, and substance dependence) during the past year, but they did not differentiate between individual disorders. In a similar study using secondary data ($N = 8,098$), Gilman and colleagues (2001) found that lesbian and bisexual women were more likely to report depression and PTSD within that past year when compared to heterosexual women; gay and bisexual men were more likely to report anxiety and substance use disorders in the past year when compared to heterosexual men. However, it is important to note that neither of the above studies examined prior victimization or trauma in relation to the presence of mental health disorders, which significantly limit the findings.

Studies that focus on differences in mental health and substance use disorders with LGBTQ youth and young adults through an MST lens are rare. In one study, researchers examined the prevalence of eleven mental health disorders in a large sample ($N = 34,324$) of college students between the ages of 18 and 25 and found that gay, lesbian, and bisexual students reported a significantly higher prevalence of depression, anxiety, and bipolar disorder in the past year when compared to their heterosexual peers; lesbian and bisexual women also reported a higher prevalence of PTSD in the past year when compared to heterosexual women (Przedworski et al, 2015). Studies that include younger samples tend to focus more on mental and emotional distress in lieu of mental health diagnoses, but the results consistently indicate greater mental health-related issues with LGBTQ youth. For example, in one study of 1,032 youth, ages 13-19,

LGBTQ youth reported significantly more depressive symptomology (e.g. sadness, irritability, hopelessness, sleep disturbance, and difficulty concentrating) when compared to heterosexual, cisgender youth (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009). And finally, Reisner and colleagues (2015) examined the role of minority stress in the form of being victimized by bullying on substance use in a large sample ($N = 5,907$) of youth ages 13 to 18. The authors reported that sexual and gender minority youth reported greater alcohol and substance use compared to their heterosexual and cisgender peers; being victimized by bullying within the past 12 months explained the disparities in alcohol, marijuana, and other substance use ($p < .001$) (Reisner, Greytak, Parsons, & Ybarra, 2015). These studies, although methodologically different, highlight how stress associated with identifying as a member of the LGBTQ community may negatively influence the young person's mental health and substance use, but fail to address the relationship between past trauma or victimization and the youth's mental health or substance use, which could also be contributing to the elevated mental health outcomes with the LGBTQ youth.

Positive Youth Development Practice Model and RHY Programs and Services. The positive youth development practice model (PYDPM) is an asset-based approach to working with young people that was developed by a group of child and youth practitioners who were interested in improving interventions for young people (Jensen, et al., 2013). The model is an intentional and prosocial approach to engaging youth in their communities, schools, and/or service organizations by recognizing and utilizing their strengths to promote positive outcomes through safety, structure, supportive relationships, and opportunities for skill building (Hamilton et al., 2004). This model has been widely supported by homeless youth service providers for its focus on the development of skills, relationships, and confidence based on the youth's assets instead of prevention-based services that focus more on the youth's problems (Gwadz et al,

2017; Heinze et al., 2010; Jensen et al., 2013). In order for an agency or program to consider itself a provider of positive youth development services, it must implement the key components of the model throughout the program, including policy that guides operations, the environment, daily programming and activities, and services (National Clearinghouse on Families and Youth, 2007).

Although research that evaluates the PYDPM is limited and relatively new, there are a few qualitative studies that suggests implementation of a PYDPM model is promising for at-risk youth and young adults. In one qualitative study with homeless youth residing in an RHY program ($N = 12$), youth reported that the consistent implementation of institutional policies that coincide with the PYDPM model (e.g. safety, youth-driven goals, ongoing assessment, attention to developmental needs) helped them feel safe, supported by staff, maintain their focus, and feel successful (Leonard et al., 2017). In a similar qualitative study of multiple RHY programs with a PYDPM focus ($N = 13$ focus groups, $N = 84$ youth), youth reported that staff understood their unique needs and worked to support the youth by developing meaningful relationships while providing physical and emotional safety to work on issues related to trauma and substance use, ultimately leading to their success in the program (Gwadz et al., 2017). Further, when comparing the opinions and experiences of homeless youth residing in a group home setting to permanently housed youth, both of whom were involved in positive youth development programs, Nott and Vuchinich (2016) found that the homeless youth were more likely than the housed youth to seek out and report value in their relationships with the program staff which facilitated identification of individual strengths and hope for the future.

And finally, although not studied with LGBTQ youth who are homeless, there are a few studies that examine the application of PYDPM in school settings with LGBTQ youth. In one

study of 146 LGBTQ youth involved in the school's gay-straight alliance (GSA), Poteat and colleagues (2015) reported that increased perception of support from the GSA advisor was associated with increased self-esteem and sense of purpose, highlighting the importance of supportive relationships in youth improvement. In another study, which used secondary data from the National Longitudinal Study of Adolescent Health ($N = 4,882$), Johnson and Gastic (2015) examined the role of natural mentoring with high school-aged youth. Results indicate that LGBTQ youth were more likely to have a school-based mentor when compared to heterosexual or cisgender youth; LGBTQ youth in this study described their mentors as substitutions for supportive family members, in the sense that they demonstrated dependability and stability, were reliable, and instilled a sense of self-discovery and confidence.

In sum, the literature surrounding the implementation of programs and services with a positive youth development focus overwhelmingly indicates that youth involvement in these types of programs increases positive outcomes such as improved mental health and well-being, an understanding of the youth's worth, and self-defined successes. Further, these studies also bring to light the important roles that staff and the program itself plays in providing a safe and supportive environment to allow youth time to heal, which reinforces the value of implementing a PYDPM in a TLP.

Issues Facing Homeless Youth: Differences by LGBTQ Identity

Sexual Victimization. Youth who identify as LGBTQ experience high rates of sexual victimization when compared to their heterosexual or cisgender peers (McLaughlin, Hatzenbuehler, Xuan, & Conron, 2012). When considering the intersection of homelessness and sexual victimization, LGBTQ youth with a history of homelessness are more likely to have been sexually abused than their housed peers (Rosario, Schrimshaw, & Hunter, 2012a); studies have

found that 32-77% of LGBTQ homeless youth have experienced sexual abuse or victimization at least once during their lifetime (Forge, Hartinger-Saunders, Wright, & Ruel, 2018; Frederick et al., 2011; Nolan, 2006; Rew et al., 2005). Given these high rates of sexual victimization, it is not surprising that many LGBTQ youth report leaving home because of the sexual victimization they endured within their family, which ultimately resulted in becoming homeless (Cochran et al., 2002; Rew et al., 2005).

Homeless youth who identify as LGBTQ experience higher rates of sexual victimization compared to their heterosexual or cisgender counterparts including childhood sexual abuse (Frederick et al., 2011; Tyler & Cauce, 2002; Forge et al., 2018; Tyler, 2008), sexual victimization since first homeless episode (Cochran et al., 2002; Forge et al., 2018; Whitbeck et al., 2004), and lifetime sexual victimization (Tyler & Beal, 2010). Further, LGBTQ homeless youth also report greater frequency of sexual victimization than their homeless heterosexual peers (Cochran et al., 2002; Frederick et al., 2011; Tyler, 2008). Although these studies vary with regards to their conceptualization and measurement of sexual victimization, they all demonstrate the notable disparity in sexual victimization between LGBTQ and non-LGBTQ youth who are homeless.

Physical Victimization. There are few studies that examine differences in physical victimization between LGBTQ and non-LGBTQ homeless youth, some of which have contradictory findings. The literature in this area generally falls into two categories: childhood physical abuse perpetrated by a parent, guardian, or other adult member of the household before becoming homeless, and physical assault while homeless, which includes predominantly street-based victimization. First, in two studies that examine childhood physical abuse such as being pushed, threatened, hit, or beaten up, LGBTQ homeless youth were significantly more likely

than heterosexual or cisgender homeless youth to report being abused by a parent or caretaker before the age of 18 (Tyler & Cauce, 2002; Whitbeck et al., 2004). In another study that also examined differences in childhood physical abuse between LGBTQ and non-LGBTQ homeless youth ($N = 147$), Frederick and colleagues (2011) found that 45% of LGBTQ homeless youth compared to 36% of non-LGBTQ homeless youth in the sample were physically abused by an adult prior to the age of 16. Despite this apparent difference, the finding was not statistically significant.

Researchers have also examined differences in physical victimization while homeless between LGBTQ and non-LGBTQ youth, with varied results. In two studies, LGBTQ homeless youth reported a greater number of physical assaults such as being hit, robbed, and threatened or assaulted with a weapon since becoming homeless (Cochran et al., 2002; Whitbeck et al., 2004). Further, two studies that also examined the rate of physical victimization among LGBTQ and non-LGBTQ youth while homeless reported no statistically significant differences between the two groups (Frederick et al., 2011; Tyler & Beal, 2010). To understand this inconsistency, Frederick and colleagues (2011) also examined physical victimization patterns between LGBTQ and non-LGBTQ homeless youth by gender. In this study, lesbian and bisexual females were significantly more like to be assaulted with a weapon than heterosexual females, whereas the opposite was true with males: Heterosexual males were significantly more like to be assaulted with a weapon compared to gay or bisexual males.

Mental Health. In part because of the relatively high rates of victimization among LGBTQ homeless youth and young adults, they report high rates of mental health symptoms (Gattis, 2009; Keuroghlian, Shtasel, & Bassuk, 2014; Walls, Hancock, & Wisnecki, 2007). For example, in a national sample of 354 homeless youth agencies, service providers reported that

65% of the LGBTQ homeless youth served in the previous year had a mental health disorder (Durso & Gates, 2012). In another study of 126 homeless youth agencies, service providers reported that 65% of LGBQ and 70% of transgender homeless youth served in the past year reported mental health issues (Choi, Wilson, Shelton, & Gates, 2015). Very few studies examine mental health symptoms beyond depression and PTSD symptoms (Cochran et al., 2002; Gangamma et al., 2008; Gattis, 2013; Noel & Ochs, 2001; Whitbeck et al., 2004). When other mental health symptoms are examined, they tend to be measured using the Youth Self-Report (YSR) (Achenbach & Edelbrock, 1983) which categorizes mental health symptoms into internalizing and externalizing behaviors. Therefore, the following review of the literature is divided into two sections: depression and PTSD, and other mental health symptoms.

Depression and PTSD. Studies that have examined the differences in mental health symptoms between LGBTQ and non-LGBTQ homeless youth indicate that LGBTQ are more likely to report experiencing symptoms or diagnosis of depression during their lifetime (Cochran et al., 2002; Gangamma et al., 2008; Gattis, 2013; Whitbeck et al., 2004) as well as within the past 30 days (Noell & Ochs, 2001). For instance, in one cross-sectional study of 428 homeless youth from eight shelters in the Midwest, Whitbeck and colleagues (2004) reported that 41.3% of LGBTQ homeless youth met criteria for major depression compared to 28.5% of non-LGBTQ homeless youth. In this same study, LGBTQ homeless youth were also more likely than non-LGBTQ homeless youth to report childhood sexual abuse by a caretaker (44.3% vs. 22.3 %) and sexual victimization on the streets (58.7% vs. 33.4%), but the relationship between depression and victimization was not examined (Whitbeck et al., 2004); it is possible that the higher rate of depression is attributed to the youth's history of sexual victimization. A second cross-sectional study of 147 homeless youth seeking drop-in shelter services revealed that LGBTQ youth

reported a greater number of depressive symptoms when compared to heterosexual youth ($M = 26.8$ vs $M = 20.8$; $p < .01$) (Gattis, 2013). However, in this study, LGBTQ youth also reported significantly more discrimination when compared to non-LGBTQ youth, which may account for the difference in depressive symptoms, but again, the relationship was not examined.

In addition to depression, some homeless youth also report the presence of PTSD symptoms, but there is only one known study that examines differences in prevalence of PTSD symptoms by sexual orientation with a sample of homeless youth. In this cross-sectional study with 428 homeless youth from eight shelters in the Midwest, Whitbeck and colleagues (2004) revealed that 47.6% of LGB homeless youth met criteria for PTSD compared to 33.4% of non-LGB homeless youth; the authors reported that the difference was driven by a high rate of PTSD among lesbian participants (59.1%). However, LGB homeless youth also reported higher rates of childhood sexual and physical abuse when compared to non-LGB homeless youth, which may explain this relationship. Unfortunately, the relationship between these childhood abuse and PTSD was not explicitly evaluated in this study (Whitbeck et al., 2004).

Other Mental Health Issues. In addition to examining depression and PTSD, some researchers have evaluated other internalizing symptoms such as anxiety, as well as externalizing behaviors including aggression and attention issues. When considering anxiety, Gangamma and colleagues (2008) surveyed 248 homeless youth who were RHY receiving services at a drop-in and indicated that LGB youth were more likely to report the presence of symptoms of anxiety when compared to heterosexual youth. However, this study used the anxiety/depression subscale of the YSR (Achenbach & Edelbrock, 1983) which includes anxious and depressive symptoms, so it is difficult to ascertain the level of anxiety compared to depression. Additionally, two studies that evaluated externalizing behaviors reported LGBTQ homeless youth were more likely

to report problems with aggression (Cochran et al., 2002) and attention or focus (Gangamma et al., 2008).

Substance Use. Substance use is a substantial problem for LGBTQ homeless youth that may begin prior to the youth leaving their home of origin and continue throughout periods of homelessness. From an MST perspective, LGBTQ homeless youth may use substances at higher rates as a means to coping with victimization, discrimination, or bullying they experience due to their minority identity (Hatzenbuehler, 2009; Meyer, 2003). When compared to heterosexual or cisgender homeless youth, LGBTQ homeless youth tend to start using substances at an earlier age (Moon et al., 2000), are more likely to have a family member with an alcohol or drug problem (Van Leeuwen et al., 2006), and are more likely to have left home due to substance use in the home (Cochran et al., 2002). In one study cross-sectional study of homeless youth from six states, Van Leeuwen and colleagues (2006) found that 74.5% of LGB youth reported having at least one family member with a severe alcohol or substance use problem. Additionally, 48% of LGB youth in this same study also reported having used alcohol or other substances with a parent or guardian (Van Leeuwen et al., 2006).

Once homeless, substance use remains an issue for many LGBTQ youth. Studies that compare patterns of use between LGBTQ and non-LGBTQ homeless youth have found that LGBTQ youth tend to use more types of substances (Cochran et al., 2002; Gattis, 2013; Frederick et al., 2011; Salomonsen-Sautel et al., 2008; Van Leeuwen et al., 2006) and are more likely to meet criteria for an alcohol or substance use disorder (Whitbeck et al., 2004). Two cross-sectional studies that examined the types of substances used indicated that LGBTQ homeless youth reported using a greater number of substances in the past 12 months (Frederick et al., 2011) as well as throughout their lifetime (Van Leeuwen et al., 2006) when compared to

non-LGBTQ homeless youth. Further, researchers have found that LGBTQ homeless youth tend to use “harder substances” such as cocaine, heroin, or methamphetamine and also are more likely to use intravenous (IV) drugs (Cochran et al., 2002; Gattis, 2013; Kattari, Barman-Adhikari, DeChants, & Rice, 2017; Salomonsen-Sautel et al., 2008; Van Leeuwen et al., 2006).

Alcohol. Despite substance use being highly researched with the LGBTQ homeless youth population, studies that include the use of alcohol are far less prevalent. In one study that compared patterns of use between LGB and non-LGB homeless youth, Van Leeuwen et al. (2006) reported that 62.2% of the LGB homeless youth reported using alcohol in the past 30 days, and 86.5% reported ever using alcohol; these numbers were significantly higher than alcohol use patterns for non-LGB youth. In a second study, Forge and colleagues (2018) indicated that 70.3% of LGBTQ homeless youth, compared to 52.2% of heterosexual, cisgender homeless youth, reported using alcohol in the past 12 months. These two studies highlight the significant disparities in alcohol use between LGBTQ and non-LGBTQ homeless youth.

Marijuana. Research on the use of marijuana with samples that include LGBTQ and non-LGBTQ homeless youth report conflicting results. Some studies have found that LGBTQ homeless youth are more likely to have ever used marijuana when compared to non-LGBTQ homeless youth (Noell & Ochs, 2001; Van Leeuwen et al., 2006), while other studies report no statistically significant difference in lifetime marijuana use (Cochran et al., 2002; Gattis, 2013). In one study that examined marijuana use between LGBTQ homeless and LGBTQ housed youth, Walls and colleagues (2007) reported that LGBTQ youth who were homeless were significantly more likely to have ever used marijuana.

Stimulants. Drugs classified as stimulants include any drugs that speed up the body’s systems such as cocaine or methamphetamine (Drug Enforcement Administration, 2017).

Research on stimulant use with homeless youth who identify as LGBTQ has predominantly evaluated the use of cocaine, methamphetamine, or more generally, amphetamines. Researchers have largely reported that LGBTQ homeless youth are more likely to use cocaine and methamphetamines when compared to non-LGBTQ homeless youth (Cochran et al., 2002; Gattis, 2013; Van Leeuwen et al., 2006), but this is not consistent across all studies. For instance, Noell and Ochs (2001) found that LGB homeless were significantly more likely than non-LGB homeless youth to have used amphetamines in the past 30 days, but this did not hold up when examining lifetime patterns of use in the same study.

Opioids. Opioids, including drugs such as heroin, fentanyl, vicodin, or oxycontin, interact with opioid receptors in the brain providing a quick and euphoric pain relief, which often leads to misuse and addiction for young adults (National Institute on Drug Abuse, 2018). Studies that have examined opioid use with LGBTQ homeless youth tend to evaluate heroin use and found that LGBTQ homeless youth are more likely than non-LGBTQ homeless youth to have used heroin in the past 30 days (Kattari et al., 2017), the past six months (Cochran et al., 2002), and throughout the youth's lifetime (Gattis, 2013; Van Leeuwen et al., 2006). In addition to heroin use, Van Leeuwen and colleagues (2006) found that when compared to non-LGBTQ homeless youth, LGBTQ homeless youth were significantly more likely to report a lifetime use of oxycontin and morphine or Vicodin, but not in the past 30 days. These studies consistently indicate an issue with opioid use among LGBTQ homeless youth.

Hallucinogens. Hallucinogens, such as mushrooms or ecstasy, are mood and perception-altering drugs which are often used in combination with other substances (Drug Enforcement Administration, 2017). Although less researched with homeless youth population, there are two studies which have evaluated differences in types of hallucinogen use between LGBTQ and non-

LGBTQ homeless youth. Both studies examined lifetime use of mushrooms, ecstasy, phencyclidine (PCP), and LSD, finding that LGBTQ homeless youth were more likely to report life time use of all four hallucinogens when compared to non-LGBTQ homeless youth (Gattis, 2013; Van Leeuwen et al., 2006). However, when Van Leeuwen and colleagues (2006) examined the previous 30-day use of the same hallucinogens, the only statistically significant difference that remained was the use of mushrooms.

Summary and Gaps in the Literature. The literature that examines issues that LGBTQ homeless youth face indicates that these youth have experienced substantial trauma including sexual and physical victimization, both prior to and during episodes of homelessness, as well as significantly high rates of mental health and substance use related disorders when compared to non-LGBTQ homeless youth. Viewed collectively, this body of literature highlights the vulnerability of this population of young people and the need for appropriate services, but there are several notable gaps. First, most of the homeless youth research that has examined differences in mental health symptoms and substance use by LGBTQ identity has not specifically examined the relationship between the youth's victimization history and current mental health symptoms or substance use; these issues are not independent of each other and should not be treated as such. Additionally, this body of literature is largely cross-sectional and has been conducted with samples of youth in drop-in centers or emergency shelters. Although there are numerous studies that have demonstrated disproportionately high rates of mental health disorders such as depression and PTSD, and substance use among LGBTQ homeless youth in drop-in or short-term shelters, it is unknown if youth who access TLPs have similar mental health or substance use issues, and if those difficulties persist over time.

Homeless Youth Programs and Services

Service Utilization. Existing literature indicates that homeless youth and young adults use a variety of different types of programs and services such as drop-in centers, food programs, and health-related services (Carlson et al., 2006; DeRosa et al., 1999; Kort-Butler & Tyler, 2012; Pergamit & Ernst, 2010; Tyler et al., 2012), but the frequency of use by service type is not consistent across the literature, and there are no studies that examine service use within longer term programs. For instance, in one cross-sectional study of 249 homeless youth, Kort-Butler and Tyler (2012) reported the three services that had the highest percentage of life time users included food distribution programs (66.3%), followed by street outreach (63.7%), and shelters (55.6%). In another cross-sectional study of 185 homeless youth, medical services were used most frequently (50%), followed by street outreach (45%), and drug and alcohol services (21%). And finally, in a third cross-sectional study of 293 homeless youth, drop-in centers had the highest percentage of users (78%), followed by shelters (40%), and medical services (28%). Although these three studies report different patterns of use, all of the frequently used services are intended to meet basic immediate needs, as opposed longer-term housing or mental health treatment.

There are only two known studies that have examined service utilization of homeless youth by LGBTQ identity; one examined a broad spectrum of services such as shelter use, counseling, and STI testing (Tyler et al., 2012), while the other focused specifically on healthcare related services (Chelvakumar et al., 2017). First, Tyler and colleagues (2012) examined the frequency of service use by LGBTQ identity with 249 homeless youth from three Midwestern cities. At the bivariate level, LGBTQ homeless youth were significantly more likely than heterosexual homeless youth to have ever used food programs, counseling services, street

outreach, STI testing, or HIV testing. However, when the model was adjusted for the influence of childhood physical or sexual abuse, previous stay in a foster or group home, and being kicked out by a parent or guardian, the only difference that remained statistically significant was the use of food programs (Tyler et al., 2012). In a second cross-sectional study, Chelvakumar et al. (2017) examined healthcare utilization in a sample of 180 homeless youth from a Midwestern city. Over half of the homeless youth (56.7%) reported seeing a doctor at least once in the past year. When comparing service use by identity, LGB youth were 2.8 times more likely than non-LGB youth to have seen a doctor in the past year, but this was correlated with also having insurance (Chelvakumar et al., 2017); the authors speculated that this contradictory finding may be related to changes in the Affordable Care Act which made insurance more accessible for this population. However, given these mixed results and the lack of research that has specifically examined service utilization in a TLP, further research is needed.

Assessing Youths' Change Over Time in Drop-in or Emergency Shelters. Research that assesses change over time with samples of youth drawn from drop-in or emergency shelters includes quasi-experimental (Pollio, Thompson, Tobias, Reid, & Spitznagel, 2006; Slesnick, Mead, & Tonigan, 2001; Thompson, Pollio, Constantine, Reid, & Nebbitt, 2002) and experimental designs (Slesnick, Guo, Brakenhoof, & Bantchrvska, 2015; Slesnick, Prestopnik, Meyers, & Glassman, 2007) that have been used to examine change in outcomes (e.g., depression, alcohol and drug use, education, and employment) from baseline to six weeks, three months, and as many as six- and 12-months post-discharge. Some studies have evaluated the use of the drop-in or emergency shelter and their basic services such as case management, counseling, and daily activities as the intervention (Slesnick et al., 2001; Thompson et al., 2002) while others have examined specific treatment approaches including the AWARE Program

(Tucker, D'Amico, Ewing, Miles, & Pedersen, 2017) and the Community Reinforcement Approach (CRA) (Grafsky et al., 2011; Slesnick et al., 2007, 2008, 2015); there is only one study that has evaluated change over time in depression, internalizing and externalizing behaviors, and substance use by LGBTQ identity (Grafsky et al., 2011).

Shelter as the Intervention. Studies that have focused on the shelter and its ancillary services as an intervention to examine homeless youths' change over time have evaluated outcomes such as education, employment, self-esteem, and family relationships. These studies revealed that homeless youth tend to improve in terms of their school attendance, decrease school behavior issues, maintain employment, improve self-esteem, and report increased family support immediately following their exit from the shelter (Pollio et al., 2006; Thompson et al., 2002). Unfortunately, these improvements were not maintained at the six-month follow-up, indicating the presence of short-term improvement on the outcomes, but not long-term (Pollio et al., 2006).

Two studies evaluated the relationship between the utilization of specific services within a drop-in center (e.g. counseling, medical treatment, substance abuse counseling) and patterns of substance use over time (Pollio et al., 2006; Slesnick et al., 2001). In one study, Pollio and colleagues (2006) found that substance use significantly decreased from baseline to six-weeks, and six-weeks to three months post-discharge. However, there was no relationship between service utilization and change in substance use (Pollio et al., 2006). In the second study, Slesnick and colleagues (2001) reported that medical care and emotional counseling were associated with a decrease in alcohol use from baseline to three months follow-up; there was no relationship between any service use and drug use. These findings suggest that perhaps being involved with

the shelter, rather than the individual services provided, influenced the rate of change in substance use.

AWARE. There is one study that considers the impact of AWARE, a brief group-based motivational interviewing approach, on change in substance use over time. In this study, Tucker and colleagues (2017) evaluated the effect of AWARE on change in alcohol and substance use from baseline to a three-month follow-up with a sample of 200 homeless youth. Participants were asked the frequency of alcohol and substance use pre and post-intervention using an 7-point Likert scale (i.e., 0 = *never*, 1 = *less than once per month*, 2 = *once per month*, 3 = *two to three times per month*, 4 = *once per week*, 5 = *two to three times per week*, 6 = *four to five times per week*, 7 = *daily*). At baseline, there were no statistically significant differences in alcohol use between participants who were randomly assigned to the AWARE group ($M = 2.60$, $SD = 2.20$) compared to the control group ($M = 2.68$, $SD = 2.27$). At the three-month follow-up, youth who received the AWARE intervention reported a statistically significant lower alcohol use compared to the control group ($b = -0.68$, $CI = -1.20$ to -0.15 , $p = .01$). Regarding marijuana use in the past three months, there were no statistically significant differences between the AWARE group ($M = 4.60$, $SD = 2.76$) and control groups ($M = 4.92$, $SD = 2.86$) at baseline, or three-month follow-up ($b = 0.04$, $CI = -0.74$ to -0.81 , $p = .92$) (Tucker et., 2017).

CRA. Four studies have evaluated CRA, a behavioral approach to alcohol and drug treatment that focuses on maintaining abstinence through the positive reinforcement of sobriety, as a treatment intervention with homeless youth: one quasi-experimental (Slesnick et al., 2008) and three experimental designs (Grafsky et al., 2011; Slesnick et al., 2007, 2015). In the quasi-experimental study (Slesnick et al., 2008), homeless youth ($N = 135$) who accessed services at an urban drop-in center and also reported using alcohol or other substances in the past 90 days were

offered a variety of services including recreation, food and drink, clothing, education tutoring, basic health care, and CRA. If youth selected CRA, they were recruited to participate. At the start of treatment (i.e., baseline), youth reported using alcohol or other substances 40.5% of the last 90 days. The frequency of use remained the same at six-months post-baseline (40.5%), but then decreased at 12-months post-baseline (37.6%). The coefficient for slope (i.e., change over time) was -4.52, ($t = -2.23, p < .05$) which indicates that on average, alcohol and substance use decreased over time.

There are three experimental studies that have evaluated the impact of CRA, compared to treatment as usual (TAU), on changes in symptoms of depression and alcohol and drug use over time (Grafsky et al., 2011; Slesnick et al., 2007, 2015); one study compared the difference in changes between LGB and non-LGB homeless youth (Grafsky et al., 2011). In the first study, Slesnick and colleagues (2007) evaluated the impact of CRA compared to TAU on alcohol and drug use over time for homeless youth ($N = 180$) who accessed services at a drop-in center. At baseline, there were no statistically significant differences between the CRA and the TAU groups regarding percentage days the youth used alcohol or drugs in the previous three months (67% vs. 60%). At the six-month follow-up, youth in the CRA group had a greater decrease in drug or alcohol use ($F(1, 153) = 37.29, p < 0.001$) than the youth in the TAU group ($F(1, 153) = 6.89, p < 0.05$) (Slesnick et al., 2007). In a second experimental study with homeless youth ($N = 270$) who sought services at a drop-in center, Slesnick and colleagues (2015) compared the impact of CRA, motivational enhancement therapy (MET), and TAU on alcohol and substance use. At baseline, there were no significant differences in frequency of alcohol or drug use across all three treatment groups. Results indicate a statistically significant reduction in alcohol use across all three groups ($\beta_{\text{CRA}} = -0.15, SE = 0.04, t(260) = -3.72, p < .001$; $\beta_{\text{MET}} = -0.16, SE = 0.04, t(260) =$

-3.91, $p < .001$; $\beta_{TAU} = -0.11$, $SE = 0.04$, $t(260) = -2.81$, $p < .001$); no significant difference was found between treatment conditions. Regarding substance use, there was also a statistically significant reduction across all three groups ($\beta_{CRA} = -4.94$, $SE = 1.22$, $t(260) = -4.05$, $p < .001$; $\beta_{MET} = -2.70$, $SE = 1.30$, $t(260) = -2.08$, $p < .05$; $\beta_{TAU} = -2.92$, $SE = 1.26$, $t(260) = -2.31$, $p < .05$); no significant difference was found between treatment conditions (Slesnick et al., 2015).

And finally, Gafsky and colleagues (2011) compared treatment effects of CRA and TAU on depressive symptoms and substance use between LGB and non-LGB homeless youth. At baseline assessment, LGB youth reported significantly higher depressive symptoms than non-LGB in the CRA group ($M = 22.18$ and $M = 18.44$, respectively) as well as the TAU group ($M = 19.64$ and $M = 16.34$, respectively) ($F(1, 240) = 4.12$, $p < .05$); no statistically significant differences were found across all four groups with regards to substance use at baseline. Although youth in both the CRA and TAU groups decreased depressive symptoms from baseline to six-month follow-up, no statistically significant differences were found in rate of improvement by treatment modality. However, when comparing change in depressive symptoms by LGB identity, the LGB youth decreased depressive symptoms more than the non-LGB youth ($F(1, 178) = 4.93$, $p < .05$). Similar to depressive symptoms, there were no significant differences between treatment groups in change in substance use, but the LGB youth showed greater decrease in substance use than non-LGB youth over time ($F(1, 187) = 4.50$, $p < .05$). These results indicate that regardless of treatment group, LGB youth showed greater improvement than non-LGB on both depressive symptoms and substance use patterns.

Research Assessing Youth Change Over Time in Transitional Living Programs.

There are three known studies that have evaluated change in various youth outcomes over time in transitional living settings: 1) one qualitative study asked youth who have left a TLP to discuss

the impact the program had on their journey out of homelessness (Holtschneider, 2016), 2) one quantitative study assessed change in education and employment from intake to discharge (Pierce, Grady, & Holtzen, 2018), and finally, 3) one study examined changes in education, employment, and housing from intake to discharge with LGBTQ youth exiting an LGBTQ-specific TLP (Nolan, 2006). These three studies differ in methodology but provide essential exploratory information regarding the utility of a TLP for both non-LGBTQ and LGBTQ homeless youth.

The two studies that did not include LGBTQ youth in their sample provide insight into the youth's experiences while in the program and what components of the TLP were useful; the results from both studies closely align with literature on programs with a positive youth development focus which indicate that safety and structure of the environment provides space and time for the youth to make positive and lasting changes. For instance, Holtschneider (2016) asked 32 youth who had exited a TLP to reflect on their time since leaving, and which services they perceived to have the biggest impact on their current situation. Most youth reported that utilizing the TLP provided them a sense of family, individual connections and relationships, and community that they did not have prior to accessing the program. Further, youth indicated that the TLP provided them a safe space, structure, emotional support, and the time they needed to prepare to be on their own. In a second study, Pierce and colleagues (2018) assessed changes in education and employment from intake to discharge among 174 youth who resided in a TLP that operated a trauma-informed approach to the PYD practice model. Although components of the model were not specifically examined in relationship to the outcomes, 43% of the youth improved their education status while full-time employment increased from 9% at intake to 24%

at discharge; the strongest predictor in change to both education and employment was time in the program.

And finally, Nolan (2006) reviewed 40 case files of LGBTQ youth who were discharged from an LGBTQ-specific TLP over a five-year period to examine educational or vocational “success” at discharge, defined as improvement from intake to discharge such as completing high school, starting college, obtaining a job, or moving from temporary or part-time to full-time employment. Of the 40 youth, 42.5% were considered an educational success, while 57% were deemed a vocational success; youth who stayed in the program longer were more likely to be successful. Much like the studies above, the results indicate that the length of time in a program increases the likelihood of positive outcomes, demonstrating a need for longer-term housing programs such as TLPs.

Summary and Gaps in the Literature. As previously indicated, there is a substantial deficit in the amount of literature that examines service utilization by homeless youth who identify as LGBTQ, and even less that evaluates the role that a particular type of program or specific service has on changes in outcomes (e.g. education, employment, housing) over time. The existing research indicates that in general, homeless youth tend use programs that are designed to meet their immediate needs, such as drop-in centers, emergency shelters, or food programs (Carlson et al., 2006; DeRosa et al., 1999; Kort-Butler & Tyler, 2012), but studies that have examined differences in utilization by LGBTQ identity have produced mixed results (Chelvakumar et al., 2017; Tyler et al., 2012), leaving researchers with more questions than answers. The handful of studies that have specifically examined the use of a TLP provide preliminary evidence to suggest that homeless youth who do access longer-term housing programs, including youth who identify as LGBTQ, benefit in some capacity from their time in a

TLP (Holtschneider, 2016; Nolan, 2006; Pierce et al., 2018). However, these studies have either been based solely on the youth's perception of improvement in their well-being, relationships, and housing status (Holtschneider, 2016) or have focused only on changes in education, employment, or housing from intake to discharge (Nolan, 2006; Pierce et al., 2018); none of these studies compare outcomes by LGBTQ identity. Finally, there are no known studies that have examined types of services that LGBTQ youth access while residing in a TLP or the relationship between their identity, service utilization, and changes in mental health or substance use over time, which is a tremendous gap considering the large proportion of LGBTQ homeless youth who report ongoing mental health and substance use issues.

The Current Study

Youth homelessness is a substantial problem that affects millions of young people every year; research suggests that homeless youth who identify as LGBTQ represent 20 to 40% of this population (Burwick et al., 2014; Morton et al., 2018; Voices of Youth Count, 2017). A review of the homeless youth literature revealed that when compared to heterosexual or cisgender youth, homeless LGBTQ youth experience significantly greater sexual and physical victimization, mental health difficulties, and substance use, yet are less likely to access the RHY programs and services that are available. Research that examines service utilization with homeless youth is largely cross-sectional and predominantly drawn from drop-in centers or emergency shelters. Further, this body of literature fails to examine the relationship between LGBTQ identity and service utilization patterns of those who access longer-term housing programs.

Therefore, the study contributes to filling these gaps in the literature by exploring the sociodemographic characteristics, victimization, mental health and substance use histories of runaway and homeless youth who accessed services in a TLP by LGBTQ identity. In this study I

examined what services the youth chose to utilize while in the TLP and if the patterns in service use differed by LGBTQ identity. Finally, I examined the relationship between LGBTQ identity, service utilization, and mental health and substance use impairment for all youth in the TLP. The study is guided by the following research questions:

1. What are the sociodemographic characteristics (i.e., age, race, gender, sexual orientation, homelessness history), victimization, mental health, and substance use histories of homeless youth at intake who resided in this transitional living program between March 2011- and June 2018?
2. What services did the youth utilize while in the transitional living program?
3. What are the differences in sociodemographic characteristics, victimization, mental health, and substance use histories by LGBTQ identity at intake?
4. Are there differences in service utilization by LGBTQ identity?
5. After controlling for sociodemographic characteristics and victimization history, what is the relationship between LGBTQ identity, service utilization and mental health impairment?
6. After controlling for sociodemographic characteristics and victimization history, what is the relationship between LGBTQ identity, service utilization, and substance use impairment?

CHAPTER THREE: METHODS

Study Design

I conducted a secondary data analysis of longitudinal TLP data to examine 1) differences in youths' sociodemographic characteristics, victimization history, and service utilization by identity (LGBTQ vs. non-LGBTQ), and 2) after controlling for sociodemographic characteristics and victimization history, the relationship of LGBTQ identity, service utilization, and mental health and substance use impairment over time, within a sample of youth who received services in a TLP between 2011 and 2018 in Lansing, MI. The use of these archival data was approved by the Chief Executive Officer and Chief Operations Officer of the Gateway Division of Child and Family Charities. This study was determined exempt by the Michigan State University Institutional Review Board (Appendix A).

Study Site. Crossroads is a 10-bed TLP that serves runaway and homeless youth, ages 16-21, from Lansing, MI and the surrounding communities for up to 18 months. Crossroads was one of eleven FYSB-funded TLPs in the state of Michigan during the 2017-2018 fiscal year; collectively, these eleven TLPs served 235 homeless youth during that year. Quarterly, all TLPs in Michigan report demographic (i.e., age at entry, race/ethnicity, gender, and sexual orientation) and service (i.e., length of stay, types of services accessed) data to the Michigan Coalition Against Homelessness, a non-for-profit membership organization comprised of representation from state-wide emergency shelters, TLPs, and other homeless service providers (MCAH, 2019). Data from the 2017-2018 fiscal year were used to assess if there were notable differences between youth who utilized Crossroads and other TLPs in the state.

Using independent sample t-test and Chi-square, I assessed for potential differences in youth demographics and length of stay between the sample of youth in this study ($N = 101$) and

youth data ($N = 228$) from the remaining ten 2017-2018 FYSB-funded TLPs in the state of Michigan (Table 1). The independent samples t-test revealed youth who utilized the Crossroads TLP were younger at intake ($M = 17.54$, $SD = 1.08$) compared to their peers in statewide programs ($M = 18.27$, $SD = 1.30$), $t(325) = 4.95$, $p < .001$. Further, Chi-square analysis revealed that youth in the Crossroads program were more likely to identify as LGBTQ compared to youth in the statewide programs (29.7% vs. 16.2%), $\chi^2(1, N = 329) = 7.84$, $p = .005$. There were no significant differences with regards to race/ethnicity, gender, or length of stay in the program.

Table 1.

Statewide Transitional Living Program Comparison

	Crossroads ($n = 101$)	Statewide Data ($n = 228$) ^a	
	Mean (SD)		t
Age	17.54 (1.08)	18.27 (1.30)	4.95***
	Frequency (%)		χ^2
Race/Ethnicity			.23
Minority	63 (62.4)	134 (59.6)	
White	38 (37.6)	91 (40.4)	
Gender^b			2.87
Male	51 (52.0)	95 (41.9)	
Female	47 (48.0)	132 (58.1)	
Sexual Orientation			7.84**
Heterosexual	71 (70.3)	191 (83.8)	
LGBTQ	30 (29.7)	37 (16.2)	
Length of Stay			12.9
Less than 1 month	11 (10.9)	29 (12.7)	
1 to 3 months	32 (31.7)	46 (20.2)	
3 to 6 months	33 (32.7)	59 (25.9)	
6 to 9 months	8 (7.9)	24 (10.5)	
9 to 12 months	5 (5.0)	22 (9.6)	
12 to 15 months	6 (5.9)	16 (7.0)	

Table 1. (cont'd)

15 to 18 months	6 (5.9)	24 (10.5)
More than 18 months	0 (0.0)	8 (3.5)

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

^a Does not include youth served in Crossroads during 2017-2018 fiscal year

^b Genders other than male or female were not provided in the statewide data

Admission into Crossroads is by referral from a variety of community-based organizations, high school counselors, and other regional homeless youth programs, as well as the agency's crisis hotline. Homeless youth who present with serious emotional or behavioral problems that place other residents in the program at-risk, such as current suicidal behaviors or sex-based offenses, are referred to other programs that have the capacity to manage these issues. Staff support and supervision occurs 24 hours per day and is based on the positive youth development practice model which includes providing a safe and affirming environment where youth can work on daily goal setting, problem solving, independent living skills, and opportunities to develop healthy relationships (Gateway Youth Services, 2010).

Upon entry into Crossroads, all youth are assigned a master's level clinician, bachelor's level case manager, and independent living skills instructor (ILS) who work together as a team to provide opportunities for the youth to learn the necessary skills to build the foundations for independent living. All youth are offered a variety of clinical and supplementary services based on the clinician's recommendation that are tailored to the youth's needs. Each youth is strongly encouraged to participate in mental health counseling at least once per week with the Crossroads therapist; this service is available up to three times per week. The nature of the counseling is driven by the youth's need. If the clinical team determines a greater need than can be addressed by general in-house mental health, the youth is referred to more specialized treatment (e.g. motivational interviewing, dialectical behavior therapy, eye movement desensitization and

reprocessing) either through Crossroads' parent company or local community mental health. Youth are required to meet with their assigned case manager at least once per week to work on mutually agreed upon goals that move the youth towards self-sufficiency including maintaining good health, setting education goals, obtaining and maintaining employment, and meeting basic needs such as obtaining identification and health records. Although only required once per week, this service is available up to five times per week as necessary. If the youth requires psychiatric services, they are provided through a local agency or community mental health, dependent on the youth's insurance.

Data Sources. The Crossroads TLP maintains resident case files on every youth that enters the program. These files include resident intake and discharge paperwork, case management assessment tool, documentation of behavioral health and medical assessments, and documentation of all services received while in care.

Sample

A total of 106 youth entered Crossroads between March 2011 and June 2018. These dates were selected after meeting with agency executives based on the availability of the files and the timeframe that the agency started recording sexual orientation and gender identity as a part of their intake process. I reviewed each of the 106 case files for potential duplication and completeness; 5 files were excluded due to the youth residing in the program for less than one week, the minimum time frame for all intake paperwork and assessment to be completed by the clinical staff. The final sample is comprised of the remaining 101 case files.

Procedure

Data Extraction. I extracted data using a data extraction form (See Appendix B) from the closed case files of runaway and homeless youth who entered, received services, and

subsequently left the Crossroads TLP between March 2011 and June 2018. Data were extracted from multiple sources: 1) the program intake form, 2) the program discharge form, 3) case notes, 4) the case management assessment tool, and 5) other professional assessments, when applicable.

Program Intake Form. Upon entry into Crossroads TLP, each youth met with a member of the clinical staff to complete an initial intake interview. The program intake form included subsections on demographics, living situation/homeless information, health and disability information, employment and income, education, youth critical issues, commercial and sexual exploitation, and referral information. Data extracted from this form included age, race and ethnicity, gender, sexual orientation, history of homelessness, history of victimization, and mental health history.

Program Discharge Form. When a youth was discharged from the program, a discharge form was completed by a member of the clinical team to document the circumstance surrounding their discharge. The program discharge form includes subsections on services provided while in care, reason for leaving the program, program completion status, youth's housing destination, employment at discharge, education at discharge, and youth's physical and mental health status at discharge. Data extracted from this form included the types of services the youth accessed while in the program.

Case Notes. Each clinical service that the youth was provided while in care was documented on a case note and maintained in the file. Each case note includes the date that the service was provided, who provided the service, the type of the service that was provided, and a narrative description of the service. Data extracted from the case notes include the frequency and type of case management and clinical services.

Case Management Assessment Tool. The case management assessment tool includes the self-sufficiency matrix assessment (SSM) and a narrative description of the youth's current needs. This assessment was completed with the youth at intake, every 90 days, and discharge from the program. The assessment is broken down into 14 categories: income, employment, housing, education, legal, health care, life skills, mental health, substance use, social relations, mobility, community involvement, safety, and sexual health. Data extracted from this form at intake include victimization history, previous mental health diagnosis, and substance use history. Mental health and substance use impairment are extracted at intake, every 90 days while in the program, and at discharge. I have mental health and substance use impairment data at entry and discharge for 100% of the sample. In addition to intake and discharge, 51.5% ($n = 52$) of the sample includes one additional data point, 25.7% ($n = 26$) includes two additional data points, 13.9% ($n = 14$) includes three additional data points, 7.9% ($n = 8$) includes four additional data points, and 4.0% ($n = 4$) includes five additional data points.

Other Professional Assessments. Other professional assessments include substance use assessments, psychological reports, psychiatric assessments, and any education-based assessment or testing. These reports vary by youth and were not present in all files. When present, data extracted from this source include victimization history, mental health diagnosis, and substance use history.

Measures

Sexual Orientation. Youth were asked to identify their sexual orientation at intake from the following responses: heterosexual, gay, lesbian, bisexual, queer, questioning/unsure, or other. If the youth responds "other," they were asked to describe how they identify their sexual orientation.

Sociodemographic Characteristics. Sociodemographic characteristics include age, race, gender, and history of homelessness at intake for each youth.

Age. Age was measured with date of birth and age in years.

Race/Ethnicity. Each client was asked how they identify their race and/or ethnicity and were given the option to select one or more categories. The response categories include American Indian, Asian, Black or African American, Hispanic, Multiracial, Native Hawaiian or Pacific Islander, White, other, client doesn't know, or client refused. If the client selected more than one response, their responses were categorized as multiracial.

Gender. Youth gender was measured by asking the client how they identify their gender given the following options: female, male, transgender male to female, transgender female to male, other, client doesn't know, or client refused. If the youth responded "other," they were asked to describe how they identify their gender

History of Homelessness. History of homelessness is broken down into several factors: number of times homeless in the past three years, length of most recent homeless episode, reason for most recent homeless episode, and where the youth spent the night prior to entering the TLP.

Times homeless in the past three years. To measure homeless frequency, youth were asked "prior to this current episode, how many times have you experienced homelessness in the past three years?" Response options include never, one, two, three or more times, or unsure.

Length of most recent homeless episode. Youth were asked to report the duration of their most recent homeless episode with one of the following responses: one day or less, two days to one week, more than one week but less than one month, one to three months, more than three months but less than one year, one year or longer, or unsure.

Location of most recent homeless episode. Youth were asked where they resided the night before entry into the program and are given the following options to choose from: youth emergency shelter, adult homeless shelter, other youth transitional housing/shelter, staying with a friends/couch hopping, staying with parent or guardian, staying with other family members, residential or psychiatric hospital, jail or juvenile detention facility, any place not meant for human habitation such as a vehicle, abandoned building, train station, or outside, or other. If the youth reported “other,” they are asked to describe the location where they stayed.

Primary reason for most recent homeless episode. Youth were asked to identify the primary reason for their most recent episode of homelessness with from the following options: family conflict, domestic violence (witness or victim), family homelessness, asked to leave, evicted/kicked out, child abuse or neglect, substance use, criminal activity, or other. When “other” was indicated, youth were asked to describe the situation that lead to their most recent homeless episode

Victimization History. Victimization history includes lifetime sexual victimization and lifetime physical victimization.

Lifetime Sexual Victimization. Lifetime sexual victimization was measured by asking the youth if they have experienced any sexual abuse or victimization in their home or any other environment. Responses were recorded as yes, no, unsure, or client refused to answer.

Lifetime Physical Victimization. Lifetime physical victimization was measured by asking the client if they have ever experienced physical abuse or victimization in their home or any other environment. Responses were recorded as yes, no, unsure, or client refused to answer.

Mental Health Diagnosis History. Youth were asked if they have ever been diagnosed with a mental health related disorder from a physician, psychologist, or psychiatrist. Responses

were recorded as yes, no, unsure, or refused to answer. If the youth indicated that they have a previous mental health diagnosis, they were asked what diagnosis or diagnoses they were given. Their responses were recorded verbatim.

Substance Use History. Youth were asked if they have ever experimented with or were currently using any alcohol or other substances. Responses were recorded as yes, no, or refused to answer. If the youth indicates that they have previously or were currently using alcohol or any other substance, they were asked to list each substance that they have used, which was recorded verbatim.

Service Utilization. Service utilization is broken down into three categories: time in the program, clinical services, and supplementary services.

Time in the Program. Time in the program was measured in months.

Clinical Services. Clinical services were offered to each youth who entered the program and were provided by a member of the Crossroads clinical team which includes a licensed clinician and bachelor's level case manager. Clinical services include two broad categories: counseling/therapy and case management. Youth were strongly encouraged to participate in counseling/therapy with the in-house therapist at least once per week; this service was available up to three times per week. Youth were required to meet with their case manager at least once per week; this service was available to the youth up to five times per week. Case management services are broken down into five distinct categories: basic needs/support services, education, life skills training, employment services, and health care. Each clinical service was measured by presence (yes or no) and number of times each service was utilized.

Supplementary Services. Supplementary services are treatment and activity-based services that are provided by a member of Crossroads' direct care staff or by an outside provider

but are not required. These services were offered to the youth based on need. These services include psychological or psychiatric care, substance abuse assessment and treatment, recreational activities, supports groups, and community service/service learning. Each supplementary service was measured by presence (yes or no).

Mental Health and Substance Use Impairment. This study utilized the Arizona Self-Sufficiency Matrix (ASSM) (Parker, 2006) to assess changes in the mental health and substance use impairment of youth in the Crossroads TLP over time. The ASSM is an assessment tool that was developed for the Arizona Homeless Evaluation Project, and later adapted by the Michigan Coalition Against Homelessness for use with youth ages 16 and older (Michigan Coalition to End Homelessness, 2018). The ASSM was used to assess 18 domains of self-sufficiency on a 5-point ordinal scale (5 = *in crisis*, 4 = *vulnerable*, 3 = *safe*, 2 = *building capacity*, 1 = *empowered*); it has demonstrated acceptable internal reliability ($\alpha=.81$) (Culhane et al., 2007). This study used the mental health and substance use domains to assess changes in mental health and substance use impairment over time. These items were assessed by a member of the Crossroads clinical team at intake, every 90-days while in the program, and at discharge.

Data Screening

Following data extraction, I entered the data in SPSS 25. After initial entry, I reviewed each of the 101 data extraction forms to assess for accuracy and completeness in the data entry process. I investigated each instance of missing data in order to determine whether the data must remain as missing (e.g. information not present in the original file, youth refused to answer) or if the missingness was a data entry error, which I corrected. Missing data across all variables were minimal; no variable exceeded 2.0% missing data.

Also prior to analyses, I conducted a power estimation using Optimal Design Plus Empirical Evidence, Version 3.01 (Spybrook et al., 2013). The sample of 101 individuals, with an average of 3 observations each, provided 80% power to detect moderate-to-large effect sizes at $p < .05$. For effects on the initial timepoint or intercept, the minimum detectable effect size should be $d = .65$, which is equivalent to an effect accounting for 9% of the variance in time 1 values. For effects on the trajectory or linear time slope, the minimum detectable effect size should be $d = .55$, equivalent to an effect accounting for 7% of the variance in linear slopes. Using a more liberal $p < .10$, the minimum detectable effects would be slightly smaller and closer to moderate effect sizes. For effects on the initial timepoint or intercept, the minimal detectable effect size would be $d = .60$, which is equivalent to an effect accounting for 7% of the variance in time 1 values. For effects on the trajectory or linear time slope, the minimum detectable effect size would be $d = .50$, equivalent to an effect accounting for 6% of the variance in linear slopes.

Data Analysis

First, I conducted univariate analysis to examine sociodemographic characteristics, history of homelessness, victimization, mental health, and substance use histories at intake, as well as the type and frequency of service utilization. I used frequency distributions to assess categorical variables for possible issues with small cell size; I recoded variables with this issue to reduce the problem. I used measures of central tendency and dispersion with continuous variables to identify any deviations from normality. Next, I used Chi-square and independent samples t-test to examine differences in sociodemographic characteristics, history of homelessness, victimization, mental health, and substance use histories at intake, as well as type and frequency of service utilization, by LGBTQ identity.

Multivariate Analyses. I used multilevel modeling (MLM) to examine the relationship between LGBTQ identity, service utilization, and mental health and substance use impairment over time, after controlling for sociodemographic characteristics and victimization history at intake. I selected MLM as the analytic technique for this study because it is well-suited for repeated-measures data with varying time between measurements, as well as varying numbers of measurements, and can assess patterns of change that are not linear (Ntoumanis, 2014; Snijders, 1996). In addition, MLM can effectively model correlated outcomes and small sample sizes (Kwok et al., 2008; Snijders, 1996; Singer & Willet, 2003). Finally, MLM can make use of the data without having to impute missing values, which allows researchers to use the data of individuals who have not completed each assessment (Snijders, 1996).

Model Setup. The analyses were based on a random-effects model, which allows researchers to examine individual and group trajectories of the participants (Singer & Willet, 2003). Thus, I am able to examine individual mental health and substance use impairment over time as well as compare the trajectory by LGBTQ identity (LGBTQ vs. not LGBTQ). For each random effect that was tested, there were two model components, a fixed effect (i.e., a trend across participants) and a random component (i.e., individual variability). For this study, the effects of the independent variables (i.e. LGBTQ identity and service utilization) were estimated as fixed effects due the limited and varying number of observations across participants. The intercept and time slopes (i.e., the effects of time on mental health and substance use impairment) were estimated as random effects, allowing for between-person variability in mental health and substance use impairment at intake and over time; the intercept was set as the initial mental health and substance use impairment scores in each of the models, which represents the level of impairment when the youth began the program and sets the baseline for further analysis.

Model Building. MLM with mixed effects was performed using SPSS 25. I tested two-level models, with measurement over time nested within participants. The model building sequence begins with an unconditional model, followed by the conditional control variables model, conditional LGBTQ model, conditional service utilization model, and the final conditional model for each dependent variable (i.e., mental health impairment and substance use impairment). To determine which effects to include and improve parsimony and interpretability in the models, I tested each level 2 effect on the intercept, and then the intercept and slope. The models were trimmed at each step to remove the effects with p values greater than $p = .10$; effects with p values that were marginally significant ($p \leq .10$) were retained for further analysis. I also computed likelihood ratios (LR) using chi-square differences to determine if the addition of each effect significantly improved model fit. Effects that were not significant ($p > .10$) and also did not improve the overall model fit were removed at each step.

The first step in model building (i.e., the unconditional model) was to assess change in the dependent variables (i.e., mental health impairment and substance use impairment) over time. Initially, the covariance structure was set to *unstructured* for each of the dependent variables, which allows the covariance to be non-zero. I examined the covariance parameters for each of the dependent variables, I found that the covariance between the intercept and variance around the slope were not significant for mental health impairment, indicating that the individual's slopes over time were not correlated with their initial mental health impairment score, which subsequently indicated this covariance structure as not appropriate for this dependent variable. Next, I assessed a *diagonal* covariance structure, which demonstrated improvement. A subsequent LR test demonstrated improvement in model fit with the new covariance structure, $LR \chi^2 (2) = 42.76, p < .001$. Additionally, I examined the intraclass correlation coefficient (ICC),

which provides the proportion of variance that is between individuals ($\rho = .77$, $SE = .10$, 95%, CI: .46 - .87) and across time within individuals ($\rho = .003$, $SE = .001$, 95%, CI: .001 - .008). As is the case with most longitudinal data, this indicates that there is a much greater proportion of variance explained between individuals (77%) than within individuals over time (.3%) (Kwok et al., 2008).

For the second dependent variable, substance use impairment, the covariance between the intercept and variance around the slope was significant using an *unstructured* covariance, indicating that individual slopes over time were significantly correlated with their initial scores, and using this covariance structure was appropriate for this dependent variable. I also examined the ICC for substance use impairment over time. Similar to mental health impairment, the proportion of variance of substance use impairment between individuals ($\rho = .86$, $SE = .14$, 95%, CI: .65 – 1.20) was much higher than across individuals over time ($\rho = .003$, $SE = .001$, 95%, CI: .002 - .007), which indicated that a much greater proportion of the variance was explained between individuals (86%) at baseline (i.e., intercept) than within individuals over time (.3%).

Next, the control variables (i.e., gender, sexual victimization) were added to the unconditional model for each of the dependent variables. In this step, the effect of each control variable was assessed for the intercept (i.e., initial mental health and substance use impairment at intake) and slope (i.e., change in mental health and substance use impairment over time). As previously mentioned, effects with p values that were marginally significant ($p \leq .10$) were retained for further analysis. The significant effects that were retained created the conditional control variables model. Once the conditional control variables model was built, each of independent variables (i.e. LGBTQ identity, service utilization) was added to that model in a similar manner. The final step in the model building sequence included adding the significant

effects of each independent variables simultaneously to the conditional control variables model to create the final conditional model.

CHAPTER FOUR: RESULTS

Descriptive Statistics of the Sample

I used univariate statistics, including frequency distribution and measures of central tendency, to assess the following research questions:

RQ1. What are the sociodemographic characteristics, victimization, mental health, and substance use histories of youth at intake who resided in this transitional living program between March 2011 and January 2018?

RQ2. What services did the youth utilize while in the transitional living program?

Sociodemographic Characteristics. The sample for this study consisted of 101 youth between the ages of 16 and 20 ($M = 17.54$, $SD = 1.08$) who entered and were subsequently discharged from a transitional living program (TLP) between March 2011 and June 2018 in Lansing, MI (see Table 2). Participants identified as White (37.6%), African American (36.6%), Multiracial (13.9%), Hispanic (8.9%), and American Indian/Native American (3.0%). Just over half of the sample (50.5%) identified as male, with 46.5% identifying as female. The remaining three youth identified as a gender other than female or male. The majority of the sample (70.3%) identified as heterosexual, the remaining 29.7% ($n = 30$) identified as LGBTQ; nearly two-thirds of the LGBTQ youth identified as bisexual (63.3%), followed by questioning/not straight (16.7%), lesbian (10.0 %), gay (6.7%), and queer (3.3 %).

Another important sociodemographic characteristic of this sample was history of homelessness, which was measured as frequency, duration, and reason: 1) number of times homeless in the past three years, 2) length of most recent homeless episode, 3) location of the most recent homeless episode, and finally 4) reason for most recent homeless episode (see Table 2). Most of the sample (83.2%) reported that they had experienced at least one homeless episode prior to entering this TLP, with 29.5% of youth indicating that they had been homeless one time

previously, 27.7% indicating that had been homeless two times previously, and 25.7% reporting that they had been homeless three or more times in the past three years. When asked about their most recent homeless episode (i.e., the homeless episode that resulted in their entry into this TLP), roughly half (44.6%) of the youth had been homeless between one week and one month, while 17.8% reported being homeless between one and three months, 8.9% had been homeless more than three months, but less than one year, and 16.8% of youth had been homeless for a year or longer. During this period of homelessness, youth most commonly reported that they were staying in another shelter (46.5%), staying on a friend's couch or floor (16.8%), residing in a residential facility or hospital (11.9%), staying with family other than parents (10.9%), living with a parent or guardian (7.9%), or were street homeless (5.9%). Finally, youth most frequently indicated that they became homeless due family conflict (36.6%), eviction or being asked to leave the residence where they were staying (28.7%), or exposure to domestic violence (11.9%).

Table 2.

Sociodemographic Characteristics of the Sample (N = 101)

	Mean (SD)
Age	17.54 (1.08)
	Frequency (%)
Race/Ethnicity	
White	38 (37.6)
African American	37 (36.6)
Multiracial	14 (13.9)
Hispanic	9 (8.9)
American Indian/Native American	3 (3.0)
Gender	
Male	51 (50.5)
Female	47 (46.5)
Other Gender	3 (3.0)

Table 2. (cont'd)

Sexual Orientation

Heterosexual	71 (70.3)
LGBTQ	30 (29.7)

LGBTQ Identity

Bisexual	19 (63.3)
Questioning/Not straight	5 (16.7)
Lesbian	3 (10.0)
Gay	2 (6.7)
Queer	1 (3.3)

Times homeless in the past 3 years

None	17 (16.8)
Once	30 (29.7)
Twice	28 (27.7)
Three or more times	26 (25.7)

Length of most recent episode

Less than one week	12 (11.9)
One week to less than one month	45 (44.6)
One month to less than three months	18 (17.8)
Three months to one year	9 (8.9)
More than one year	17 (16.8)

Location of most recent episode

Shelter	47 (46.5)
Friends/Couch hopping	17 (16.8)
Residential facility/Hospital	12 (11.9)
Other family	11 (10.9)
Parent or guardian	8 (7.9)
Street homeless	6 (5.9)

Primary reason for most recent episode

Family conflict	37 (36.6)
Eviction/Asked to leave	29 (28.7)
Domestic violence	12 (11.9)
Child abuse or neglect	8 (7.9)
Family is homeless	8 (7.9)
Substance abuse	6 (5.9)
Criminal activity	1 (1.0)

Victimization History. Victimization history was assessed by asking the youth if they had experienced any sexual or physical abuse or victimization prior to their entry in the TLP. Over half of the sample (56.4%) reported they had been sexually or physically abused or victimized at least one time prior to their entry in this program. When examining the prevalence of the types of a victimization, nearly one third of the sample (31.7%) indicated that they had been sexually abused or victimized, while 40.6% of the youth reported physical abuse or victimization.

Mental Health Diagnosis History. Upon entry into the TLP, all youth were asked if they have ever been diagnosed with a mental health disorder from a physician, psychologist, psychiatrist, or another mental health professional. The majority of the youth in this sample (80.2%) indicated that they had previously been given at least one mental health diagnosis ($M = 1.60$, $SD = 1.05$); the number of current mental health diagnoses ranged from zero to four (see Table 3). When examining prevalence of diagnosis by type, the most frequently reported diagnoses include depression (39.6%), PTSD (29.7%), and anxiety related disorders (22.8%). Youth also reported being diagnosed with ADHD (18.8%), bipolar disorder (14.9%), substance use disorders (11.9%) and disruptive behaviors disorders including conduct and oppositional defiant disorder (7.9%).

Table 3.

Mental Health Diagnosis History Descriptives (N = 101)

	Mean (SD)
Number of diagnoses	1.6 (1.05)
	Frequency (%)
Previous or current diagnosis	
Yes	81 (80.2)
No	20 (19.8)

Table 3. (cont'd)

Diagnosis by type

Depression	40 (39.6)
PTSD	30 (29.7)
Anxiety	23 (22.8)
ADHD	19 (18.8)
Bipolar	15 (14.9)
Substance abuse	12 (11.9)
Conduct/Opposition defiant disorder	8 (7.9)
Other mood disorders	7 (6.9)

Substance Use History. In addition to mental health diagnosis history, youth entering the TLP program were asked about their current substance use patterns (see Table 4). Slightly over half (59.4%) of the youth reported currently using drugs or alcohol. Of those youth who reported using drugs or alcohol ($n = 60$), 53.5% of youth reported that they were polysubstance users indicating that they were currently using two or more substances. If youth reported that they were currently using substances, they were asked to report each substance, illegal or otherwise, that they were currently using. Most frequently youth reported using marijuana (53.7%), alcohol (30.7%), and other prescription drugs without a valid prescription (12.9%).

Table 4.

Substance Use History Descriptives (N = 101)

	Mean (SD)
Number of substances	2.07 (1.35)
	Frequency (%)
Previous or current use	
Yes	60 (59.4)
No	41 (40.6)
Polysubstance user^a	
Yes	32 (53.4)
No	28 (46.7)

Table 4. (cont'd)

Substance use by type

Marijuana	54 (53.7)
Alcohol	31 (30.7)
Prescription drugs	13 (12.9)
Stimulants	8 (7.9)
Over the counter medications	6 (5.9)
Opioids	5 (5.0)
Hallucinogens	4 (4.0)

^aIncludes only youth who reported using substances, $n = 60$

Service Utilization. Several facets of service utilization including time in the program, types of services used, and frequency of services used were assessed to understand what overall service utilization patterns look like for homeless youth who reside in this TLP (see Table 5). First, although any youth who enters the program was able to stay for up to 18-months, youth in this sample resided in this TLP, on average, a little less than five months ($M = 4.95$, $SD = 4.46$). Length of stay was positively skewed indicating that the mean is larger than the median, which tells us that many youth are staying less than the 5-month average. Approximately three-fourths (75.2 %) of the youth in this sample remained in the TLP six months or less, whereas only 11.9% of the youth remained in the program for one year or longer.

As previously indicated, once the youth enters the TLP they were offered a variety of services within the TLP or larger parent agency based on youth need. These services are broken down into two categories, clinical and supplementary services. Clinical services include therapy provided by a master's level clinician and case management provided by a bachelor's level case manager; each of these services were offered to the youth at least one time per week. Although a large proportion of youth chose to participate in therapy at the TLP (87.1%), they did so at a rate of less than one session per week ($M = 0.54$, $SD = .33$). With regards to case management, nearly all of the youth (99.0%) accessed this service at least one time during their stay in the TLP. Most

frequently the youth utilized basic needs case management (98.0%), followed by life skills case management (92.1%), education focused case management (85.1%), employment skills case management (79.2%), and finally case management that focused on health needs (76.2%). Although case management was utilized more frequently than therapy, youth utilized this service less than one time per week ($M = 0.95$, $SD = 0.58$).

In addition to clinical services, youth were also offered a variety of supplementary services including psychiatric treatment, substance use assessment and treatment, recreational activities in the community, support groups, and community service/service-learning activities. Nearly two-thirds (65.4%) of the youth in the program utilized between one and six of the offered supplementary services ($M = 1.49$, $SD = 1.60$). Most commonly, youth chose to utilize the recreational activities (45.5%) followed by the community service/service-learning opportunities (33.7%) offered by the TLP. Despite the high rates of mental health-related issues and substance use within this sample as a whole (80.2% and 54.5% respectively), youth accessed psychiatric (24.8%) and substance use services (14.9%) at much lower rates (see Table 5).

Table 5.

Service Utilization Patterns (N = 101)

	Mean (SD)
Months in the program	4.95 (4.46)
Clinical sessions per week	1.43 (.79)
Therapy	.54 (.33)
Case management	.95 (.58)
	Frequency (%)
Use of clinical services	
Therapy	88 (87.1)
Case management	100 (99.0)
	98 (98.0)

Table 5. (cont'd)

Case management by type

Basic needs	
Life skills	93 (92.1)
Education	86 (85.1)
Employment	80 (79.2)
Health needs	77 (76.2)

Use of supplementary services

Recreational activities	46 (45.5)
Community service/Service learning	34 (33.7)
Psychiatric services	25 (24.8)
Substance use treatment	15 (14.9)
Support groups	9 (8.9)

Bivariate Analysis by LGBTQ Identity

Bivariate relationships between LGBTQ identity and sociodemographic characteristics (i.e., age, race/ethnicity, gender, and history of homelessness), victimization history, mental health history, substance use history, and service utilization variables were assessed to answer the following research questions:

RQ3. Are the differences in sociodemographic characteristics, victimization, mental health, and substance use histories by LGBTQ identity at intake?

RQ4. Are there differences in service utilization by LGBTQ identity?

Because of the relatively small number ($n = 30$) of participants in this study who identified as LGBTQ, comparing individual LGBTQ identities (e.g. bisexual, queer, gay, lesbian) with the heterosexual group of participants was not statistically meaningful. Therefore, the individual LGBTQ identities were collapsed to create one group that was compared with the youth who identified as heterosexual.

Sociodemographic Characteristics. I used independent samples t-test and Chi-square to assess differences between the sociodemographic characteristics by LGBTQ identity (see Table

6). An independent samples t-test revealed no statistically significant differences in age at intake for youth who identified as LGBTQ ($M = 17.40$, $SD = 1.04$) compared to their heterosexual, cisgender peers ($M = 17.59$, $SD = 1.10$), $t(97) = .82$, $p = .41$. Due to the small sample size, the race/ethnicity variable was dichotomized (i.e. white and minority) to assess for difference by LGBTQ identity. A Chi-square analysis indicated no statistically significant difference by LGBTQ identity for race, $\chi^2(1, N = 101) = 1.49$, $p = .22$. When assessing gender by LGBTQ identity, the three participants who identified as a gender other than female or male were dropped from the analysis due to small size leaving two groups, female ($n = 47$) and male ($n = 51$). Chi-square analysis revealed that homeless youth who identify as LGBTQ in this sample were more likely to identify as female, $\chi^2(1, N = 98) = 16.78$, $p < .001$. The three youth who identified as a gender other than male or female also identified as either gay or queer; their data remained in all other analyses as a member of the LGBTQ subsample.

Each of the history of homelessness categorical variables (i.e., times homeless in the past three years, length of the most recent homeless episode, location of most recent homeless episode, and reason for most recent homeless episode) were assessed individually using Chi-square. Prior to analyses, each history of homelessness variable was examined to ensure that at least 80% of the cells had an expected cell count of five or more; I collapsed categories where meaningful. Chi-square analysis revealed no statistically significant differences by LGBTQ identity for number of times homeless in the past three years, $\chi^2(3, N = 101) = 2.10$, $p = .55$, length of most recent homeless episode, $\chi^2(3, N = 98) = .54$, $p = .91$, location of most recent homeless episode, $\chi^2(3, N = 101) = 4.02$, $p = .26$, or reason for most recent homeless episode, $\chi^2(3, N = 101) = 2.78$, $p = .43$ (See Table 6).

Table 6.

Sociodemographic Characteristics by LGBTQ Identity

	LGBTQ	Not LGBTQ	
	Mean (SD)		<i>t</i>
Age	17.40 (1.04)	17.59 (1.10)	.82
	Frequency (%)		χ^2
Race/Ethnicity			1.49
Minority	16 (53.3)	47 (66.2)	
White	14 (46.7)	24 (33.8)	
Gender^a			16.78**
Male	5 (18.5)	46 (64.8)	
Female	22 (81.5)	25 (35.2)	
Times homeless in the past 3 years			2.10
None	3 (10.0)	14 (19.7)	
Once	8 (26.7)	22 (31.0)	
Twice	10 (33.3)	18 (25.4)	
Three or more times	9 (30.0)	17 (23.9)	
Length of most recent episode			0.54
Less than one week	3 (10.0)	9 (12.7)	
One week to one month	15 (50.0)	30 (42.3)	
One to three months	5 (16.7)	13 (18.3)	
More than three months	7 (23.3)	19 (26.8)	
Location of most recent episode			4.02
Shelter	14 (46.7)	33 (46.5)	
Friends/Couch hopping	8 (26.7)	9 (12.7)	
Family	5 (16.7)	14 (19.7)	
Other	3 (10.0)	15 (21.1)	
Reason for most recent episode			2.78
Family conflict	13 (43.3)	24 (33.8)	
DV/Child abuse or neglect	7 (23.3)	13 (18.3)	
Eviction/Asked to leave	8 (26.7)	21 (29.6)	
Other	2 (6.7)	13 (18.3)	

* $p < .05$, ** $p < .01$, *** $p < .001$.^aLGBTQ subsample $n = 27$

Victimization History. Lifetime victimization history by LGBTQ identity is reported in Table 7. LGBTQ homeless youth in this sample were significantly more likely to have experienced sexual victimization prior to entry in the TLP compared to their heterosexual homeless peers (66.7% vs. 16.9%), $\chi^2(1, N = 101) = 24.13, p < .001$. When comparing lifetime physical victimization, LGBTQ youth also experienced higher rates when compared to their heterosexual homeless peers (50.0% vs. 36.6%), but the difference did not reach the level of statistical significance, $\chi^2(1, N = 101) = 1.57, p = .21$.

Mental Health Diagnosis History. In general, most (80.2%) of the homeless youth in this study reported having been diagnosed with a mental health-related illness prior to admission to this program. Chi-square analysis revealed that homeless youth who identified as LGBTQ were more likely to report a mental health diagnosis when compared to their heterosexual homeless peers (93.3% vs. 74.6%), $\chi^2(1, N = 101) = 4.64, p = .03$. Additionally, LGBTQ-identified homeless youth in this sample also reported a greater number of mental health diagnoses ($M = 2.17, SD = .97$) than their heterosexual peers ($M = 1.37, SD = .99$), $t(99) = 3.72, p < .001$. When examining individual diagnoses, only depression, PTSD, and anxiety appeared frequently enough in the sample as a whole for meaningful bivariate analysis by LGBTQ identity. The remaining diagnoses were collapsed by diagnosis category (see Table 7). Chi-square analysis revealed that when compared to the heterosexual homeless youth in this sample, LGBTQ homeless youth were more likely to report depression, $\chi^2(1, N = 101) = 10.05, p = .002$, and anxiety, $\chi^2(1, N = 101) = 7.20, p = .007$; differences in the remaining diagnoses by LGBTQ identity were not statistically significant (all diagnoses reported in Table 7).

Substance Use History. There were no statistically significant differences by LGBTQ identity for any of the substance use variables (Table 7). Regarding prevalence of substance use

by LGBTQ identity, LGBTQ youth in this sample reported slightly higher rates of substance use (60.0%) when compared to heterosexual youth (59.2%), but this slight difference was not statistically significant, $\chi^2(1, N = 101) = .01, p = .94$. Although the LGBTQ homeless youth had slightly lower rates of polysubstance use (50.0%) when compared to the non-LGBTQ homeless youth (54.8%), the difference was not statistically significant, $\chi^2(1, N = 60) = .12, p = .74$. In addition to overall substance use patterns, I examined the rate of use for each type of substance. For all of individual substances except for alcohol and marijuana, there were too few youth who reported using each substance type to meaningfully examine potential differences by LGBTQ identity group. However, the rates of use for each substance by LGBTQ group are reported in Table 7. For alcohol use, 40% of LGBTQ youth compared to 26.76% of non-LGBTQ youth reported currently using alcohol, but this difference was not statistically significant, $\chi^2(1, N = 101) = 1.38, p = .19$. When examining marijuana use, LGBTQ youth used marijuana at lower rates than their heterosexual counterparts (43.33% vs. 57.75). Like alcohol use, difference in rate of use of marijuana was not statistically significant, $\chi^2(1, N = 101) = 1.76, p = .19$.

Table 7.

Victimization, Mental Health, and Substance Use Histories by LGBTQ Identity

	LGBTQ	Not LGBTQ	
	Mean (SD)		<i>t</i>
Number of mental health diagnoses	2.17 (.97)	1.37 (.99)	3.72***
Number of substances used	2.17 (1.54)	2.02 (1.28)	.37
	Frequency (%)		χ^2
Lifetime victimization			
Sexual	20 (66.7)	12 (16.9)	24.13***
Physical	15 (50.0)	26 (36.6)	1.57
Mental health diagnosis history			
Current or previous diagnosis	28 (93.3)	53 (74.6)	4.64*

Table 7. (cont'd)

Diagnosis by type

Depression	19 (63.3)	21 (29.6)	10.05**
PTSD	11 (36.7)	19 (26.8)	1.00
Anxiety	12 (40.0)	11 (15.5)	7.20**
Bipolar and other mood disorders	8 (26.7)	14 (19.7)	.60
Disruptive behavior disorders	6 (20.0)	19 (26.8)	.52
Substance abuse	5 (16.7)	8 (11.3)	.09

Substance use history

Current or previous use	18 (60.0)	42 (59.2)	.01
Polysubstance use ^a	9 (50.0)	23 (54.8)	.12

Substance use by type

Alcohol	12 (40.0)	19 (26.8)	1.74
Marijuana	13 (43.4)	41 (57.7)	1.76
Stimulants	3 (10.0)	5 (7.0)	
Opioids	2 (6.7)	3 (4.2)	
Hallucinogens	1 (3.3)	3 (4.2)	
Prescription medication	5 (16.7)	8 (11.3)	
Over the counter medication	2 (6.7)	4 (5.6)	

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

^a Includes only youth who reported using at least one substance, $n = 60$

Service Utilization. Before examining service utilization to explain a change in mental health and substance use impairment over time, it is necessary to understand any potential differences in service utilization patterns by LGBTQ identity. In general, the LGBTQ-identified youth in this sample tended to stay in the program fewer months and used fewer services. However, none of the differences by LGBTQ identity in the service utilization patterns reached statistical significance. For instance, although the independent samples t-test revealed no significant difference between the two groups in average number of months in the TLP, $t(99) = .40$, $p < .69$, the LGBTQ youth resided in the program, on average, for shorter periods of time ($M = 4.67$, $SD = 3.55$) when compared their heterosexual homeless peers ($M = 5.06$, $SD = 4.81$). With regards to average number of clinical services utilized per week, the LGBTQ youth also

utilized fewer services per week, but the difference between the LGBTQ and heterosexual youth was minimal ($M = 1.41$, $SD = .68$ vs. $M = 1.45$, $SD = .83$, respectively), and not statistically significant, $t(95) = .22$, $p = .83$. There were no statistically significant differences in utilization of any of the supplementary services (see Table 8).

Table 8.

Service Utilization by LGBTQ Identity

	LGBTQ	Not LGBTQ	
	Mean (SD)		<i>t</i>
Months in the program	4.67 (3.55)	5.06 (4.81)	.40
Clinical sessions per week	1.41 (.68)	1.45 (.83)	.42
Therapy	.57 (.30)	.53 (.34)	.42
Case management	.93 (.42)	.96 (.64)	.19
	Frequency (%)		χ^2
Use of clinical services			
Therapy	25 (83.3)	63 (88.7)	.55
Case management	30 (100.0)	70 (99.0)	.43
Case management by type			
Basic needs	30 (100.0)	69 (97.1)	.87
Life skills	29 (96.7)	64 (90.1)	1.23
Education	27 (90.0)	59 (83.1)	.79
Employment	27 (90.0)	53 (74.6)	3.02
Health needs	24 (80.0)	53 (74.6)	.33
Use of supplementary services			
Recreational activities	17 (56.7)	29 (40.8)	2.13
Community service/Service learning	8 (26.7)	26 (36.6)	.94
Psychiatric services	11 (36.3)	17 (23.9)	.08
Substance use treatment	7 (23.3)	8 (11.3)	2.43
Support groups	4 (13.3)	5 (7.0)	1.03

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

Multivariate Analysis: Change in Mental Health and Substance Use Impairment

Although though the two outcome variables in this study (i.e., mental health impairment and substance use impairment) are often examined concurrently, they represent two distinct issues with the homeless youth population. Therefore, the following models and results examining change in mental health impairment are presented first, followed by change in substance use impairment. MLM was used to answer the following research questions:

RQ5. After controlling for sociodemographic characteristics and victimization history, what is the relationship between LGBTQ identity, service utilization, and mental health impairment?

RQ6. After controlling for sociodemographic characteristics and victimization history, what is the relationship between LGBTQ identity, service utilization, and substance use impairment?

Mental Health Impairment Model Components. The final nested models for mental health impairment are presented in Table 9.

Unconditional Model. The mean intercept of mental health impairment at intake was 2.91 ($SE = .09$, $p < .001$), and there was a significant linear decrease in mental health impairment over time ($\gamma = -.05$, $SE = .01$, $p < .001$). The variance of the intercept (.63, $SE = .10$, 95% CI : .46-.87) and slope (.003, $SE = .002$, 95% CI : .001-.008) were also significant at $p < .001$, indicating a significant amount of variance between individual participants' mental health impairment at both intake and over time.

Conditional Control Variables Model. When assessing sociodemographic variables at the bivariate level, the LGBTQ youth, when compared to non-LGBTQ youth, were more like to identify as female (81.5% vs. 35.2%), $\chi^2(1, N = 98) = 16.78$, $p < .001$, and report experiencing sexual victimization (66.7% vs. 37.5%) prior to entry into the TLP, $\chi^2(1, N = 101) = 24.13$, $p < .001$. Because of these potentially confounding differences, both gender and history of sexual

victimization were tested as time-invariant control variables. The impact of gender on initial mental health score was significant ($\gamma = .50$, $SE = .17$, $p = .003$) and improved model fit $LR \chi^2 (1) = 31.45$, $p < .001$, indicating that identifying as female ($female = 1$, $male = 0$) was associated with a higher mental health impairment score at intake. When gender was added to the model, it did not significantly explain the trajectory of mental health impairment, $\gamma = .03$, $SE = .02$, $p = .17$ and did not improve the model fit $LR \chi^2 (1) = 1.77$, $p = .18$, therefore resulting in removal from the model. Next, sexual victimization was added to the control variables model but it did not meet the $p \leq .10$ threshold ($\gamma = .56$, $SE = .26$, $p = .55$), nor did it improve the model $LR \chi^2 (1) = .36$, $p = .55$. These results indicate that sexual victimization did not impact initial mental health impairment score or the trajectory of mental health impairment over time, and its effects were therefore removed from the final control model.

Conditional LGBTQ Model. After controlling for gender (i.e. identifying as female) at initial measurement ($\gamma = .50$, $SE = .17$, $p = .003$), the addition of LGBTQ identity significantly improved the model fit over the control variables model $LR \chi^2 (1) = 4.87$, $p = .03$. LGBTQ identity was associated with higher mental health impairment scores at intake ($\gamma = .44$, $SE = .20$, $p = .03$), but did not explain the trajectory of mental health impairment ($\gamma = -.003$, $SE = .03$, $p = .91$), resulting in removal of the latter effect from the model. These results indicate that when controlling for gender, youth who identify as LGBTQ have, on average, higher scores on the mental health impairment variable at intake, but LGBTQ identity does not impact change in mental health impairment over time.

Conditional Service Utilization Model. To assess the impact of service utilization, seven individual variables were examined: 1) months in the program, 2) average clinical sessions per week, 3) utilization of psychiatric services (yes-no, with $yes = 1$), 4) utilization of substance use

services (yes-no, with $yes = 1$), 5) participation in recreational activities (yes-no, with $yes = 1$), 6) participation in support groups (yes-no, with $yes = 1$), and 7) participation in community service/service-learning opportunities (yes-no, with $yes = 1$). After controlling for gender at initial measurement ($\gamma = .50$, $SE = .17$, $p = .003$), I entered each service utilization variable into this model individually to assess impact on initial mental health impairment score and change in mental health impairment over time. Effects with p values less than or equal to .10 were retained for further analysis, while those with p values greater than .10 were removed from the conditional service utilization model.

After controlling for gender at initial measurement ($\gamma = .50$, $SE = .17$, $p = .003$), the analysis revealed that youth who utilized psychiatric services ($\gamma = .48$, $SE = .18$, $p = .01$) and substance abuse services ($\gamma = .71$, $SE = .24$, $p = .003$) during the stay in the TLP had, on average, higher initial mental health impairment scores, indicating higher mental health impairment at the beginning of their stay in this TLP. Analysis also revealed that length of stay ($\gamma = -.004$, $SE = .002$, $p = .05$) and utilization of substance abuse services ($\gamma = -.06$, $SE = .03$, $p = .04$) were associated with a decrease in mental health impairment over time; the addition of these service utilization variables significantly improved model fit from the control model $LR \chi^2 (5) = 21.85$, $p < .001$.

Final Conditional Model: LGBTQ Identity, Service Utilization, and Mental Health Impairment. I present the results for the nested models in Table 9. Model 1 is the unconditional model, followed by the control variables in Model 2. The addition of LGBTQ identity as a predictor in Model 3 was a significant improvement over Model 2, $LR \chi^2 (1) = 4.87$, $p = .03$. Next, the collective addition of the service utilization variables is represented in Model 4, which was also a significant improvement in model fit over Model 2 (i.e. control variables model), LR

$\chi^2(5) = 21.85, p < .001$. The final model (Model 5) represents the addition of the service utilization variables to the LGBTQ identity model, which resulted in significant model fit improvement, $LR \chi^2(5) = 20.09, p = .001$. LGBTQ identity ($\gamma = -.35, SE = .19, p = .05$), utilizing psychiatric services ($\gamma = .48, SE = .18, p = .009$) and substance use services ($\gamma = .62, SE = .24, p = .01$) remained significantly associated with higher mental health impairment at intake. With regards to change in mental health impairment over time, length of stay ($\gamma = -.004, SE = .002, p = .05$) and utilizing substance abuse services ($\gamma = -.06, SE = .03, p = .04$) remained associated with a decrease in mental health impairment over time. Finally, although the model fit was significantly improved by including the between-person effects of LGBTQ identity and service utilization, the random intercept variances remained significant, indicating that variability across participants in their initial mental health impairment ($\sigma = .47, p < .001$) that was not completely accounted for.

Table 9.

LGBTQ Identity, Service Utilization, and Mental Health Impairment (MHI)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	γ	<i>SE</i>	γ	<i>SE</i>	γ	<i>SE</i>	γ	<i>SE</i>	γ	<i>SE</i>
Between-person effects on initial MHI										
Intercept	2.91***	.09	3.15***	.12	2.61***	.12	3.10***	.15	3.29***	.18
Gender ^a			.50**	.17	.34*	.18	.46**	.16	.34*	.17
LGBTQ Identity					.44**	.20			.35*	.19
Service Utilization										
Length of Stay (months)							.03	.02	.03	.02
Psychiatric Services (yes = 1)							.48**	.18	.48**	.18
Substance Use Services (yes = 1)							.72**	.24	.62*	.24
Between-person effect on the linear trajectory of change in MHI										
Intercept (slope)	-.05***	.01	-.05***	.01	-.05***	.01	-.08**	.02	-.08**	.02
Length of Stay (months)							-.004*	.002	-.004*	.002
Substance Use Services (yes = 1)							-.06*	.03	-.06*	.03
Random effects										
Intercept (baseline)	.21***		.57***		.53***		.49***		.47***	
Time slope (linear)	.003*		.004*		.004*		.003		.004	
Residual variance	.21		.22		.22		.22		.22	
Model Comparisons ^b	-		11.45*		4.87*		21.85***		20.09***	

* $p < .05$, ** $p < .01$, *** $p < .001$ ^aMale = 0, Female = 1; ^bChi-square difference relative to previous model

Substance Use Impairment Model Components. The final nested models for substance use impairment are presented in Table 10.

Unconditional Model. The mean intercept of substance use impairment at intake was 2.03 ($SE = .10, p < .001$), and there was a significant linear decrease in substance use impairment over time ($\gamma = -.04, SE = .01, p < .001$). The variance of the intercept (.89, $SE = .14, 95\% CI: .65-1.2$) and slope (.003, $SE = .001, 95\% CI: .002-.007$) were also significant at $p < .01$, indicating a significant amount of variance in individual participants' substance use impairment at both intake and over time.

Conditional Control Variables Model. When assessing sociodemographic variables at the bivariate level, when compared to non-LGBTQ youth, the LGBTQ youth in this sample were more like to identify as female (81.5% vs. 35.2%), $\chi^2(1, N = 98) = 16.78, p < .001$, and to report experiencing sexual victimization (66.7% vs. 37.5%) prior to entry the TLP, $\chi^2(1, N = 101) = 24.13, p < .001$. Similar to the mental health impairment model, both gender and history of sexual victimization were tested as time-invariant control variables because of the potentially confounding differences between the LGBTQ and non-LGBTQ youth in this sample. The impact of gender (i.e., identifying as female) on initial substance use score was not statistically significant ($\gamma = -.12, SE = .17, p = .49$), but did improve overall model fit $LR \chi^2(1) = 20.01, p < .001$, therefor gender was retained. When sexual victimization was added to the control variables model it did not meet the predetermined threshold ($p \leq .10$) at initial substance use impairment ($\gamma = .01, SE = .28, p = .97$) or change in the trajectory of substance use impairment over time ($\gamma = -.0001, SE = .03, p = .98$). The addition of sexual victimization did not improve the overall model fit $LR \chi^2(1) = .001, p = .99$, resulting in its removal.

Conditional LGBTQ Model. After controlling for gender (i.e., identifying as female) at initial substance use impairment measurement ($\gamma = -.12, SE = .17, p = .49$), the addition of LGBTQ identity did not significantly improve model fit in comparison to the control variables model $LR \chi^2 (2) = .05, p = .79$. Although LGBTQ youth in this sample had, on average, slightly lower substance use impairment scores at intake, the effect was not statistically significant ($\gamma = -.13, SE = .24, p = .58$). Further, the effect of LGBTQ identity did not impact the trajectory of substance use impairment scores over time ($\gamma = -.002, SE = .02, p = .93$). So although there is a slight difference in initial substance use impairment score between LGBTQ and non-LGBTQ youth in this sample, the effect did not reach the threshold of $p \leq .10$, and therefore was not included in the model building moving forward.

Final Conditional Model: Service Utilization and Substance Use Impairment. Results for the nested models are presented in Table 10. Model 1 is the unconditional model, followed by the addition of the control variables in Model 2. Next, LGBTQ identity was added as a predictor (Model 3) but did not result in a statistically significant improvement over the control variables model (Model 2), $LR \chi^2 (2) = .05, p = .79$. Therefore, LGBTQ identity and its effects were removed from further analysis. As a result, Model 4 represents the addition of the service utilization to the control variables' model (Model 2), and also represents the final model for substance use impairment as the outcome of interest.

To assess the relationship between service utilization and substance use impairment at intake and over time, seven individual variables were examined: 1) months in the program, 2) average clinical services per week, 3) utilization of psychiatric services (yes-no, $yes = 1$), 4) utilization of substance use services (yes-no, $yes = 1$), 5) participation in recreational activities (yes-no, $yes = 1$), 6) participation in support groups (yes-no, $yes = 1$), and 7) participation in

community service/service-learning opportunities (yes-no, $yes = 1$). After controlling for gender at initial measurement ($\gamma = -.12$, $SE = .17$, $p = .49$), each service utilization variable was entered into this model individually. Effects with p values less than or equal to .10 were retained for further analysis, while p values greater than .10 were removed from this service utilization model.

Once the non-significant effects were removed, and gender controlled for at the initial measurement ($\gamma = .50$, $SE = .17$, $p = .003$), the addition of length of stay in months, clinical services per week, and utilization of substance use services resulted in overall improvement to the model fit $LR \chi^2 (6) = 43.82$, $p < .001$. The analysis revealed that youth who remained in the program for shorter periods of time ($\gamma = -.07$, $SE = .02$, $p < .001$) and utilized substance use services ($\gamma = 1.44$, $SE = .24$, $p < .001$) had, on average, higher initial substance use impairment scores, indicating higher substance use impairment at the beginning of their stay in this TLP. Analysis also revealed that length of stay ($\gamma = -.003$, $SE = .002$, $p = .05$), proportion of weekly clinical services ($\gamma = -.04$, $SE = .02$, $p = .008$), and utilization of substance abuse services ($\gamma = -.07$, $SE = .02$, $p = .003$) were associated with a decrease in substance use impairment over time.

Finally, the addition of the services utilization variables to the control variables' model resulted in overall model improvement $LR \chi^2 (6) = .43.82$, $p < .001$. However, although the model fit significantly improved by including the between-person effects of service utilization, the random intercept variances remained significant, indicating that variability across participants in their initial substance use impairment ($\sigma = .54$, $p < .001$) that was not completely accounted for.

Table 10.

LGBTQ Identity, Service Utilization, and Substance Use Impairment (SUI)

	Model 1		Model 2		Model 3		Model 4	
	γ	<i>SE</i>	γ	<i>SE</i>	γ	<i>SE</i>	γ	<i>SE</i>
Between-person effects on initial SUI								
Intercept	2.02***	.10	2.11***	.12	2.24***	.12	2.52***	.18
Gender ^a			-.12	.17	-.17	.18	-.18	.14
LGBTQ Identity					-.13	.24		
Service Utilization								
Length of Stay (months)							-.07***	.02
Clinical Sessions per Week							-.24	.13
Substance Use Services (yes = 1)							1.44***	.24
Between-person effect on the linear trajectory of change in SUI								
Intercept (slope)	-.04***	.01	-.04***	.01	-.04***	.02	-.09**	.02
Length of Stay (months)							-.003*	.002
Clinical Sessions per Week							-.04**	.02
Substance Use Services (yes = 1)							-.07**	.02
Random effects								
Intercept (baseline)	.89***		.87***		.87***		.54***	
Time slope (linear)	.003**		.003**		.003**		.001	
Residual variance	.13		.14		.14		.14	
Model Comparisons ^b	-		20.01***		0.50		43.82***	

* $p < .05$, ** $p < .01$, *** $p < .001$ ^aMale = 0, Female = 1; ^bChi-square difference relative to previous model

CHAPTER 5: DISCUSSION, IMPLICATIONS, AND CONCLUSION

Overview of the Study

This study utilized secondary data from a transitional living program in mid-Michigan to explore the characteristics of homeless youth who access longer-term housing programs, service utilization patterns within those programs, and mental health and substance use impairment over time. Specifically, this study had three primary purposes: 1) to examine the differences in sociodemographic characteristics (e.g., age, race/ethnicity, gender, history of homelessness), victimization, mental health and substance use histories of LGBTQ and non-LGBTQ homeless youth in a TLP, 2) to understand the service utilization patterns while in the TLP for the entire sample as well as by LGBTQ identity, and 3) to explore the relationship between LGBTQ identity, service utilization patterns, and mental health and substance use impairment over time. Although there is a growing amount of homeless youth literature that includes LGBTQ identity as a variable, it is largely cross-sectional in nature, has been gathered from youth who access short-term or drop-in shelters, and fails to evaluate mental health or substance use outcomes over time. Therefore, this study expands the homeless youth literature by providing information on homeless youth characteristics, service utilization patterns, and mental health and substance use impairment over time by LGBTQ identity in a TLP.

Key Research Findings

LGBTQ Identity. Of the 101 homeless youth who accessed services at Crossroads TLP between 2011 and 2018, nearly one-third (29.7%) of the youth identified as a member of the LGBTQ community, which falls in line with previous research that estimates between 20% and 40% of homeless youth identify as LGBTQ (Choi et al., 2015; Durso & Gates, 2012; Voice of Youth Count, 2017). In this study, 63.3% of the LGBTQ-identified youth reported their sexual

orientation as bisexual, which is much higher than the 2.5% of LGBTQ youth in the only other known study that examines LGBTQ identity in a TLP setting (Nolan, 2006). This discrepancy may be due to the fact that the TLP in Nolan's (2006) study was LGBTQ-specific, which perhaps provided the youth a level of safety in their identity disclosure that was not present in this TLP. Emerging research indicates that when program staff ask youth about their sexual orientation or gender identity before youth are able to determine level of personal safety, even if the staff are affirming, youth may find it easier to identify in a way that is seen as more socially acceptable to peers (e.g., bisexual as opposed to queer) when the program is not LGBTQ-specific (Shelton, Poirier, Wheeler, Abramovich, 2018).

Sociodemographic Characteristics. In general, the LGBTQ and non-LGBTQ youth in this study shared many similar sociodemographic characteristics including age at admission, race/ethnicity, and history of homelessness. The youth in this study were slightly younger than 18 at admission, identified as a race other than White, had been homeless at least one time prior to their current episode, and were homeless as a result of family conflict, which is similar to previous research conducted in transitional living settings (Nolan, 2006; Pierce et al., 2018). When assessing gender differences by LGBTQ identity, the results indicated significantly more LGBTQ youth reported their gender as female when compared to the non-LGBTQ youth in this sample. There are a handful of previous studies that found similar results, but these studies were drawn from street and short-term shelter samples and did not assess the role that gender played in their outcomes of interest (Kattari et al., 2018; Gangamma et al., 2008; Van Leeuwen et al., 2006); previous research in TLPs has not assessed gender differences between LGBTQ and non-LGBTQ homeless youth. Given that females and LGBTQ homeless youth both have higher rates of sexual victimization and mental health related disorders when compared to male and

heterosexual, cisgender youth (Cochran et al., 2002; Whitbeck et al., 2004), it is critical to acknowledge the overrepresentation of female gender within this LGBTQ sub-sample, and the role gender may play in victimization histories and mental health related disorders.

Victimization History. Previous research indicates that homeless youth who identify as LGBTQ have significantly higher rates of sexual and physical victimization (Frederick et al., 2011; Tyler & Cauce, 2002; Whitbeck et al., 2004) when compared to their heterosexual homeless peers. In general, over half (56.4%) of the youth in this sample reported experiencing sexual or physical victimization at least one time prior to entering this TLP; LGBTQ youth in this study reported significantly higher rates of lifetime sexual victimization, but not lifetime physical victimization. Two-thirds (66.7) of the LGBTQ youth in this sample reported experiencing sexual victimization prior to their stay in this TLP, compared to 16.9% of the non-LGBTQ youth. Despite the significant differences, these results should be interpreted with caution given the high number of females (81.5%) in the LGBTQ sub-sample. It is difficult to discern if the youth's gender or sexual orientation was driving the difference given that both female and LGBTQ homeless youth are more likely to experience sexual victimization when compared to males and non-LGBTQ homeless youth (Cauce et al., 2000; Rew, Taylor-Seehafer, & Fitzgerald, 2001; Tyler, 2008; Tyler & Beal, 2010).

As previously noted, there was not a statistically significant difference in the rates of lifetime physical victimization between LGBTQ and non-LGBTQ youth, but the LGBTQ youth in this study did report higher rates of lifetime physical abuse when compared to their heterosexual, cisgender homeless peers (50.0% vs. 36.6%). The inability to detect a significant difference between these two groups may be a result of small sample size. However, other researchers that have investigated differences in rates of physical abuse between LGBTQ and

non-LGBTQ homeless youth have found mixed results; some have reported that LGBTQ homeless youth have experienced more physical victimization (Cochran et al., 2002; Whitbeck et al., 2004), while others have reported similar rates of physical abuse across these two groups (Frederick et al., 2011; Tyler & Beal).

Mental Health Diagnosis History. The prevalence of a mental health diagnosis across all the youth in the sample was high (80.2%) compared to previous research that estimated between 30-70% of homeless youth report experiencing mental health related issues (Cauce et al., 2000; Gattis, 2013; Narendorf et al., 2017). Similar to previous research, when comparing the two groups (LGBTQ identity vs. not), the LGBTQ youth in this sample were more likely to report a current or previous mental health diagnosis as well as a greater number of mental health diagnoses (Cochran et al., 2002; Gangamma et al., 2008; Whitbeck et al., 2004), indicating an increased vulnerability and need for services. These results also align with MST (Meyer, 1995), which posits that individuals who identify as a member of a minority sexual orientation or gender identity experience additional stressors associated with their minority identity that can exacerbate the mental illness. Unfortunately, the way in which the sexual orientation, mental health, and history of homelessness data were collected (i.e., it is unknown whether the mental health issues occurred before or after disclosure of sexual orientation), I was unable to test the theoretical model so results should be interpreted with caution. However, the fact that 93.3 % of the LGBTQ youth in this sample reported a current or previous mental health diagnosis, compared to 74.6% of the non-LGBTQ homeless youth, is a clear indication of the high level of mental health need that is present with this population.

Previous homeless youth research that has examined mental health diagnoses by type has focused predominantly on depression and PTSD, indicating that both of these mental health

disorders are more likely to occur with the LGBTQ homeless youth population when compared to their heterosexual homeless peers (Cochran et al., 2002; Gangamma et al., 2008; Whitbeck et al., 2004). Consistent with previous research, the LGBTQ youth in this study were significantly more likely to report being diagnosed with depression when compared to the non-LGBTQ youth. And although the difference in prevalence of PTSD between the two groups was not statistically significant, potentially due to small sample size, the LGBTQ youth did report a greater frequency of PTSD when compared to the non-LGBTQ youth (36.7% vs. 29.6%). Additionally, consistent with Gangamma and colleagues (2008) study, the LGBTQ youth in this study were also significantly more likely to report the presence of anxiety symptoms when compared to their heterosexual homeless peers.

To summarize, the mental health related findings demonstrate the high level of need vulnerability and need with the LGBTQ youth in this study. For instance, 93.3% of LGBTQ youth reported receiving at least one mental health diagnosis in the past, and reported higher frequencies of depression, PTSD, and anxiety. It is important to highlight that the presence of depression, PTSD, or anxiety alone can be extremely challenging for LGBTQ homeless youth to manage in addition to the stress of being LGBTQ and homeless, but the potential presence of all three of these disorders could be debilitating, and further highlights the need for available and appropriate services for these young folks.

Substance Use History. Contrary to previous research that indicates LGBTQ homeless youth are more likely to use substances when compared to their heterosexual homeless peers (Cochran et al., 2002; Gattis, 2013; Frederick et al., 2011; Van Leeuwen et al., 2006; Whitbeck et al., 2004), there were not any significant differences in substance patterns between the LGBTQ and non-LGBTQ homeless youth in this sample. Generally speaking, over half (59.4%)

of the LGBTQ and non-LGBTQ youth in this study reported using substances. Marijuana was the most frequently used drug for both groups, followed by alcohol, prescription medications, and stimulants.

Despite lack of statistically significant differences between the two groups, 60.0% of LGBTQ youth and 59.2% of the non-LGBTQ homeless youth reported using substances, which is relatively low compared to previous studies that estimate as many as 75-90% of homeless youth use substances (Noell & Ochs, 2001; Salomonsen-Sautel et al., 2008; Van Leeuwen et al., 2006). Although the usage patterns in this sample of homeless youth are lower than previous studies, they are still much higher than non-homeless youth. For instance, a recent national study of substance use among youth and young adults indicates that 31.5% of youth have used at least one substance in the past year (Han, Compton, Blanco, & DuPont, 2017). Further, it is also important to consider that the youth in this program were asked about their substance use prior to and at their admission to the program, which may have resulted in underreporting due to concerns that their substance use would result in dismissal from the program. Additionally, the youth in this study were, on average, below the age of 18 at admission, which required that a parent or guardian be present at intake, which may have further decreased the accurate reporting of their current or past use.

Service Utilization Patterns. Research that has examined service utilization among homeless youth, and between LGBTQ and non-LGBTQ homeless youth, is limited and has not been examined within longer term housing programs such as TLPs. Researchers have predominantly focused on the types of programs that youth access (i.e., housing, drop-in centers, food, etc.) (Carlson et al., 2006; Kort-Butler & Tyler, 2012; Pergamit and Ernst, 2012) or are specifically related to health care related services such as doctor visits or STI testing

(Chelvakumer et al., 2017; Tyler et al., 2012). The studies that have examined service use by LGBTQ identity with homeless youth indicate that LGBTQ youth are significantly more likely than non-LGBTQ homeless youth to use food programs and some more specialized services such as counseling and STI or HIV testing (Chelvakumer et al., 2017; Tyler et al., 2012). Contrary to previous research, there were not any significant differences in patterns of service utilization between the LGBTQ and non-LGBTQ youth but the inability to detect these differences may be a result of the small sample size, so findings should be interpreted with caution. However, the results do provide valuable introductory information regarding overall service utilization in transitional living programs. For instance, LGBTQ youth reported higher mental health impairment at intake when compared to the heterosexual, cisgender youth, but utilized similar services, suggesting that LGBTQ youth are especially likely to underutilize services regardless of level of need.

Generally speaking, all youth in this study, regardless of LGBTQ identity, underutilized services that were available to them, including the number of months they could stay in the program, and the frequency and type of services they used. For instance, although youth could reside in this TLP for up to 18 months, they stayed for approximately 5 months on average; LGBTQ youth's stays were slightly shorter when compared to the non-LGBTQ youth (4.67 vs. 5.06). Although the limited number of months in the program is similar to the state-wide data for Michigan TLPs, the youth stayed less than one third of the time allowed. In Nolan's (2006) study of homeless LGBTQ youth in an LGBTQ-specific TLP, youth stayed in the program an average of 10.5 months, which is more than double the time youth in this study remained in the TLP. To my knowledge, there are no other studies that have formally evaluated the amount of time youth spend in TLPs, which leaves us with many unanswered questions regarding why youth do or do

not leave prematurely. Are youth reuniting with family? Are they leaving for other housing opportunities? Are they choosing to leave early without other housing? Are they seeking services elsewhere that they deem more appropriate to meet their needs? Or are they being asked to leave the program early? Although not evaluated in this study, these are important questions that are critical to understanding the effectiveness of long-term housing programs and services for homeless youth.

In addition to time in the program, I examined the use of therapy and case management services while in the program. Similar to time in the program, these services were also underutilized. According the program guidelines, youth may access therapy up to three times per week but utilized this service on average less than once per week. Contrary to previous research, the LGBTQ youth in this study were less likely than the non-LGBTQ youth to utilize counseling (83.3% vs. 88.7%), though this difference was not statistically significant. However, although 80% of the youth in both groups accessed counseling, they did so at less than one time per week. Although these findings were not statistically significant, they do provide some preliminary information regarding patterns of service use. From an MST perspective, these findings indicate that the LGBTQ youth were perhaps not using the service for fear of discrimination or prejudice related to their LGBTQ identity, though I did not explore this in this study. However, youth were not asked why they did or did not engage in specific services, so it is likely there are other reasons why the youth are not engaging in these needed services.

In addition to therapy, youth were also offered case management to help work on basic needs, life skills, education, employment, and other health-related matters. Similar to the other service utilization findings, LGBTQ and non-LGBTQ youth utilized case management services at similar rates, but less often than was offered. For instance, all of the LGBTQ youth and nearly

all of the non-LGBTQ youth (100% and 99.0%, respectively) utilized case management while in the program but did so less than one time per week, which is far less than what was offered in this program (i.e. up to five times per week). Both LGBTQ and non-LGBTQ youth used case management that focused on basic needs most frequently, followed by life skills, education, employment, and health needs. These findings, which coincide with previous research that indicates homeless youth are more likely to access services that meet their basic needs (Kort-Butler & Tyler, 2012; Tyler et al., 2012), suggest that even when youth have those immediate needs met by entering a TLP (i.e., safety, shelter, food), they still tend to use services of that nature.

Finally, this TLP offered a variety of additional services, referred to as supplementary services, that were designed to enhance the program and clinical services. These services were offered based on youth need but were not mandatory. Supplementary services included psychological or psychiatric care, substance abuse assessment and treatment, recreational activities, support groups, and community service/service-learning opportunities. Generally speaking, the youth in this study used the supplementary services at much lower rates than the clinical services; there were no differences by LGBTQ identity. The lack of utilization does not appear to be associated with lack of need, despite this category of services being “need based.” For instance, 60.0% of LGBTQ youth and 59% of non-LGBTQ youth reported using substances, but only 7% of LGBTQ youth and 8% of non-LGBTQ youth reported accessing substance use assessment or treatment. The lack of utilization of this service could be associated with youth not seeing their substance use as problem, not wanting to give up one of their coping mechanisms, or perhaps the youth were asked to leave the program due to ongoing substance use related issues.

Regardless of the youth's rationale for not using this service, these results clearly indicate that there is a disconnect between demonstrated need and service use that needs to be remedied.

LGBTQ Identity, Service Utilization, and Mental Health and Substance Use

Impairment. The findings of this study provide some preliminary empirical evidence regarding the relationship between LGBTQ identity, service utilization, and mental health and substance use impairment for homeless youth in a transitional living program. There is limited research that has examined youth outcomes over time in transitional living settings, and those studies focused on education, employment, and housing outcomes (Holt Schneider, 2016; Nolan, 2006; Pierce et al., 2018); only one study has included LGBTQ homeless youth but did not compare outcomes based on LGBTQ identity (Nolan, 2006). Therefore, the findings from this study add to the literature by providing new information regarding the relationship between LGBTQ identity, service utilization, and mental health and substance use impairment for homeless youth in a TLP.

Mental Health Impairment. As previously indicated, mental health impairment was assessed at intake and every 90-days for all youth in the TLP. To explore the relationship between LGBTQ identity, service utilization, and mental health impairment, it was essential to control for the effect of gender, given the disproportionate number of females in the LGBTQ sub-group and the known relationship between gender and mental health-related issues with homeless youth (Cauce et al., 2000; Gwadz, Nish, Noelle, & Strauss, 2007; Rew, Taylor-Seehafer, & Fitzgerald, 2001; Tyler & Beal, 2010). The results indicate that identifying as a member of the LGBTQ community was associated with higher mental health impairment at intake, though it did not impact the trajectory of mental health impairment over time. These findings confirm that LGBTQ youth entered the program with greater mental health impairment, but their rate of impairment declined at a rate that was similar to the non-LGBTQ youth.

Consequently, although their mental health impairment decreased while in the program, when they left, they were still experiencing greater mental health impairment than their heterosexual peers, leaving them in a more vulnerable state.

In addition to LGBTQ identity, I examined the relationship between several service utilization variables and mental health impairment. Results indicated that higher mental health impairment at intake was associated with seeking psychiatric care and substance use services while in the TLP. The relationship between the variables suggests that youth who do access these two services may have higher mental health needs when they enter the TLP and are perhaps more aware of their needs, so they choose to utilize these additional services.

Further, utilizing substance use services was associated with a decrease in mental health impairment over time. This finding is of particular interest given that general mental health counseling, which is offered within the program multiple times per week, was not associated with a change in mental health impairment over time. It is important to consider that substance use services at this agency are deemed supplementary. These services are provided above and beyond any other mental health counseling that the youth receives, and youth often must obtain this service from an outside provider. Although not specifically evaluated in this study, it is possible that the youth who sought out the additional services were more aware of their substance use issues and were ready to make changes to improve their overall mental health and well-being, more so than the effect of the service itself.

And finally, number of months in the program was associated with a decrease in mental health impairment over time, which supports emerging research on programs that operate from a positive youth development approach (Jensen et al., 2013). This finding suggests that the longer the youth remained in the TLP, the greater the decrease in their mental health impairment. This

finding is notable considering that youth resided in this 18-month program for an average of just over five months. However, despite the relatively short stay, youth significantly decreased their mental health impairment from intake to discharge. Although not examined in this study, it would be useful to understand which components of the PYDPM influenced the youth remaining in the program so that service providers can enhance those specific components, which may increase the average length of stay, further decreasing mental impairment prior to discharge.

Substance Use Impairment. Substance use impairment was measured at intake and every 90 days while youth remained in the program. Because previous research indicates differences in substance use by gender within the homeless youth population (Noell & Ochs, 2001; Whitbeck et al., 2004), and the overrepresentation of females in this LGBTQ sub-sample, gender was controlled for in assessing the relationship between LGBTQ identity, service utilization, and substance use impairment. Contrary to previous research that indicates LGBTQ homeless youth are more likely to use substances than their heterosexual homeless peers (Cochran et al., 202; Gattis, 2013; Van Leeuwen et al., 2006), my results indicate that LGBTQ identity was not associated with a difference in substance use impairment at intake, nor did it impact the trajectory of substance use impairment over time. By and large, the findings suggest that the LGBTQ youth and non-LGBTQ youth had similar patterns of substance use impairment upon entry into the program, and all youth decreased their substance use impairment over time.

Regarding the relationship between service utilization patterns and substance use impairment at intake, my findings indicate higher substance use impairment at intake was associated with shorter length of stay and utilizing substance use services while in the TLP. From these findings, I can infer that that perhaps youth who have higher levels of substance use impairment at intake remain in the program for shorter periods of time, despite the demonstrated

need for services, because they were didn't want to or unable to stay clean, which is a requirement to remain in the program (Gateway Youth Services, 2010). However, type and reason for discharge was not assessed in this study, therefore, these findings provide a foundation for further exploration into the relationship.

When assessing the relationship between service utilization and the trajectory of substance use impairment, my results indicated that length of stay, average number of clinical sessions per week, and utilization of substance use services were all associated with a decrease in substance use impairment over time. So, although there are no known studies that evaluate change in substance use over time in TLPs, these results add knowledge to the handful of studies that have evaluated the impact of certain treatment modalities on substance use pre and post-intervention for homeless youth who access services through drop-in centers (Polio et al., 2006; Slesnick et al., 2007; Tucker et al., 2017). However, the studies that are available have not found consistent results regarding the relationship between service use and substance use outcomes. For instance, Slesnick and colleagues (2007) found that homeless youth who reported a higher percentage of days in housing between baseline and post-intervention assessment had a significant decrease in substance use, but no relationship was found between the therapeutic intervention (i.e., individual therapy and case management) and substance use patterns. Tucker and colleagues (2017) found that homeless youth who accessed a short-term group-based therapeutic intervention in a drop-in center significantly decreased alcohol use from baseline to post intervention, but there was no change in patterns of use with marijuana or other substances. In a similar study with homeless youth who accessed services through a drop-in center, Pollio and colleagues (2006) reported that youth decreased their substance use over time, but found no relationship between the use of housing, mental health services, or drug treatment and the

decrease in youth substance use. The findings from my study indicate that time housed, number of clinical sessions per week, and use of additional substance use services was associated with a decrease in substance use impairment over time youth, suggesting that if service providers are able engage homeless youth in multiple forms of treatment (i.e., mental health and substance use counseling) while residing in a TLP, and also encourage youth to remain in the TLP throughout the duration of treatment, their substance use impairment decreases over time. These findings not only add to the existing literature by providing information on the experiences of homeless youth in longer term housing programs, but also support the use of TLPs for homeless youth with histories of substance use.

Implications for Research, Practice, and Policy

Research. This study provides a foundation for ongoing research related to the specific experiences of LGBTQ homeless youth in transitional living settings and leads to several research recommendations. First, researchers should aim to increase the size and diversity of their overall samples, as well as the LGBTQ sub-samples. Most of the research that compares the characteristics and experiences of LGBTQ homeless youth has failed to include adequate numbers of youth who identify as transgender, non-binary gender, or queer. Although there are some commonalities across identities within the LGBTQ group, youth who do not identify as cisgender are likely to have had different experiences prior to and during their time in TLPs. Further, samples should be drawn from more than one program in more than one geographic region to increase generalizability across settings.

Another area that should be examined, specifically for homeless youth that identify as LGBTQ, is the timing of identity development compared with other experiences such as victimization, the timing of the first homeless episode, and the onset of mental health and

substance use-related issues. To fully understand the impact of LGBTQ identity and minority stress for homeless youth, researchers need to understand the sequence of events, and be able to accurately ascertain the timing of identity development. Data that provide detailed sequential information, including but not limited to the youth's initial questioning of their identity and time of first identity disclosure, will allow future researchers to assess the applicability of minority stress theory with this population of young people, and examine the role that this type of stress plays on the homeless youth's current needs and overall well-being. Further, these types of studies can provide useful information to social work practitioners regarding how to tailor programs and services based on youth need.

The results of this study also bring to light the significant underutilization of services while in the TLP by this group of homeless youth and young adults. For instance, the youth who entered this TLP were able to access clinical services up to eight times per week (i.e., up to three therapy sessions and up to five case management sessions per week), but only used these services, on average, approximately 1.5 time per week. Further, nearly 60% of the youth reported using substance, but only 15% chose to access services. Future research should examine the reasons that youth are or are not choosing to access the different types of services as well as patterns and timing of service utilization. Are youth engaging in services in the beginning of the program and then using those services less as they re-enter school or secure employment as they move towards self-sufficiency? Does the perception of their relationship with their therapist or case manager impact the frequency of use? Understanding why youth do or do not use services is necessary in order to alter practices that do not facilitate participation in services.

Lastly, although the Family Youth Services Bureau (FYSB) requires TLP grantees to include components of the PYDPM in their daily programming and policies (FYSB, 2012), the

handful of studies that have assessed the practice model's effectiveness with developing skills with at-risk youth have not included homeless youth who reside in TLPs. So although this emerging body of research has found promising results regarding developing youth confidence, healthy relationships, and improved overall well-being (Leonard et al., 2017; Nott & Vuchinich, 2016), little is known about which program activities or services are associated with the positive changes. Future research should examine the utility of the specific components of the PYDPM within homeless youth TLPs including program structure, individual services such as skill building or asset development, and staff mentoring, instead of focusing predominantly on time in the program as the intervention.

Practice. Social work practitioners who work with LGBTQ homeless youth in transitional living settings need to clearly understand the significance of the issues these vulnerable youth have experienced prior to entry, the disconnect between these needs and their utilization of services , and how these two pieces may relate to the youth's identity as a sexual minority. Similar to previous research with LGBTQ homeless youth in community-based settings, the LGBTQ youth in this study reported significantly higher rates of sexual victimization, depression, and anxiety when compared to their heterosexual peers. Additionally, 60% of the LGBTQ youth also reported using substances such as alcohol and marijuana. These results highlight the complexity of issues that LGBTQ homeless youth are facing and emphasize the need for clinically appropriate and trauma-informed programming and services within transitional housing. When youth decided to enter a TLP, the issues they faced while homeless remain and providers must be responsive to this.

Further, despite of the demonstrated need, the LGBTQ youth in this study underutilized many of the available services. For instance, mental health counseling was available to the youth

up to three times per week but was only utilized on average less than one time per week; case management was available up to five times per week and was only used approximately once per week. Because this is the first study of its kind, it is difficult to make practice recommendations based on these results. However, the findings do indicate that youth, regardless of their identity, are not utilizing services. And although not assessed within the context of this study, it is important for social work practitioners to understand LGBTQ youth often experience stigma or discrimination associated with their minority identity which may reduce the likelihood of these youth accessing and utilizing services even when needs are present (Meyer, 1995, 2003). Therefore, social work practitioners need to make a conscious effort to reach out to LGBTQ youth who are not engaging in services that match their demonstrated needs.

Policy. At the policy level, these results have several implications. First, despite a growing body of research, including this study, that confirms LGBTQ homeless youth experience significant adversities that result in greater service needs than heterosexual homeless youth, there are no requirements regarding the implementation of LGBTQ-specific or trauma-informed services within federally-funded transitional living programs. Experiencing high rates of sexual or physical victimization paired with the stress associated with identifying as a sexual minority can negatively affect a youth's mental health (Almeida et al., 2009; Baams et al., 2015); untreated mental health issues can result in lifelong complications and hardship including poor overall health, inability to complete high school, difficulties maintaining employment, and poor social adjustment (Duchesne, Vitaro, Larose, & Tremblay, 2008; Joe, Joes, & Rowley, 2009). Some efforts have been made to improve quality of services within these programs, but they fall short. For instance, all FYSB grantees are required include components of the positive youth development practice model within their transitional living programs, but it appears that there are

limited guidelines to how this is implemented, as well as training requirements for agency staff, or how individual grantee performance is monitored (Fernandez-Alcantara, 2018; FYSB, 2012).

Further, the current federal policy that guides service provision in homeless youth programs fails to include specific language that identifies LGBTQ youth as a special needs population, nor does it provide any additional funding to agencies that are implementing specialized services (Quintana et al., 2010). To improve quality of transitional living programs and services for LGBTQ homeless youth, it is vital that runaway and homeless youth policy explicitly prohibits discrimination on the basis of sexual orientation and gender identity and requires agencies to offer LGBTQ-specific and trauma-informed services. To provide safe shelter and appropriate services for LGBTQ homeless youth across the nation, it is imperative that these protections and requirements are included in policy, and that agencies who receive federal money are strictly monitored for compliance.

Limitations of the Study

The results of this study must be examined within the framework of its limitations. First, this study had a relatively small sample size, with two unequal groups of interest (i.e., LGBTQ and non-LGBTQ youth). So, although MLM is well-suited to handle samples as low as 50 and can accommodate unequal groups, these factors may result in some inaccuracies such as biased estimates of level-two standard errors which may lead to inflated Type-I error rates (Maas & Hox, 2005; McNeish & Stapleton, 2016; Singer & Willet, 2003). Further, despite the power analysis demonstrating ample ability to detect moderate to large effect sizes at $p < .05$, it is likely that some of the nonsignificant findings were due to lack of power. A larger sample would have allowed for more refined analyses to examine difference between the LGBTQ and non-LGBTQ youth data.

Second, the data were extracted from youth's records who accessed services in one TLP in mid-Michigan, which limits the generalizability of the findings. Although the youth that entered this program shared similar demographics with other youth across TLPs in Michigan, the comparability to youth in TLPs across the United States is unknown. Because this study was the first of its kind, the sample provided useful foundational information that can be used to inform future research, which should include data from TLPs in multiple geographic regions across the United States.

Additionally, the secondary nature of this data lends itself to some limitations. First, the outcome data (i.e., mental health and substance use impairment) is collected as a part of the case management assessment. Each youth and their assigned case manager complete this assessment independently at intake, every 90 days, and at discharge, and then meet to discuss any differences in the scoring. If there are notable differences, the youth and case manager must agree upon a score together. This process may vary based on additional factors such as, but not limited to, the youth leaving the program without notice forfeiting their opportunity to discuss the score assigned by the case manager, how well the case manager knows the youth's current issues, how long the youth and case manager have worked together, the case manager's feelings about the youth, or the youth's ability and/or confidence in advocating for her or himself.

Finally, much of the data gathered at intake (i.e., sexual orientation, homelessness, victimization, mental health, and substance use histories) were both sensitive and measured via self-report. Even though all youth were given prompts within specific categories to facilitate accuracy, this information was gathered when the youth first encountered the TLP staff, which may have resulted in under-reporting due to fear or anxiety. Additionally, youth who are under the age of 18 at intake must have a parent or guardian present at intake, which may hinder the

accuracy of sensitive information such as the type and frequency of substance use. Further, research suggests that LGBTQ-identified youth are less likely to disclose their identity if they are unsure of their safety or the perceptions of agency staff (Coolhart & Brown, 2017; Cray, Miller, & Durso, 2013). Further, youth were not asked to specify the sequence of events, so it is unknown when disclosure of LGBTQ identity occurred in comparison to other life events such as first homeless episode, victimization, or when the youth first became homeless. As a result, all of the occurrences were treated as lifetime events, which makes it impossible to draw conclusions regarding the timing of the relationships between homelessness, mental health issues and substance use.

Conclusion

This study sought to examine the relationship between LGBTQ identity, service utilization patterns, and mental health and substance use impairment for homeless youth in a transitional living program. The results suggest that homeless youth reported high rates of victimization, mental health-related issues, and substance use patterns, but tended to underutilize available services. Additionally, LGBTQ homeless youth experienced higher rates of sexual victimization and mental health-related issues when compared to their heterosexual, cisgender homeless peers; even with their elevated needs, LGBTQ youth also underutilized services. Despite the underutilization of services, the homeless youth in this study tended to decrease their mental health and substance use impairment over time the longer they remained in the program, which supports the need for longer-term housing programs for homeless youth. Further, although LGBTQ homeless youth also decreased their mental health impairment over time, they entered the program with significantly higher rates of mental health impairment and were unable to “catch up” to their heterosexual, cisgender peers.

These findings provide essential information about the experiences of homeless youth in TLPs and highlights the disconnect between those demonstrated needs and service utilization in TLPs. It is critical that policymakers and service providers understand the severity of the needs of homeless youth population, including LGBTQ youth, and begin to appropriately address these needs through policy change and the implementation of clinically appropriate programs and services.

APPENDICES

APPENDIX A:

IRB Approval Form

January 24, 2018

To: Angie C Kennedy

Re: **MSU Study ID:** STUDY00000147
Principal Investigator: Angie C Kennedy
Category: Exempt 4
Exempt Determination Date: 1/24/2018

Cc: Kristen Prock

Title: A longitudinal examination of the effectiveness of transitional living programs and services for homeless youth who identify as LGBTQ

This project has been determined to be exempt under 45 CFR 46.101(b) 4.

Principal Investigator Responsibilities: The Principal Investigator assumes the responsibilities for the protection of human subjects in this project as outlined in Human Research Protection Program (HRPP) Manual Section 8-1, Exemptions.

Continuing Review: Exempt projects do not need to be renewed.

Modifications: In general, investigators are not required to submit changes to the Michigan State University (MSU) Institutional Review Board (IRB) once a research study is designated as exempt as long as those changes do not affect the exempt category or criteria for exempt determination (changing from exempt status to expedited or full review, changing exempt category) or that may substantially change the focus of the research study such as a change in hypothesis or study design. See HRPP Manual Section 8-1, Exemptions, for examples. If the project is modified to add additional sites for the research, please note that you may not begin the research at those sites until you receive the appropriate approvals/permissions from the sites.

Change in Funding: If new external funding is obtained for an active human research project that had been determined exempt, a new initial IRB submission will be required, with limited exceptions.

Reportable Events: If issues should arise during the conduct of the research, such as unanticipated problems that may involve risks to subjects or others, or any problem that may increase the risk to the human subjects and change the category of review, notify the IRB office promptly. Any complaints from participants that may change the level of review from exempt to expedited or full review must be reported to the IRB. Please report new information through the project's workspace and contact the IRB office with any urgent events. Please visit the Human Research Protection Program (HRPP) website to obtain more information, including reporting timelines.

Personnel Changes: After determination of the exempt status, the PI is responsible for maintaining records of personnel changes and appropriate training. The PI is not required to notify the IRB of personnel changes on exempt research. However, he or she may wish to submit personnel changes to the IRB for recordkeeping purposes (e.g. communication with the Graduate School) and may submit such requests by submitting a Modification request. If there is a change in PI, the new PI must confirm acceptance of the PI Assurance form and the previous PI must submit the Supplemental Form to Change the Principal Investigator with the [e Modification request \(http://hrpp.msu.edu/forms\)](http://hrpp.msu.edu/forms).

Closure: Investigators are not required to notify the IRB when the research study is complete. However, the PI can choose to notify the IRB when the project is complete and is especially recommended when the PI leaves the university.

For More Information: See HRPP Manual, including Section 8-1, Exemptions (available at <https://hrpp.msu.edu/msu-hrpp-manual-table-contents-expanded>).

Contact Information: If we can be of further assistance or if you have questions, please contact us at 517-355-2180 or via email at IRB@ora.msu.edu. Please visit hrpp.msu.edu to access the HRPP Manual, templates, etc.

APPENDIX B:

Data Extraction Tool

Intake Data Extraction Tool

DEMOGRAPHICS	Intake
Date	
DOB	
Age at Admission	
Gender	
Race	
Ethnicity	
Sexual Orientation	
VICTIMIZATION	
Have you experienced DV?	
Are you currently fleeing DV?	
Any sexual victimization prior to this homeless episode?	
And physical victimization prior to this homeless episode?	
Have you exchanged anything for sex?	
If yes, in the last three months?	
If yes, how many times?	
Has anyone forced you to have sex in exchange for something?	
If yes, in the last three months?	
If yes, how many times?	
FOSTER CARE	
Previous ward	
Number of Years (If less than one year, number of months)	
JUVENILE JUSTICE	
Previous ward	
Number of Years (If less than one year, number of months)	
HOUSING	
Type of housing prior to intake	
Length of stay at last place	
Primary reason for most recent homelessness	
Number of times homeless prior to intake	
Total time homeless in past 3 years	

HEALTH / DISABILITY	
Physical disability?	
Developmental disability?	
General health status (1-5)	
MENTAL HEALTH / SUBSTANCE USE	
Do you have mental health needs?	
How do you rate your mental health compared to your peers?	
Previous diagnoses?	
Do you use alcohol or substances?	
Which substances?	
EDUCATION	
Last grade completed	
School status	
EMPLOYMENT	
Employment status	
Type of employment?	

Discharge Data Extraction Tool

DEMOGRAPHICS	Discharge
Date	
Reason for Discharge:	
Program Completion Status:	COMPLETED Voluntarily Left Early Expelled
Reason for Leaving Early/Expulsion:	
Service Plan Completion Status:	Fully Partially Not at all
HOUSING	
Housing Status at discharge	
Days in TLP	
EMPLOYMENT	
Employment status	
Type of employment?	

EDUCATION			
Last grade completed			
School status			
SERVICES PROVIDED WHILE IN THE PROGRAM			
Type		Number	
Counseling/therapy:	Y N		
Basic needs:	Y N		
Case Management:	Y N		
Education:	Y N		
Life Skills:	Y N		
Employment:	Y N		
Health care:	Y N		
Psychiatric services:	Y N	Not Applicable	
Substance abuse assessment:	Y N	Not Applicable	
Substance use treatment:	Y N	Not Applicable	
Recreational activities:	Y N	Not Applicable	
Support groups:	Y N	Not Applicable	
Community service:	Y N	Not Applicable	

ASSM Data Extraction Tool

ID:	Intake	3 months	6 months	9 months	12 months	15 months	Discharge	Post Discharge
DATE								
Mental Health Impairment								
Substance Use Impairment								

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