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SERVICE UTILIZATION PATTERNS OF HOMELESS YOUTH

by

Sarah L. Akinyemi

A THESIS

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SERVICE UTILIZATION PATTERNS OF HOMELESS YOUTH

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University of Nebraska, 2010

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Few studies exist on the types of characteristics associated with service utilization (e.g., shelters, food programs) among homeless youth in the U.S. Services are important, however, because without food and shelter, numerous homeless youth resort to trading sex in order to meet their daily survival needs. Access to physical and mental health services gives homeless youth more of an opportunity to integrate into mainstream society than they would otherwise have. To address this gap in our understanding, my study examines what traits (e.g. age, race, abuse history) correlate with the use of shelters, food programs, street outreach, counseling, STD/STI testing, and HIV testing among homeless youth. The Theory of Reasoned Action is used as an ideological framework in conjunction with theoretical constructs of risk, need, and prior service exposure. Data were obtained from the Social Network and Homeless Youth Project (SNHYP), a sample of 249 Midwestern homeless youth ages 14 to 21, which used trained interviewers to conduct structured interviews with youth. Respondents were interviewed in both shelters and on the street over a period of approximately one year. My findings revealed that homeless youth's service usage varied across gender, sexual orientation, age, having recently held a job, and having ever been physically or sexually abused, in addition to other characteristics. Conversely, service use was not associated with social

network size or subjective norms (i.e. attitudes of peers, such as acceptance of condom use) of youths' social networks. By examining these areas, my study builds on previous research on homeless youth and lays the framework for future research on service utilization by homeless youth.

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Introduction

Research indicates that over the course of a year, approximately 5 to 8% of youth in the United States will experience homelessness (Robertson and Toro 1998). These youth may have run away from abusive and neglectful families (Tyler and Cauce 2002) or may have been forced to leave their homes by parents or guardians due to conflict or the youth's own harmful behavior such as substance misuse (Whitbeck and Hoyt 1999). Additionally, because homeless youth often lack the means to meet basic daily survival needs, such as obtaining food, clothing, and shelter, some young people resort to dangerous and/or illegal activities such as trading sex or selling drugs in order to get by (Rotheram-Borus et al. 1992; Allen et al. 1994; Kipke et al. 1998; Tyler, Hoyt, and Whitbeck 2000). It is possible that such youth are less likely to access services because they may be less trusting of service providers or believe services are unavailable to them, which is why they resort to more desperate measures for survival. In contrast, other homeless youth may be more open to service usage such as shelters, food pantries, and street outreach centers and have more opportunities to use them. These youth may also learn about resource availability from networking with peers and service providers (Reid and Klee 1999; van Wormer 2003). Additionally, homeless young people might meet their health needs by locating free community health clinics, using emergency care in hospitals, gaining referrals from case workers or other professional assistants, or they may simply go without health care (Kennedy 1991; Geber 1997; Berdahl, Hoyt and Whitbeck 2005; Solorio, Milburn, Andersen, et al. 2006).

The kinds of services offered to homeless youth vary from city to city. In locations with very few services available, the most debilitating barrier to receiving assistance is

the lack of services offered. Even in the most service-rich cities, however, a variety of barriers limit homeless youths' access to services, including concerns of confidentiality, lack of trust toward service providers, affordable transportation, knowledge of services, and parental advocacy (Kurtz et al. 1991; Geber 1997; De Rosa et al. 1999). As such, I examine which characteristics of homeless youth (e.g., age, gender, sexual orientation, histories of abuse) are associated with specific service usage. The services I examine include shelters, food programs, street outreach, counseling, and health assessment services, including whether youth have been tested for sexually transmitted infections/diseases (STIs/STDs) and human immunodeficiency virus (HIV). Next, I examine how attitudes and norms of homeless youth are associated with their service utilization based on the theory of reasoned action.

Knowing which homeless youth are more likely to use specific types of services may help providers make their services more accessible as well as tailor them more specifically to meet individual needs. It may also give clues as to which youth experience the most barriers and what unidentified barriers may exist. Furthermore, such knowledge may give policy makers necessary information to make more supportive and effective policies in serving this hard-to-reach population.

Literature Review

Scholars have been studying service utilization of homeless youth for over 15 years and have built up a small but important body of literature on this topic. I divide and examine the existing literature based on type of service provided. In the upcoming

section, I review those articles that have examined use of shelters, food programs, and street outreach. In the next sections, I cover usage of counseling and mental health services, followed by the use of health assessment services including testing for STIs/STDs and HIV.

Shelters, food programs, and street outreach.

Existing research reveals that homeless youth utilize a variety of services in order to meet their immediate needs. For example, a study in Duluth, Minnesota found that 32% of youth used emergency financial assistance, 24% used General Assistance, 16% used Food Stamps, and 12% used a nonprofit assistance program to help with their housing costs (van Wormer 2003). Another study in Manchester, England found that 43% of the study participants were staying in hostels, 17.5% were temporarily living with friends or extended family, and 6% were on the streets (Reid and Klee 1999). Finally, De Rosa et al. (1999) found that in Hollywood, California, 78% of homeless youth used drop-in centers and 40% used shelters. Although a few studies explore the service usage of homeless youth, there is a paucity of research on the types of characteristics that are associated with the use of shelters, food programs, and street outreach among homeless youth. The articles that do exist tend to find that the city of residence, ease of access to services, risks and perceived risks (e.g., level of confidentiality offered by a service provider), life goals, peer group, and race/ethnicity are important correlates of homeless youths' utilization of these types of services (Kurtz, Jarvis, and Kurtz 1991; De Rosa et al. 1999; Reid and Klee 1999; van Wormer 2003).

Although it may seem obvious, research finds that the type of service used is dependent on what is available within a particular city. In other words, if a city does not have a youth shelter, homeless youth will have to find alternative sources of refuge such as staying in hostels. If a city offers neither shelters nor low cost hostels, youth may be more likely to engage in "couch surfing" (i.e., staying with friends even though they are not on the lease) or seek government assistance for housing. Thus, the services offered in a city ultimately determine the types of services youth will access as well as the survival tactics homeless youth will engage in. For example, the first city of residence in which a person becomes homeless correlates with use of services (De Rosa et al. 1999). Specifically, the De Rosa et al. study found that youth who identified Hollywood as their first city of residence as a homeless person were more likely to use shelters than those who reported that Hollywood was not their first residence as a homeless person (De Rosa et al. 1999). There are a variety of explanations for this including that youth from cities which offer few or no shelters will have had to find alternative protective resources in those cities. After moving to Hollywood, these youth may be more likely to continue using the strategies they had adopted in their first city, whereas youth who were first homeless in Hollywood would be more likely to already be knowledgeable about or comfortable with using the available shelters.

Level of risk or perceived risk also contributes to youths' likelihood of using shelters or drop-in centers. Qualitative data from De Rosa et al.'s study (1999) revealed that homeless youth in Hollywood preferred drop-in centers to shelters because the former allowed them to utilize services with minimal hassle (i.e., less paperwork, rules, and identification requirements). Some youth preferred not to disclose their identity for fear

of being reported to their parents or the police. As such, shelters and other services that require a formal check-in procedure may make themselves less accessible to such youth. The De Rosa et al. study (1999) also found that while youth indicated that all services were easy to access, they reported that drop-in centers had the fewest perceived risks. These findings reveal the importance of city of residence as a correlate of homeless youth's service utilization.

Life goals, peer groups, and race/ethnicity are additional correlates of service utilization. These three variables intersect with one another in interesting ways. That is, youth who associate with a certain type of group tend to use the same types of services as their peers. For example, De Rosa et al. (1999) found that former gang-affiliated youth tended to use shelters more, while "punkers" tended to use drop-in centers more. These findings were also reflective of the youths' life goals in that youth who had left home to flee from abuse or gang involvement collectively indicated that they did not want to remain on the streets whereas "punkers" actually sought out a street-oriented lifestyle, incorporating themselves into the street youth culture. Similarly, a study of homeless youth in the Southeastern U.S. found that youth who sought help at a shelter did not meet the typical criteria for a "hard core homeless street youth," such as the "punkers" from the previous study (Kurtz et al. 1991:312). Likewise, De Rosa et al. (1999) found that youth who preferred to exit street life sought services, such as homeless shelters, that would help them obtain a job and assimilate back into the larger society. Meanwhile, those who preferred to remain on the streets sought services that would meet their short term needs and relied mostly on drop-in centers. Finally, youth who identified with the "punkers" were predominantly White and typically used drop-in centers, whereas former

gang-involved youth were predominantly minority, and tended to use shelters. This research suggests that homeless youth are more likely to utilize the services that their friends use and the services that best help them achieve their immediate and long-term goals. It is possible that life goals, peer group affiliation, and race/ethnicity all intersect when it comes to influencing one's decision about whether or not to utilize services. The following section explores research which has examined use of counseling and mental health services by homeless youth.

Counseling and mental health services

Existing research shows that while homeless youth have high needs for mental health services their service utilization is actually low, even in areas where such services are available (Reid and Klee 1999). Furthermore, a majority of youth who use mental health services receive emergency care from a crisis center, indicating that those who do use the services do so primarily when they perceive their need as an emergency or crisis situation (Solorio, Milburn, Andersen, et al. 2006).

Nonetheless, prior research does find that youth with certain characteristics are more likely to use mental health services than others. The main correlates of counseling use include demographic characteristics such as age, gender, and race, as well as the practice of holding meetings with a case worker, having stayed in a homeless shelter, or having been abused by a caretaker before leaving home (Reid and Klee 1999; Berdahl et al. 2005; Solorio, Milburn, Andersen, et al. 2006).

Some studies that focus on mental health service usage among homeless youth have found that being younger and being a White female are correlated with using such

services. For example, among a sample of 602 homeless youth in the Midwest, Berdahl et al. (2005) found that younger respondents were more likely to use mental health services compared to their older counterparts. It is possible that older youth may experience discouragement from their peers about using services, may be more likely to self-medicate, or may find symptoms of poor psychological health normative, all resulting in a lower likelihood of usage. In addition, the literature indicates some gender differences; specifically, females are more likely to use mental health services than males (Reid and Klee 1999). Other researchers, however, have only found gender differences among certain racial/ethnic groups. For example, Berdahl and colleagues (2005) found that among white youth, females were more likely to utilize mental health services whereas no gender differences were found among minority respondents.

Geber (1997) suggests that general service utilization may correlate with the use of counseling services. In support, additional research finds that youth who have a case manager are more likely to have used mental health services (Solorio, Milburn, Andersen, et al. 2006), as are youth who have used a homeless shelter (Berdahl et al. 2005). This association may exist for multiple reasons. First, service providers, such as shelter staff and caseworkers, may be likely to know about accessible counseling services and thereby recommend or even go so far as scheduling appointments for the youth. Additionally, counseling services available to homeless youth in a particular city may be formally networked together with other types of services to make each service more accessible to homeless youth.

In addition to demographics and other types of service use, mental health use patterns vary by youths' family history (Berdahl et al. 2005). For example having been

abused or rejected by a caretaker (if respondents were White) and having transitioned through different caretakers or living environments were both associated with using counseling services. This is an important finding because it means that at least some of those youth who need counseling the most (i.e., those who have experienced abuse) are receiving necessary treatment.

As mentioned above, homeless youth have high needs for mental health services but low rates of utilization even when services are available. To explain this, researchers examine why such individuals do not use available assistance. For example, Reid and Klee (1999) found that while 82% of participants reported mental health problems, only 49% of that number sought professional treatment, and 72% said that they self-medicated with street drugs. From their qualitative data, Reid and Klee found that those who did not use mental health services thought that their problems were not severe enough to do so or did not know where to find such services.

Although needs for mental health services are high, levels of usage are often low. Nonetheless, some demographic, service use, and family background factors have been found to correlate with use of mental health services by homeless youth. The section ahead explores homeless youths' utilization of health assessment services such as STD/STI and HIV testing.

Use of STD/STI and HIV Testing.

Homeless youth have repeatedly been found to have high levels of risky sexual behavior, such as having ever engaged in survival sex or non-condom use (Rotheram-Borus et al. 1992, Goodman and Berecochea 1994, Kipke et al. 1998, Tyler et al. 2000,

Solorio et al. 2006) which increases their risk for STD/STIs and HIV. De Rosa et al. (2001) compared risk behavior and HIV testing between homeless youth in Los Angeles and San Diego and found that those with the highest number of risks were the most likely to be tested for HIV. Comparisons across cities show that geographic location makes a difference in the percentage of and types of youth that are more frequently tested. For example, De Rosa et al. (2001) found that youth in Los Angeles were more likely to be tested than youth in San Diego, which may be due to the fact that more youth in Los Angeles engaged in high risk behaviors compared to those in San Diego. Because the literature indicates that more engagement in high risk activity is associated with a greater likelihood of being tested, it is sensible to conclude that differences in levels of sexual risk behaviors account for the difference between cities, however, De Rosa et al. (2001) reported that this explanation alone does not account for the higher rate of testing in Los Angeles More likely explanations include youths' race, length of time homeless, and acceptance of testing.

Qualitative data from the De Rosa et al. (2001) study suggested that youth in Los Angeles have incorporated being tested into their range of socially acceptable (perhaps even encouraged) behaviors. Furthermore, in both cities, youth who were White or Black were more likely to be tested than Latino youth. Finally, the length of time youth were homeless correlated with the likelihood of being tested: those who had been homeless for at least one year were the most likely to have been tested. Additional explanatory factors included contact with outreach workers, knowing someone with HIV/AIDS, having more sexual partners in the last 30 days, engagement in higher risk sex (i.e. anal, male-male, or survival sex), history of STD, or ever injecting drugs (De Rosa et al. 2001).

Another study of homeless youth in San Francisco assessed the demographics of runaway and homeless youth who utilized HIV testing services and explored whether those youth who were at higher risk for HIV were being tested (Goodman and Berecochea 1994). Their results revealed that 74% of their high risk participants had been tested, while 54% of their total sample had been tested. As with the previous study, these findings indicate that youth with higher risk behaviors *are* typically more likely to be tested. Factors that predicted testing included history of STD, five or more years of sexual activity, intravenous drug use (IDU), and older age. Interestingly, they also found that 25% of participants did not know that anonymous testing was available to youth (Goodman and Berecochea 1994). Woods et al. (2000) examined STI and HIV testing through the Boston HAPPENS program, a formal network of service agencies (including 3 hospitals, 2 outreach centers, and 3 community health centers) that was created to better meet the needs of the Boston population of youth who are HIV-positive, homeless, or at-risk. Woods et al. found that HIV-positive respondents (both male and female) were more likely to use STI testing than any other type of respondent.

Two studies assessed the correlation between youths' characteristics and the type of facility used for testing. Goodman and Berecochea (1994) found that type of testing facility used varied by age and race/ethnicity. They found that older youth (16-18) were less likely to use a private hospital or doctor's office than younger youth, and minority adolescents were three times more likely to use a county clinic or hospital than white youth.

In another study using the Boston HAPPENS program, Woods et al. (2002) reported that homeless youth who were older, male, White (non-Hispanic), and gay/bisexual were

more likely to be tested at outreach agencies. Those youth who reported having previously had an STD were more likely to be female and to have used a hospital or community health center for testing. Youth with the highest rates of sexual risk behavior were more likely to use testing services at a hospital or outreach site than at a community health center. Finally, the youth who reported using a testing service for the first time were more likely to use an outreach center than another type of testing center (Woods et al. 2002).

The collective findings from these studies suggest that youth with higher levels of risk behavior, and therefore higher needs for testing, are the most likely to be tested. Six additional variables (geographic location, peer acceptance, race, length of time homeless, contact with staff of outreach center, and knowing someone with HIV/AIDS) were also found to correlate with being tested, and eight variables (age, race, history of STD/STI, length of time sexually active, gender, sexual orientation, rate of sexual risk behaviors, and being tested for the first time) were found to co-vary with the type of facility used for testing.

In the preceding pages, I have examined the literature on homeless youths' use of shelters, food programs and street outreach, followed by use of counseling and mental health services, and finally use of STD/STI and HIV testing. The findings from these studies provide a context and a foundation for grounded theorizing and hypothesizing in the following pages. In the section ahead, I will present the theory that frames my hypotheses.

Theoretical Background

The Theory of Reasoned Action (TRA), developed by Fishbein and Ajzen (1975), is used as the theoretical backdrop for this study to explain how the attitudes and norms of homeless youth and their peers may be associated with different types of behaviors such as being tested for HIV. Specifically, TRA attempts to predict behavioral intention through examining an individual's attitudes in conjunction with their subjective norms. Attitudes refer to the individual's beliefs and preferences toward a behavior (e.g., seeking services), while subjective norms refer to the beliefs toward the same behavior that are held by people in the individual's social community or communities (i.e., homeless youths' peer groups, family members or authoritative figures). The formula or model for this theory, in its simplest form, states that behavioral intention (BI) equals the individual's attitudes (A) or beliefs and preferences about an action plus the subjective norms (SN) or beliefs belonging to the people who socially influence the individual. That is, behavioral intention equals attitudes plus subjective norms, or BI=A+SN.

In varying circumstances, the amount of weight held by attitudes or by subjective norms varies. Additionally, other elements must be introduced to the model in order to account for outside influences. For example, an individual may perceive a certain behavior as favorable (e.g., STI testing) and their social communities may agree, but a physical barrier (e.g., lack of resources) may prevent him or her from actually carrying out the action. As it applies here, we may find that homeless youth want to access a mental health professional, but may not be able to afford the cost, know where to locate one, or have available transportation to and from appointments.

TRA has largely been applied in studies involving heath care and health assessment. Studies cover a range of topics including prediction of individuals' likelihood to exercise (Hunt and Gross 2009), use screening programs (Cooke and French 2008), and consent to organ donation (Weber, Martin and Corrigan 2007). TRA has additionally been applied within areas more specifically applicable to the topic of this paper, such as teen sexual behavior (Gillmore et al. 2002) and condom use (Albarracín et al. 2001; Muñoz-Silva et al. 2007). Researchers have yet to apply this theory within the field of homelessness; therefore, this paper adds to the existing literature by using TRA as a framework for understanding homeless youths' utilization of services.

As applied to the current study, attitudes regarding the subjective norms of peers should reflect homeless youth's behavioral intent. For example, the subjective norms regarding safe sex practices should be negatively associated with STD/STI and HIV testing (a proxy for risky sexual behavior) by homeless youth. That is, assuming youths' attitudes tend to mirror those of their friends, youth whose friends believe more strongly in using safer sex practices should have lower levels of risky sexual behavior (e.g. fewer sexual partners in one's social network) and subsequently, be less likely to be tested for STIs or HIV.

The concept of barriers within the TRA model could also contribute to the theoretical framework of this study. For example, if non-White youth desire to use services, but racial prejudice by service providers (or a fear of such discrimination) prevents them from using services, then we may find that race does indeed serve as a barrier to service utilization among non-White homeless youth. This kind of thinking heavily influences the hypotheses that follow.

As stated above, I use TRA as a framework for my hypotheses. Additionally, I have found that themes of risk/need and previous exposure to service use have emerged from the existing literature. The theme of risk/need suggests that youth who have a higher level of risk are also at a higher level of need and are therefore more likely to use corresponding services. Along a similar thread, the theme of previous exposure to service use suggests that youth who have seen others use a service or who have themselves used a similar service will be more likely to use associated services. Consequently, I have drawn from the explicit findings of previous literature (Hypotheses 1-7), the Theory of Reasoned Action (especially in Hypothesis 19), and the themes of risk/need (Hypotheses 6, 7, 9, 12-14, and 18) and previous exposure (Hypotheses 8, 10, 11, and 15-17) to shape my hypotheses.

Hypotheses

Based on the literature review and theoretical framework described above, I propose the following hypotheses about homeless youths' use of services:

Hypothesis #1: Female youth will be more likely to use counseling services than male youth.

Hypothesis #2: Female youth will be more likely to use STD/STI and HIV testing services than male youth.

Hypothesis #3: Non-White youth will be more likely to use shelter than White youth.

Hypothesis #4: White youth will be more likely to use counseling than non-White youth.

Hypothesis #5: Non-White youth will be more likely to use STD/STI and HIV testing services than White youth.

Hypothesis #6: Gay, lesbian, bisexual, or transgender (GLBT) youth will be more likely to have been tested for STD/STI and HIV than heterosexual youth.

Hypothesis #7: GLBT youth will be more likely to use counseling services compared to heterosexual youth.

Hypothesis #8: Older homeless youth will be more likely to use all services compared to younger homeless youth.

Hypothesis #9: Homeless youth who have higher levels of education and who have held a job in the last six months will be more likely to use all services than those who have lower levels of education or who have not held a job in the past six months.

Hypothesis #10: Youth who ran at a younger age and youth who have spent longer periods of time away from home will be more likely to use all services compared to those who have been homeless for a shorter length of time.

Hypothesis #11: Youth who have run away more frequently will be more likely to have used all services.

Hypothesis #12: Youth who spend more nights on the street will be more likely to use food pantries and outreach services.

Hypothesis #13: Youth who have ever been kicked out by a caretaker will be more likely to use counseling services.

Hypothesis #14: Youth who have been physically or sexually abused will be more likely to use counseling services compared to those who have not been abused.

Hypothesis #15: Youth who have had more exposure to service agencies growing up (e.g., public assistance and public housing) will be likely to use more services than youth who did not have this service agency exposure.

Hypothesis #16: Youth who have lived in a group home or in foster care will be more likely to use more services than youth who have not lived in such settings.

Hypothesis #17: Youth with a larger social network will learn about more services through their network; therefore, the more network members, the more likely a youth will be to use all services.

Hypothesis #18: Youth who have had more sexual partners in their social network in the past 6 months will be more likely to use STD/STI and HIV testing services.

Hypothesis #19: Youth whose friends and partners believe more strongly in using preventative HIV behavior (such as using condoms) will be less likely to use STD/STI and HIV testing services than those who report that their friends believe less in engaging in preventative HIV behavior.

Methods

Sampling Procedures and Data Collection

Data are from the Social Network and Homeless Youth Project (SNHYP), a study designed to examine the effect of social networks characteristics on homeless youths' HIV risk behaviors. A total of 249 homeless youth (137 females and 112 males) were interviewed in shelters and on the streets from January 2008 to March 2009 in three Midwestern cities in the United States. Participants were selected for this study based on

the requirements that they meet the definition of runaway or homeless and be between the ages of 14 and 21. Runaway refers to youth under age 18 who have spent the previous night away from home without the permission of parents or guardians. Homeless included those who have spent the previous night with a stranger, in a shelter or public place, on the street, in a hotel room, staying with friends (e.g., couch surfing), or other places that do not qualify as their long term home.

All surveys were administered by trained interviewers. Due to the nature of working with a “hidden” population, non-probability sampling procedures (a combination of snowball and convenience sampling) were used. Interviewers approached shelter residents and located other eligible respondents in areas of the cities where homeless youth gather. They varied the times of the day on both weekdays and weekends that they went to these locations. This sampling protocol was conducted repeatedly over the course of 15 months. Prior to participation in the study, interviewers obtained informed consent from respondents and told youth that their responses would remain confidential and that their participation was voluntary. The interviews were typically conducted in shelter conference rooms or quiet corners of fast food restaurants if taking the youth back to the shelter was not feasible because of distance or safety concerns. The interview lasted approximately 45 minutes and all participants received $25 for their involvement and $5 for a meal. Referrals for shelter, counseling services, and food services were offered to youth at the time of the interview. The response rate was 97%. The Institutional Review Board at the University of Nebraska-Lincoln approved this study.

Measures

Six service utilization variables were used for the current study: *shelter use*, *pantry use, outreach use, counseling use, STD testing and HIV testing.* Respondents were asked, how often, on average, they used each of the services listed above. Response categories for each of these questions ranged from 0 = never to 5 = every day. Due to skewness, each service variable was dichotomized such that 1 = used the service at least once and 0 = never used that particular service.

Dichotomous Variables

Gender was coded 0 = male and 1 = female. *Race* was measured by asking respondents to tell which of the following ethnic origin they consider themselves to be: White, Black, Hispanic, American Indian, or Alaska native, Asian, biracial, or multiracial: *Race* was then coded 0 = non-White and 1 = White given the smaller numbers within some of the groups. To measure *sexual orientation*, youth were asked "How would you describe your sexual orientation?" and given the response choices 1 = straight or heterosexual, 2 = gay, 3 = lesbian, 4 = bisexual, 5 = transgender, and 6 = confused/unsure. Responses were then recoded so that 0 = GLBT and 1 = heterosexual.

Non-demographic Dichotomous Variables

The variable *held job in past 6 months* was measured by asking youth, "In the past six months, have you had a job?" The variable *ever kicked out* was a single item question which asked youth "Did your caretaker/parent(s) ever kick you out?" Prior to measuring any questions about the respondents' caretakers, interviewers asked "Now I would like you to think about the person who helped raise you and the person that took care of you

and whom you spent the most time with. What is his/her relationship to you?" Respondents were only permitted to choose one person, and responses were open ended yielding such answers as mom, dad, uncle, etc. *Caretaker ever received public assistance* and *caretaker ever used public housing* were measured by asking "Has (insert the caregiver listed) ever received any public assistance, such as welfare, Aid to Families with Dependent Children (AFDC), or food stamps when you last lived with them?" and "Has (insert the caregiver listed) ever lived in public housing or a housing project when you last lived with them?" respectively. *Group home* and *foster care* were measured by asking respondents "Have you ever lived in a group home?" and "Have you ever lived in foster care?" respectively. *Physical abuse* and *sexual abuse* were measured by asking respondents, "Were you ever physically abused as a child (under age 18)?" and "Were you ever sexually abused as a child (under age 18)?" Response categories for all of these questions were 0 = no and 1 = yes.

Continuous Variables

To measure respondents' *age*, interviewers asked "How old are you?" Answers were open ended and ranged from 14 to 21. *Highest level of education* was measured by asking respondents "What is the last grade you completed in school? Was it…", and response choices were 1 = less than 6th grade, 2 = 6th grade 3 = 7th grade, 4 = 8th grade, 5 = 9th grade, 6 = 10th grade, 7 = 11th grade, 8 = 12th grade, 9 = GED, 10 = Associates degree, 11 = Some college, and 12 = Have college degree. *Age when first ran* was an open-ended question that asked "How old were you when you first ran away or left home?"Answers were recorded in years. After asking a series of questions about the first time youth left home, interviews measured *number of times ran* by asking the open ended question:

"How many other times did you run away (not counting the first time)?" Responses were then added to 1 (to account for the initial time ran) and categorized as 1 = 1 time, 2 = 2 times, 3 = 3 times, 4 = 4-5 times, 5 = 6-10 times, 6 = 11-20 times, and 7 = 21 or more times. *Longest time away from home* was also an open-ended question measured by a single item asking "What was the longest time period that you spent away from home?" *Number of nights on the street* was measured by asking "On average, how many nights a week do you spend on the street?" Responses were open ended and were categorized as 0 = 0 nights, 1 = 1 night, 2 = 2 nights, 3 = 3 nights, 4 = 4 or more nights.

The number of network members was measured by asking youth to list the initials of up to five people they spend the majority of their time with now as well as up to three people they have had sex with in the past six months. Thus, their total network size could potentially range from 0 to 8 members. If individuals were listed as both a network member and sexual partner, they would only be counted once.

Subjective norms was a scale that was measured by asking respondents "Below is a list of statements dealing with your general feelings about safe sex practices. How true are the following statements for you?" The statements listed for this scale were: (a) My partners believe I should always use condoms. (b) My friends believe I should always use condoms. (c) My partners believe I should refuse to have sex without a condom. (d) My friends believe I should refuse to have sex without a condom. (e) My friends believe I should try to persuade my partners to practice safer sex. Response choices ranged from 1 = very true, 3 = neither true or untrue, and 5 = very untrue. This was a summed scale and was coded such that a higher score indicated greater sexual risk. This scale had an alpha of 0.85 indicating a high level of reliability across each item in the scale.

Results

Sample Characteristics

As shown in Table 1, the sample for this study was comprised of 137 females (55%) and 112 males (45%). Ages ranged from 14 to 21 years with a mean of 18.5 years. Of the 249 respondents, 44 (17.7%) identified as GLBT. The majority of the sample was White (49.4%), with the remaining respondents self-identifying as Black (23.7%), Hispanic (8%), American Indian or Alaskan native (4.8%), Asian (1.2%), biracial (8.8%), and multiracial (4%). Nearly 40% of the sample had completed 12th grade or earned a GED, and within that group 6.8% had attended at least some college.

-- Table 1 about here –

The average age at which youth first ran was 14 years. A few respondents reported having first run from home as early as age 2 and 3, which are likely cases where they were removed from their home by child services or may have run away with an older sibling. Youth reported running an average of 3 times; however, 14.8% of the sample had run 11 times or more. Nearly 40% of the sample reported that the longest time they had been away from home was one month or less, however, nearly a quarter had been away from home for 20 months or longer. Sixteen percent of the sample spent an average of 2 to 4 nights per week on the street, and 6.8% reported spending an average of 7 nights per week on the street. When given the option to list a maximum of 5 network members, youth listed an average of 4 people, and when given the option to list a maximum of 3 sex partners in the past 6 months, youth listed an average of 1 person.

Twenty-four percent of participants reported that their caretaker had ever lived in public housing, and 48.2% reported that their caretaker had ever received public assistance. Most youth (58.2%) had held a job during the last 6 months. One-hundred-fourteen respondents (45.8%) reported having ever been kicked out of their home by a caregiver. One-hundred-twenty of the youth, nearly half of the sample, had ever lived in group homes before, and 93 (37.3%) had ever lived in foster care. A majority of youth (55.4%) had been physically abused at least once and almost one-third (32.9%) reported that they had been a victim of sexual abuse.

Service Utilization Frequencies

Table 2 shows the number and percent of youth using each type of service. The results indicate that in terms of total usage, the percent tends to be consistent across each type of service. Of all services examined, food pantry was the most frequently used by homeless youth (73.9%) followed by both counseling (71.9%) and STD/STI testing (71.9%). The lowest percent was for HIV testing (66.7%). Only 5 youth out of 249 reported never having used any of the services assessed in this study. Conversely, 24 respondents had used every service at least once. We know, therefore, that although the frequencies of use are similar across services, the same youth are not being represented in each group.

-- Table 2 about here --

The sample characteristics for the dichotomous demographic variables (i.e., gender, race, and sexual orientation) for each type of service can also be seen in Table 2. A majority of youth who use outreach, counseling, STD/STI and HIV testing are female,

White, and heterosexual. A similar pattern exists for the remaining service types, except that White and non-White youth used food pantries with equal frequency, and more shelter users are non-White than White.

Among the non-demographic dichotomous variables, such as *ever kicked out by a caretaker* and *ever lived in foster care*, similar trends appeared among users of shelter, counseling, and HIV testing. That is, more than half of youth who had used any of these three services (i.e., shelter, counseling, and HIV testing) also had a caretaker who had ever received public assistance, had held a job in the past 6 months, ever lived in a group home, and had experienced physical abuse. Conversely, more than half of youth who reported using any of the remaining service categories, (i.e. pantry, outreach, and STD/STI testing) reported having a caretaker that used public assistance, had held a job in the past 6 months, and had ever been physically abused.

Looking at service use across the specific variables revealed common trends as well. Youth whose caretaker had ever received public assistance comprised more than half of youth in every service category (see Table 2). In contrast, only 25-31% of youth in each service category reported that their caretaker had ever used public housing. Again, the majority of service users in every category had held a job in the past 6 months. Approximately one-half (44 to 52%) of service users in each category had ever been kicked out by a caretaker. Similarly, 45 to 57% of youth who used any of the listed services had ever lived in a group home while 39 to 44% had lived in foster care. Finally, over one-half of the youth who used any type of service had been physically abused (56 to 64%) and more than one-third experienced sexual abuse (35 to 41%).

Chi square Comparisons

In order to examine whether each of the 6 services significantly differed by youth characteristics, I used chi square comparisons. Table 3 reports the number and percent of respondents who have used and not used the particular service followed by the chi square and *p*-value. Significant findings are defined as those with a *p*-value of less than 0.05. I do, however, report a *p*-value of less than 0.10 if the finding is supportive of the hypothesized direction.

Shelter. Results in Table 3 for shelter usage revealed that 67.9% of females and 75.7% of males have used shelter at least once; this difference was not statistically significant. Youth who had ever been kicked out of their home by a caretaker were significantly more likely to have used shelter than those who had never been kicked out (x^2=9.224; p=0.002). Similarly, youth who had ever lived in a group home were more likely to have utilized shelter than those who had not previously been in a group home facility (x^2=8.247; p=0.004). Lastly, youth who had ever experienced physical abuse were more likely to have used shelter than those who had not been physically abused (x^2=10.589; p=0.001).

Food pantry. In terms of food pantry services, GLBT youth were more likely than heterosexual youth (x^2=8.020; p=0.005) to have used pantry services at least once. Youth whose caretaker ever received public assistance (x^2=6.433; p=0.011) or ever lived in public housing (x^2=3.104; p=0.078) were more likely to use pantry than those whose caretakers did not receive state assistance. Homeless youth who had held a job in the past six months were more likely to use food pantries than those who were not employed (x^2=6.706; p=0.010).

-- Table 3 about here --

Outreach services. GBLT youth were significantly more likely than heterosexual youth to use outreach services (x^2=5.640; p=0.018). Also, youth whose caretaker ever lived in public housing were significantly more likely to use outreach than those whose caretaker did not live in public housing (x^2=6.345; p=0.012). Youth who had held a job in the past six months were more likely to use outreach than those who did not hold a job (x^2=9.082; p=0.003). Lastly, those who had ever been physically (x^2=4.482; p=0.034) or sexually (x^2=7.616; p=0.006) abused were significantly more likely to use outreach than those who had not been abused.

Counseling. In terms of counseling, GLBT youth were significantly more likely to use counseling services than heterosexual youth (x^2=3.938; p=0.047). Similarly, youth whose caretaker had ever received public assistance (x^2=4.885; p=0.027) or who had ever been kicked out of their home by a caretaker (x^2=5.359; p=0.021) were more likely to use counseling than those who did not report these experiences. Respondents who had ever lived in a group home (x^2=17.625; p<0.001) or in foster care (x^2=10.548; p=0.001) were more likely to use counseling than those who had not lived in a group home or in foster care. Finally, youth who had ever been physically (x^2=17.607; p<0.001) or sexually (x^2=15.540; p<0.001) abused were more likely to have used counseling than those who had not been abused.

STD/STI testing. Examining STD/STI testing revealed that females and GLBT youth were more likely to have been tested than males (x^2=8.877; p=0.003) and heterosexual youth (x^2=5.542; p=0.019). Participants who reported that their caretaker had ever received public assistance were more likely to have been tested than those whose did not

report that their caretaker had ever received public assistance (x^2=2.745; p=0.098). Youth who had held a job in the past six months were more likely to have been tested than those who had not held a job in this time frame (x^2=6.274; p=0.012). Ever having lived in a group home (x^2=9.419; p=0.002) or foster care (x^2=4.335; p=0.037) was significantly associated with being tested for STD/STIs and. Finally, youth who had ever been sexually abused were significantly more likely to have been tested for STD/STIs than those who reported not experiencing such abuse (x^2=12.664; p<0.001).

HIV testing. HIV testing was the final service assessed. Results indicated that GLBT youth were more likely to have used HIV testing than heterosexual youth (x^2=3.989; p=0.046). Youth whose caretaker had ever received public assistance were more likely to be tested than those whose caretaker had not received such assistance (x^2=4.207; p=0.040). Respondents who had held a job in the past six months (x^2=12.210; p<0.001) or who had ever been kicked out by a caretaker (x^2=4.342; p=0.037) were more likely to have been tested for HIV than youth who had not indicated these experiences. Youth who ever lived in a group home or foster care were more likely to have been tested than those who had not lived in either of these arrangements (x^2=9.033; p=0.003 and x^2=3.784; p=0.052 , respectively). Finally, those who reported having been sexually abused were significantly more likely to have been tested for HIV than those who reported no sexual abuse (x^2=14.788; p<0.001).

T-test Comparisons

Table 4 below shows the *t*-test comparisons for the continuous independent variables with each service. These comparisons show the difference between the means for those

who used a service versus those who did not use a service for each of the variables examined. For example, the average age of shelter users is 18.53, while the average age of non-shelter users is 18.55, but this difference was not statistically significant. As with earlier analyses, significant findings are defined as those with a *p*-value of less than 0.05. I do, however, report a *p*-value of less than 0.10 if the finding is in the hypothesized direction.

Shelter. Youth who used shelter were significantly more likely to have run away at a younger age (mean=13.55 compared to 14.27 years old) and to have run more often (mean=3.35 compared to 2.79 times) than youth who did not use shelter. Additionally, youth who used shelter had a significantly smaller number of network members than those who did not use shelter (mean=3.77 compared to 4.15 members).

Food pantry. Youth who used pantry services were significantly more likely to be older (mean=18.82 compared to 17.74 years). Those who used food pantries were also more likely to have spent more nights on the street than those who did not use pantries (mean=1.23 compared to 0.30 nights).

-- Table 4 about here --

Outreach. Youth who used outreach services were significantly more likely to be older (mean=18.85 compared to 17.82 years), to have had more education (mean=7.23 compared to 6.61 measurement units), and to spend more nights on the street per week (mean=1.20 compared to 0.53 nights) than youth who did not use outreach.

Counseling. The age at which respondents first ran was lower for those who used counseling than for those who did not use counseling (mean=13.47 compared to 14.51 years). Youth who used counseling were significantly more likely to have run more often

than those who did not use counseling (mean=3.48 compared to 2.41 times). Additionally, the duration of time spent away from home was shorter for youth who used counseling services than for those who did not (mean=2.63 compared to 3.07 measurement units).

STD/STI and HIV testing. The findings for STD/STI and HIV testing were very similar and thus both are presented together. Youth who were tested were significantly older than those who weren't tested (mean=18.88 compared to 17.66 years for STD/STI testing, and 18.90 compared to 17.81 years for HIV testing). Level of education was higher for youth who had been tested than those who had not (mean=7.21 compared to 6.60 measurement units for STD/STI testing, and 7.28 compared to 6.54 measurement units for HIV testing). Youth who had been tested also ran a greater number of times than those who had never been tested (mean=3.31 compared to 2.86 times for STD/STI testing, and 3.43 compared to 2.69 times for HIV testing). The number of sex partners youth reported having in their social network in the past 6 months was significantly higher for those who had been tested than those who had not been tested (mean=1.17 compared to 0.63 sex partners for STD/STI testing, and 1.16 compared to 0.72 sex partners for HIV testing). Lastly, the subjective norms of youths' peers (regarding safe sexual practices) did not significantly differ between those who have been tested and those who have not been tested (mean=12.76 compared to 12.73 for STD/STI testing and 12.74 compared to 12.74 for HIV testing). In other words, even if their peers are supportive of safe sex practices, it does not result in these homeless youth being more likely to be tested for STIs or HIV.

Discussion

Understanding the types of services that are most likely to be used by homeless youth can create opportunities to improve services available to them. The goal of this study, therefore, has been to assess the patterns of service usage across a diverse group of Midwestern homeless youth. Specifically, I have sought to uncover what characteristics of homeless youth, such as age, job history, and highest level of education, correlate with use of services, including shelters, food pantries, street outreach programs, counseling, STD/STI testing, and HIV testing. As an additional component, I have explored the connection between how homeless youth think their peers view condom use and the youth's likelihood of being tested for STD/STI's and/or HIV. In the section above I have reported the statistically significant findings from this study. Here, I will discuss both those that were and were not found to be statistically significant. Furthermore, I will describe the implications of these findings for theoretical development, for future research, and for social policy directed toward homeless youth.

Key Findings

Gender. To begin with, females were significantly more likely to be tested for STD/STI's compared to males. This finding is consistent with the literature (Tyler and Melander, forthcoming) and with my hypothesis (#2). In support, it has been established that females are more likely to attend a yearly physical exam than males (Alt 2002). Also, many physicians make a standard practice of educating adolescent patients about STD/STI's and of offering testing services (Torkko et al. 2000). Considering these two points together, the gender difference for STD/STI testing may be attributable to the

possibility that females are more likely to have the opportunity (and/or be encouraged) to be tested compared to males. Additionally, female youth engage in higher levels of risk behavior (e.g., inconsistent condom use and trading sex) (Solorio, Milburn, Andersen, et al. 2006). Perhaps the higher level of risk equates to a higher level of perceived need for testing and thus a greater likelihood of actually being tested among females.

Contrary to my hypothesis (#2) and to prior research (Goodman and Bereocochea 1994; De Rosa et al. 2001), I found no statistical significance for females' greater likelihood to be tested for HIV compared to males. It may be that the stigma associated with being tested for HIV deters this group of homeless females from being tested at the same frequency as those in other studies. Or it may be that fewer testing sites are available or financially accessible in the Midwest. Additionally, in cases where females are being tested for STD/STI's but not HIV, it may be that the "it can't happen to me" mindset prevents some females from wanting to be tested for HIV. It may also be that they are actually seeking care as a result of visible or physical symptoms which are clearly attributable to certain STD/STI's, and are consequently unconcerned with HIV testing.

Race. Previous research shows that race is an important variable that correlates strongly with different kinds of service use. For example, White youth are more likely than non-White youth to use counseling (Berdahl et al. 2005), and non-White youth are more likely to use shelter (De Rosa et al. 1999) and STD/STI testing than White youth (Solorio, Milburn, Wiess, et al. 2006). Diverging from these findings, I found no statistically significant associations between race and service use. De Rosa et al. (1999) explain that among their sample of homeless youth on the West Coast, those who are

non-White are more likely to be attempting to exit gang life, whereas their White counterparts are more likely to be engaged in a culture that emphasizes street life. Because former gang-members seek reintegration into society, they may be more likely to use services which assist with this transition, such as a shelter, where they can sleep and shower and prepare themselves for a job search. The lack of a statistically significant finding in this study may reflect that gang involvement and/or street culture either hold less relevance among the Midwestern homeless youth in this sample, or that such factors are less likely to be associated with race.

Sexual Orientation. Although a handful of studies have assessed the role of sexual orientation in service use, only one found statistically significant variance across service use by sexual orientation. De Rosa et al. (2001) found that GLB youth were more likely to have been tested for HIV than heterosexual youth. In congruence with the De Rosa study and with my hypothesis (#6), I found that GLBT youth were significantly more likely to be tested for HIV and for STD/STI's. This finding reflects the idea that higher levels of need precede use. Because GLBT youth are known to engage in high-risk sexual behaviors (Blake et al. 2001; Cochran et al. 2002), the need for testing should also be higher.

GLBT youth were not only more likely to use STD/STI and HIV testing services, but were significantly more likely to use every kind of service examined, except for shelter use. Considering the limited empirical information on this topic, this finding begs to be further explored. As previously mentioned, the finding spans across the majority of services examined in this study, it may therefore be reasonable to suggest that Midwestern GLBT youth have developed a general acceptance of (or perhaps an

encouragement toward) service use. It is also possible that the GLBT community tends to make greater use of their social network than do heterosexual youth. Especially considering the level of discrimination GLBT youth face (Berrill 1992; Blake et al. 2001; Cochran et al. 2002), the use of a social network could be infinitely important for learning about gay/straight allies among service providers.

Given the finding that GLBT youth were more likely to access all other services, the absence of a statistically significant finding for shelter use seems exceptional, especially if GLBT youth encourage one another towards all service use. Shelters, however, are often religiously-affiliated and correspondingly more likely to disapprove of homosexual lifestyles, either explicitly or implicitly. It may be that GLBT youth therefore find less acceptance at such facilities. For instance, assuming that service providers accept anyone who abides by their rules and guidelines, a gay or lesbian couple seeking a meal or some groceries are not likely to face barriers to service. In a shelter, however, a gay or lesbian couple automatically violates the rules and guidelines that many faith-based shelters set for sexual intimacy, such that heterosexual married couples may room together but homosexual couples may not (for example, visit http://www.trmonline.org/policies.php to see the policies for the Topeka Rescue Mission). Food pantries, and sometimes outreach programs, are also more likely to be faith-based, however, the nature of these services do not preclude GLBT youth from use because a GLBT orientation is less of an issue or can remain hidden.

On the other hand, it is possible that each service has a particular draw to these youth. For instance, due to the psychological struggles that many GLBT individuals have while trying to flesh out their own sexual orientation and identity (Faulkner and Cranston

1998; Blake et al. 2001), the harassment and persecution that GLBT youth are likely to experience (Berrill 1992; Blake et al. 2001; Cochran et al. 2002), and the difficulties of homelessness, these youth may find within themselves a compounded need for counseling and mental health services. The potential draw to use food pantries and outreach services may stem from the influence of the GLBT community towards service use, as mentioned above, or from another variable not explored here.

Age. Previous research studies have found that older youth are more likely than younger youth to use counseling and mental health services (Berdahl et al. 2005), STD/STI testing (Solorio, Milburn, Andersen, et al. 2006; Solorio, Milburn, Rotheram-Borus, et al. 2006), and HIV testing (Goodman and Berecochea 1994; De Rosa et al. 2001). Here, I have found that youth who had used food pantries, outreach services, STD/STI and HIV testing were consistently older. At least four explanations can account for this finding. First, homeless youth include children who are minors. As a result, accessing services can be an issue because many agencies require identification that younger youth may not possess (Geber 1997). Second, since underage homeless youth cannot legally account for themselves, disclosing their age could lead to notification of parents/guardians, or of the state, which youth may be trying to avoid (Geber 1997; Solorio, Milburn, Andersen, et al. 2006). Third, older youth may be likely to have more experience or have more friends that know about and inform them of available services. Fourth and finally, for testing services, risky sexual behaviors are more likely to increase than decrease with age, suggesting that older youth may have more need for the use of STD/STI and HIV testing (U.S. Department of Health and Human Services 2009).

Length of time homeless. In their study, De Rosa et al. (2001) found that youth that have been homeless longer are more likely to be tested for HIV. Because it may be difficult for many youth to accurately assess the amount of time they have been homeless over the years, I used two measures including age at first run and number of times ran, which are often used in the literature as better indicators of time spent away from home. Presumably, youth who have been homeless longer are also more familiar with available services, and are therefore better equipped to overcome the barrier of insufficient knowledge of services. I hypothesized (#10), therefore, that youth who first ran at a younger age and youth who had run more frequently would be more likely to use all services.

Consistent with my hypothesis (#10), I found that youth who first ran at a younger age were more likely to use counseling services than youth who first ran when they were older. These youth are likely to have been homeless longer than other youth, which means they have had more time to learn about the services available to them. In this instance, however, youth who were younger when they first ran from home are only more likely to use counseling. This part of the finding was inconsistent with my hypothesis (#10), since there were no statistically significant findings for any of the other services. Having been homeless for a longer period of time, therefore, may not be leading these youth to counseling services. Instead, the events leading up to the younger youth's departure from home may have been more traumatic than for those youth who left at older ages. The assumed traumatic event(s) may have led the youth to leave home at a younger age and resulted in a greater level of need for counseling.

In partial support of my hypothesis (#11), youth in this study who had run from home more times were significantly more likely to use shelter, counseling, STD/STI testing, and HIV testing than those who ran less often. Similar to the explanations above, it seems sensible to think that youth who have ran from home a greater number of times are likely to have had greater exposure to services like shelters, food pantries, and outreach centers. Considering that there is no statistical significance regarding food pantries and outreach services, however, the exposure hypothesis does not hold for this finding. Instead, it is likely that youth who run more often have a greater need for these resources. For example, youth who are running for the first time may be able to stay with a friend until they are able to smooth things over at home, but youth who are running for the fourth or fifth time may have exhausted their resources, leaving them to rely on shelters. Additionally, youth who find it necessary to leave their home multiple times may be experiencing multiple negative or even traumatic events, resulting in a greater need for counseling. Finally, homeless youth are known to participate in higher levels of risky sexual behavior such as trading sex (Tyler 2008), leaving them more vulnerable to STD/STI's and HIV. It may be, therefore, that youth who run more often have more opportunities, or perhaps more reasons, to participate in risky sexual behavior, resulting in a higher level of need for such testing services.

Amount of time on the streets. Youth who spent more nights on the street were significantly more likely to use food pantries and outreach centers than those who spent fewer nights on the streets. This finding directly supports my hypothesis (#12). The fact that shelter use was not significant is intuitive. Because these youth are not using shelters (or perhaps not using them as frequently), they have an increased need for services (such

as food provision and use of showering facilities) which would otherwise be likely to be met by a shelter. Youth who alternate between staying with friends and staying on the streets may also use food pantries and outreach services in order to obtain items (e.g. canned food, coats, hygiene supplies, meal coupons) they can use to "repay" their occasional hosts.

Social and sexual network size. Social networks play a critical role in spreading knowledge about available services to homeless youth (Berdahl et al. 2005). The larger one's social network, the more awareness of services one should be expected to have. Berdahl et al. (2005) found that having a larger network size, indeed, correlates with the use of mental health services.

Contrary to my hypothesis (#17), however, youth with larger social networks were less likely to use most services. This finding was statistically significant for shelter users only. Those who used shelter had an average network size of 3.77 while those who did not use shelter had an average network size of 4.15. In theory, youth with more friends should have more knowledge of, more access to, and therefore more use of services, this finding shows the opposite. Perhaps, instead, youth with larger social networks have friends who are both homeless and non-homeless. Assuming one's non-homeless friends are able to provide assistance when needed, youth with large networks may, in fact, rely more on their friends for shelter and other services than on actual service providers.

In terms of sexual networks, having more sexual partners is considered being at a higher level of risk for STD/STI and HIV infection, and therefore having a larger sexual network should result in higher use of STD/STI and HIV testing. Goodman and Berecochea (1994) assessed this hypothesis for HIV testing, but found no significant

results. Solorio, Milburn, Rotheram-Borus, et al. (2006) did so for STI testing, and found that having more than 3 sex partners was correlated with having been tested for STI's in the past 3 months. In the current study, youth who reported having had more sex partners in the past 6 months were significantly more likely to use both STD/STI and HIV testing services.

Education and employment. The influence of highest level of education on service use by homeless youth has been assessed for mental health services (Solorio, Milburn, Andersen, et al. 2006) as well as for HIV testing (Goodman and Berecochea 1994), but previous research found no statistically significant differences. While a few homeless youth adapt to street culture and purposefully maintain a homeless lifestyle, others work towards reintegration into society (De Rosa 2001). In theory, homeless youth who have higher levels of education and who have held a job in the past 6 months should be more likely to be striving to regain a stable lifestyle and to re-integrate into society. Because these are typically practices individuals partake in to achieve greater wealth, status and stability in society, it can be concluded that homeless youth might use work and education for the same reason.

Because the use of available services also presumably helps homeless youth reintegrate, I hypothesized that youth with higher levels of education and who had held a job in the past 6 months would be more likely to use all services (Hypothesis #9) compared to those who had lower levels of education or who had not held a job in the past 6 months. The findings in this study were mostly consistent with my hypothesis and with the previous literature. On average, youth with more education and youth who had

recently held a job were more likely to use food pantries, outreach services, STD/STI and HIV testing.

Ever kicked out. Previous literature finds that youth who have been kicked out by a caretaker are slightly more likely to have used counseling services before leaving home (Berdahl et al. 2005), indicating initial problems and a need for mental health services. If these youth tend to need assistance before being kicked out, it logically follows that they would have a need for services after being kicked out. In this study, I found that youth who had ever been kicked out by a caretaker were more likely to use counseling services than those who had not been kicked out. Additionally, youth who had ever been kicked out by a caretaker were more likely to use shelter and HIV testing services than those who had not been kicked out.

Exposure to services. The likelihood that a homeless youth will use a service hinges on several factors, but first among those factors is knowledge. In other words, if a youth is unaware that the service exists, he or she will not use it. On the other hand, even when youth know about a service, a high level of discomfort may preclude use. Reid and Klee (1999) suggest that some homeless youth in the United Kingdom opt not to use services because of the stigma associated with use (i.e. the homeless label is solidified by using services designed for homeless youth).

Theoretically, individuals gain knowledge and grow in their level of comfort with a service when they are repeatedly exposed to it. Youth who remember living in public housing with their caretaker(s), or who remember their caretaker(s) receiving public assistance should, therefore, have more knowledge of and more comfort with using

available services. Along that same line of reason, youth who have lived in foster care or group homes should have similar knowledge.

In the current study, youth whose caretakers had ever received public assistance were significantly more likely to have used food pantries, counseling, STD/STI testing, and HIV testing than those who did not report that their caretakers had received public assistance. Participants whose caretakers ever lived in public housing were also significantly more likely than those whose caretakers did not live in public housing to use pantry and outreach services. Youth who had ever lived in a group home or in foster care were significantly more likely to have ever used counseling, STD/STI testing, and HIV testing than those who had never lived in such arrangements. Additionally, youth who had ever lived in foster care were significantly more likely to have used shelter, and those who had ever lived in a group home, to use pantry services. The variance across service categories between these two groups provides little comparability.

Abuse histories. Homeless youth are often victims of physical and sexual abuse (Tyler and Cauce 2002). In fact, in the current study, 55.4% of respondents reported having ever been physically abused and 32.9% reported having ever been sexually abused. Because of the traumatic nature of both physical and sexual abuse, there is presumably an increased need for counseling among this group of homeless youth. In support of this idea, Berdahl et al. (2005) found that youth who have been physically abused were more likely to use counseling services. Consistent with this hypothesis (#14) and with the previous literature, I found that participants who had ever been physically abused were significantly more likely to have used counseling. Unexpectedly, these youth were also significantly more likely to use shelter, pantry services, and outreach

services compared with youth who had never been physically abused. Similarly, youth who reported having ever been sexually abused were more likely to have used pantry services, outreach, counseling, STD/STI testing, and HIV testing than those who reported never having experienced sexual abuse.

Subjective norms of peers. Homeless youth have repeatedly been found to have high levels of risky sexual behavior (such as ever having engaged in survival sex and non-condom use) (Rotheram-Borus et al. 1992, Goodman and Berecochea 1994, Kipke et al. 1998, Tyler et al. 2000, Solorio et al. 2006) which increases their risk for STIs/STDs and HIV. Many of these researchers assert that high levels of risk equate to high levels of need. In conjunction, they assert that one's level of need predicts the likelihood of being tested. In support of this hypothesis, De Rosa et al. (2001) examined risk behavior and HIV testing of homeless youth in Los Angeles and San Diego and found that homeless youth with the highest number of risks were the most likely to be tested for HIV. Another study of homeless youth in San Francisco (Goodman and Berecochea 1994) found that 74% of their high risk participants had been tested, while 54% of their total sample had been tested. As with the previous studies, my findings indicate that youth with higher risk behaviors are typically more likely to be tested.

While I do not include risk measures in this paper, I do look at the perceived subjective norms about risky sexual behavior. The 'risk theory', then, informs my hypothesis. This hypothesis rests on a key assumption: that youth who perceived their peers use safe sex practices are themselves more likely to participate in safe sex practices. The resulting logic, then, is that youth who participate in safer sex practices will have a lower level of risk, and consequently lower levels of need for being tested, ultimately

resulting in not being tested. When tested, the perceived subjective norms of youths' peers (regarding safe sexual practices) did not differ significantly between those who have been tested and those who have not been tested for STD/STI's or for HIV. It appears that the perceived subjective norms of youths' peers toward condom use have no impact on the likelihood of being tested.

Theory

Because the study of homeless youth is such a specific and applied field, general theories are seldom used. Few of the existing studies involving homeless youth and service usage employ theory to inform their work. I have selected the Theory of Reasoned Action (TRA) to use as a theoretical backdrop for my hypotheses. In cases where TRA provides little insight, I have used previous literature to shape my hypotheses.

As described earlier, TRA purports that behavioral intent should be predicted by the combination of an individual's attitude toward a behavior, the subjective norms of the individual's peers toward the behavior, and the barriers to enacting the behavior. Because the theory seeks to discover how others' perceptions impact the behavior of an individual, the actuality of what others think is less important than what the individual perceives that others think. For instance, if one's friends do not think condom use is important, but the individual perceives that his or her friends find it important, then the effect on the individual's condom use will stem from what the individual perceives, rather than what the friends actually believe.

Consequently, I hypothesized (#19) that youth who thought their friends and partners believed more strongly in using condoms would be less likely to have used STD/STI and

HIV testing services than those who reported that their friends believed less in engaging in preventative HIV behavior. This particular hypothesis equates the idea of personal risk perceptions with behavioral intent. In other words, I posited that youth with higher levels of risk behavior would want to be tested. I used the idea of perceived risk to correspond with individual attitude, and combined it with perceived subjective norms in order to assess likelihood of service use. In this instance, there was no variance across perceived subjective norms. It appears then, that perceived subjective norms have no impact on the likelihood of using STD/STI or HIV testing. In this case, my modification of TRA did not account for likelihood of service use.

Because of the perceived subjective norms measure, TRA applied most directly to Hypothesis 19. I continued, however, to use it as a way to think about and form hypotheses around the remaining variables in this study. The other hypotheses were all additionally grounded in one or more of the following areas: findings from previous research (Hypotheses 1-7), the rationale that youth who have been exposed to services use will be more likely to use services (Hypotheses 8, 10, 11, and 15-17), or the idea that youth who have a greater level of need will be more likely to use services which meet their needs (Hypotheses 6, 7, 9, 12-14, and 18). Ultimately I found that the need-centered hypotheses were more likely to be supported than the exposure-centered hypotheses. In fact, two of the exposure-centered hypotheses (#10 and 11) were supported in a way that would logically refute my exposure hypotheses and support a more need-based hypothesis.

In Hypothesis 10, I asserted that youth who first ran at a younger age and youth who had spent longer periods of time away from home would be more likely to use all

services compared to those who had been homeless for a shorter length of time. Similarly, I used Hypothesis 11 to suggest that youth who had run away more frequently would be more likely to have used all services. Both of these hypotheses were grounded in the idea that because these youth were likely to have been homeless longer than other youth, they would have had more exposure to services and would therefore use more services. Instead, I found that these youth were more likely to use a few very specific services. In the case of Hypothesis 10, youth who first ran at a younger age were more likely to use counseling services only.

For Hypothesis 11, youth who had run more often were more likely to use shelter, counseling, STD/STI testing, and HIV testing than those who ran less often; findings for pantry and outreach were not significant. The types of services being used in each case are services that are more likely to be used based on need. In other words, a person who does not perceive a personal need for counseling or STD testing is unlikely to use either of those services, whereas anyone can benefit from using pantry or outreach centers regardless of their level of need. The exclusion of food pantries and outreach centers from these findings seems to indicate that although my hypotheses were partially supported, the evidence points towards an unmeasured need-based causal factor. As a result of both this and the greater overall support for need-centered hypotheses it seems that TRA may fit best for predicting the use of services by homeless youth when associating measures of behavioral intent with the concept of perceived risk and needs. In other words, if youth perceive themselves as at-risk, then they may also perceive themselves as in-need. If the combination of these two factors correlate with attitudes

toward service, then measures of these concepts could account for the attitudes component of TRA.

As described above, I have employed the use of certain themes that have emerged from the existing literature without being formally stated as theory. For example, perceptions of risk associated with behavior and service utilization, as well as level of exposure to services, appear to influence differences in actual service utilization. Additionally, the importance of social network for homeless youth has become apparent in some subgroups of homeless youth (i.e. GLBT). Although they have yet to be employed specifically as theories in the field of homeless youth, these themes exist as theoretical frameworks in other areas of study. Two of these theories include Perceived Risk Theory and Social Learning Theory.

Perceived Risk Theory has been applied to consumer behavior to try to predict purchasing patterns related to perceived risk. For example, one study explores the impact of food scares and product recalls on purchasing behavior (Mitchell 1992). In a similar fashion, the theory could be used to try and predict service use patterns as related to perceived risk for negative outcomes. For example, by measuring perceived exposure to risk among homeless youth in conjunction with actual service use, a study could determine how closely tied these two phenomena are (e.g. What are the chances that you will go without food today? Have you used a food pantry in the last month?).

As implied by its name, Social Learning Theory (Akers et al. 1979) assesses behavioral outcomes by looking at the ways or processes by which individuals learn certain behaviors. The main mechanism that accounts for behavior is “operant conditioning;” in other words, the decision of whether to behave a certain way in the

future is based on the past outcome (punishment or reward) of the action (Akers et al. 1979). Other mechanisms include exposure (witnessing other practicing the behavior) and association (with others who practice the behavior). Akers et al. (1979) use the Social Learning Theory to explain the deviant behaviors of adolescents, specifically drug and alcohol use. Through testing this theory, they found significant support for its use in the context of social deviance. In a similar trend, this theory could be modified to explore the ways in which homeless youth learn behaviors associated with service use.

A third theme that has emerged from the literature and in this study is that of social networks. Examining social network structure can uncover interesting dynamics between individuals and can reveal the impact of influential members of the network. Ennett and Bauman (1993) used social network theory and analysis to determine whether adolescent social network structure and individual roles within those networks are associated with cigarette use and found that social isolates were more likely to smoke than individuals who were integrated with a social network.

In a similar way, the use of social network analysis could also shed some light on homeless youths' service use patterns. For example, social network analysis could be used to map the interconnectedness of a given city's homeless youth population. The association between service usage and youths' number of network members could then be more accurately assessed, and the influence of individual members on others' service use patterns could also be seen. This would allow the exploration of service utilization patterns of social isolates compared to more connected youth.

In summary, for this study, I have employed the use of the Theory of Reasoned Action in conjunction with several need- and exposure-based hypotheses derived from

the literature on homeless youth. The results of this study indicate that the use of the Theory of Reasoned Action in conjunction with elements from other theories may yield a more accurate understanding of service utilization patterns of homeless youth. Below, I describe how tailoring these theories to apply more directly to homeless youth and service use patterns may be useful for further exploration of this topic.

Limitations

Because these data were collected using non-probability sampling techniques, the findings are not generalizable to the larger population of homeless and runaway youth in the Midwest. Findings here only accurately reflect this particular sample. Although the characteristics of the youth not included in the study are unknown, the sampling methods attempted to capture a diverse array of runaway and homeless youth within each city. Consequently, there is reason to believe that this sample is generalizable to a portion of homeless and runaway youth in the Midwest. As is standard practice in the field of homeless research, this study reports the findings that are statistically significant, and readers should bear in mind that generalizability is limited.

Given the instability associated with homelessness, the use of cross-sectional data is a limitation in fully understanding how patterns in homelessness and risk behavior lead to service utilization. This study does, however, provide an excellent starting point for future longitudinal studies by revealing which measures will be important to a study across a range of years. In relation, the statistical techniques used in this study revealed patterns of service utilization across several characteristics, filling a gap in the literature. Without the use of any advanced statistics or complex conceptual mapping, testing causal

relationships was not possible. The limitation is that there is much more to uncover. This study opens the door for future research.

There were also limitations due to a lack of measures. I was not able to straightforwardly test the Theory of Reasoned Action because of missing measures for individual attitudes toward service use and for subjective norms across most service use categories. Additionally, more direct measures of perceived risk and previous exposure to services could have helped gain more clarity on their impact to service use. Despite a lack of measures, I did gain insight to the application of TRA as well as exposure-based and need-based hypotheses as they inform service use behaviors of homeless youth.

Future Research

By expanding on previous research, assessing unexplored relationships between homeless youth and service use, and introducing new theories to this field, this study has successfully laid a foundation for future research to build upon. I have only, in fact, touched on the many factors that are associated with service utilization by homeless youth. The theoretical concepts examined in this study should be further explored, as should additional substantive concepts not addressed here.

Theoretically-based implications for future research. A clearer theoretical understanding of why homeless youth do or do not use different services could inform future research, as well as service providers, policy makers, and educational programs. For example, future studies should include specific measures to test the Theory of Reasoned Action. As mentioned in my limitations section, measures of individual attitudes, subjective norms, and barriers to service will be necessary for such a study. The

relationship between perceived risk and individual attitude towards service use needs to be more directly explored. Additionally, future research should consider how real and/or perceived barriers to services affect decision-making by homeless youth. In other words, by measuring individual attitudes, subjective norms, and perceived barriers to service use, research may be better able to discern the reasons behind actual service use behavior. Such a study would contribute to the field not only by testing the Theory of Reasoned Action, but also by uncovering causal factors for behavioral intent as well as actual behavior in relation to service use.

Further, future work in this area should consider integrating additional theoretical ideas. For example, expanding from the theoretical model of TRA, the relationship between perceived risk and need should be explored to assess whether the combined concepts predict service use. That is, if youth perceive that they are at high risk for a negative outcome (e.g. hunger insecurity), will they be more likely to have a perceived need for a particular service (e.g. food pantries), and will their behavior (i.e. service use) reflect this? Although the relationship between previous exposure to services and service utilization gained little support in this article, social learning theory suggests that exposure is but one element of the process. Studies could build measures around the construct of prior exposure to service and include other elements from social learning theory. A study could achieve this, for example, by asking respondents whether they have ever used a given service, and if so, whether they remember having been present when someone else used the service prior to their first personal use of it. Although the findings of this study opened the door for exploring service use in terms of risk, need, and

exposure, future studies should carry this on by developing and testing these theories more extensively.

The impact of social networks on service use should also be further explored. Previous studies have suggested that youth may learn about resources from networking with peers and service providers (Reid and Klee 1999; van Wormer 2003). This study examined the relationship between network size and service use for all youth. Because the results indicated that social networks appear to hold particular importance among GLBT youth, exploring the relationship between network size and service use for GLBT youth alone would be worthwhile. Future studies should also expand the use of the social network concept. In other words, more than examining the network size, it may be useful to explore the association between network structure and service use. Data on network structure can reveal interesting patterns of information flow. In fact, in addition to asking for information on an individual's closest social network members, a researcher could ask for information on the people from whom the individual receives the most survival-related information. Such a study could show whether service-related information is being disseminated through social networks, or whether youth are gaining most referrals from service providers with whom they have contact.

Findings-based implications for future research. This study found that youth who had ever lived in group homes or in foster care were more likely to use counseling, STD/STI testing, and HIV testing compared to youth who had never lived in group homes or foster care. This finding raises some serious questions and should be addressed by further research in order to determine why these youth are more likely to have been tested or to use counseling. For example, are these youth more likely to have been

sexually abused before leaving home, leaving them at greater risk and therefore a high need for counseling and STD/STI and HIV testing? Does part of the state system for group homes and foster care provide counseling and testing services for these youth, which permits greater access or exposure and therefore greater levels of testing? These questions and others like them should be answered in order to best serve youth coming from group and foster homes.

Along a different vein, this study found support for the idea that youth who spent more nights on the street were more likely to use food pantries and outreach services. This finding reveals that street youth may not be finding enough food from other sources. Research should assess whether this is the case and whether new services, like providing storage lockers, would help youth alleviate food insecurity by allowing them to store non-perishable foods beyond the time of the present meal. Additionally, future research should compare use of food pantries and outreach centers among youth who use shelters and youth who frequently sleep on the streets to determine why these groups differentially access services.

Policy Implications

Public policies related to homelessness, behavioral health, and other social services impact homeless youth. Because service providers have the most access to homeless youth, policies often directly impact or are implemented through these agencies. As a result, knowing which youth are more likely to use certain services will help policy makers understand how to best direct policies so that they will reach the most youth serviced by particular agencies. More importantly, understanding why these youth are or

are not using different services can offer immeasurable help to policy makers and service providers as they ultimately seek to improve the life chances for homeless youth. This study indicates three key areas for review by policy makers and practitioners.

First, in this study I hypothesized that youth with a larger social network would learn about more services through their network and would therefore be more likely to use all services. This hypothesis was refuted. Testing revealed that social network size did not have an impact on service use for this sample. Consequently, for policies which aim to disseminate information about available services to homeless youth, spreading news through social networks may not be an effective technique, especially if consideration is not given to other characteristics associated with service use.

Second, as previously mentioned, youth from foster homes or group homes are more likely to have used counseling, STD/STI testing, and HIV testing. Policy makers should consider the possible causes for this finding when implementing foster care and group home reforms. Moreover, they should require evaluation studies to determine the factors that lead to service use by this population, and then improve current policies from the findings.

Third, this study reveals that older youth are more likely to use pantries, outreach centers, STD/STI and HIV testing than younger youth. This finding could be used as support for an endeavor to offer new services aimed at older homeless youth. Studying why older youth are using the above listed services can also help policy makers determine what types of new services would be more highly utilized by older homeless youth. For example, job training and placement may be more heavily used among older homeless youth if they were a more readily available service. On the other hand, it is also

important to ask why younger youth are not as likely to use these services. Policy makers should especially prioritize learning what barriers prevent younger youth from utilizing pantries and outreach centers. Knowing the answers to these questions can reveal what unmet needs younger homeless youth have and how service providers and policy makers can meet them.

Conclusions

As a diverse group of people with a high level of needs, homeless youth can be difficult to know how to serve. Further complicating matters, different camps of service providers ascribe to different theories of what helps homeless youth the most. By studying this population in conjunction with their service use patterns, researchers can equip policy makers and service providers with the information they need in order to develop streamlined and successful programs. The aim of this study has been to add to the previous literature that achieves these goals, as well as to provide a stronger foundation for future researchers to add to this field.

This study achieved these goals, in part, by exploring the use of various theories that can now be more formally tested. I found that needs-driven hypotheses were more likely to be supported by statistical analyses than those that were exposure-related. That is, service utilization appeared to be more frequently based on youths' needs rather than on prior experience with a particular service. Additionally, this study contributes to the field by determining the relationships between various characteristics of homeless youth and service use, especially in relation to homeless youth in the Midwest. In particular, I found that service use varied across gender, sexual orientation, age, and the age at which youth

first ran. Additionally, service use varied by highest level of education, whether youth had recently held a job, the number of times ran, the average number of nights spent on the street, having ever been kicked out by a caretaker, or having been either physically or sexually abused. Finally, this study found that use of services did not vary across social network size, and more specifically, that use of STD/STI and HIV testing did not vary across subjective norms (or attitudes of friends) towards condom use.

In conclusion, the findings of this study provide a set of starter blocks for future research to propel forward from. It is essential for the ability of communities across the United States to adequately care for and guide homeless youth toward a healthful and happy existence. The continued exploration of this field is important and necessary for the improvement of our society's response to the problems faced by homeless youth.

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Table 1. Sample Characteristics (N=249)					
Dichotomous Variables	N	%	Continuous Variables	Mean	S.D.
Gender			Age (14-21)	18.5	1.8
Female	137	55.0	Highest level of education	7.0	1.9
Male	112	45.0	Age when first ran (2-20)	13.8	3.1
Race			Number of times ran	3.2	1.9
White	123	49.4	Longest time away from home	2.8	1.6
Non-White	126	50.6	Number of nights on street per week (0-6)	1.0	2.0
Sexual Orientation			Number of network members (0-5)	3.9	1.2
Heterosexual	205	82.3	Number of sex partners in last 6mo (0-3)	1.0	1.1
GLBT	44	17.7			
Non-Demographic Variables					
Held job in last 6 months					
Yes	145	58.2			
No	104	41.8			
Ever kicked out by CT					
Yes	114	45.8			
No	134	53.8			
CT ever rec'd public assistance					
Yes	120	48.2			
No	112	45.0			
CT ever lived in public housing					
Yes	60	24.1			
No	173	69.5			
Ever lived in group home					
Yes	120	48.2			
No	128	51.4			
Ever lived in foster care					
Yes	93	37.3			
No	156	62.7			
Ever physically abused					
Yes	138	55.4			
No	111	44.6			
Ever sexually abused					
Yes	82	32.9			
No	166	66.7			

Note: CT refers to caretaker.

Table 2. Youth Characteristics of Each Type of Service Utilization (N=249)						
	Shelter N (%)	Food Pantry N (%)	Outreach N (%)	Counseling N (%)	STD/STI Testing N (%)	HIV Testing N (%)
Total Usage	177 (71.1)	184 (73.9)	172 (69.1)	179 (71.9)	179 (71.9)	166 (66.7)
Gender						
Male	84 (47.5)	80 (43.5)	74 (43.0)	76 (42.5)	70 (39.1)	69 (41.6)
Female	93 (52.5)	104 (56.5)	98 (57.0)	103 (57.5)	109 (60.9)	97 (58.4)
Race						
White	86 (48.6)	92 (50.0)	89 (51.7)	94 (52.5)	92 (51.4)	86 (51.8)
Non-White	91 (51.4)	92(50.0)	83 (48.3)	85 (47.5)	87 (48.6)	80 (48.2)
Sexual Orientation						
Heterosexual	147 (83.1)	144 (78.3)	135 (78.5)	142 (79.3)	141 (78.8)	131 (78.9)
GLBT	30 (16.9)	40 (21.7)	37 (21.5)	37 (20.7)	38 (21.2)	35 (21.1)
Non-Demographic Variables						
Held job in last 6 months	102 (57.6)	116 (63.0)	111 (64.5)	102 (57.0)	113 (63.1)	110 (66.3)
Ever kicked out by CT	92 (52.3)	85 (46.6)	76 (44.2)	90 (50.6)	85 (47.5)	84 (50.6)
CT ever rec'd public assistance [a]	85 (52.1)	96 (56.8)	86 (54.1)	92 (56.4)	94 (55.0)	89 (56.3)
CT ever lived in public housing [a]	43 (26.4)	49 (28.8)	49 (30.6)	42 (25.5)	45 (26.8)	40 (25.6)
Ever lived in group home	95 (54.0)	89 (48.6)	81 (47.4)	101 (56.7)	97 (45.5)	91 (55.2)
Ever lived in foster care	69 (39.0)	75 (40.8)	67 (39.0)	78 (43.6)	74 (41.3)	69 (41.6)
Ever physically abused	110 (62.1)	108 (58.7)	103 (59.9)	114 (63.7)	100 (55.9)	96 (57.8)
Ever sexually abused	62 (35.0)	69 (37.7)	66 (38.6)	72 (40.4)	71 (39.7)	68 (41.2)

Notes: CT refers to caretaker.
The percentages reported indicate the number of youth who possess the characteristic on the left out of the number of youth who use the service indicated at the top.
[a] Sample size is smaller due to missing cases.

[redacted]

**p < .01, *p < .05, +p < .10.
Notes: CT refers to caretaker and for all variables other than gender, race and sexual orientation, Yes=1.

[redacted]