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Comparison of Treatment Response among GLB and non-GLB Street Living Youth

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Introduction

Compared with their heterosexual counterparts, gay, lesbian and bisexual (GLB) youth experience unique stressors such as victimization and discrimination associated with their sexual orientation. One plausible reason for this is the hostile environment in which GLB youth live which includes the mental health system. For example, Sullivan (1994) asserts that GLB youth face unique developmental challenges and that service providers should examine the systemic obstacles to competent services on their behalf. The need for competent mental health services for this population is reflective in high rates of depression and substance use (Bontempo & D'Augelli, 2002; D'Augelli, 2002; Williams, Connolly, Pepler, & Craig, 2005). GLB youth also engage in more high risk drug behaviors as compared to heterosexual youth (Rosario, Schrimshaw, & Hunter, 2006; Sullivan & Wodarski, 2002).

Homeless GLB Youth

Several studies indicate that a growing number of adolescents run away from, or are thrown out of, their homes each year because of conflict with their parents regarding their sexual orientation (Rew, Fouladi, & Yockey, 2002). In an earlier study of gay or bisexual adolescent males, 40% reported running away from home (Remafedi, Farrow, & Deisher, 1991). As noted by Safren and Rogers (2001), in contrast to ethnic minority persons whose ethnic identity is often apparent, sexual minority youth do not usually share their sexual orientation status with family, and when they do, they are often met with negativity (D'Augelli, Grossman, & Starks, 2005; Safren & Rogers, 2001). Such difficult experiences are likely to influence the adolescent's mental health.

Multiple studies have examined mental health symptoms among GLB and non-GLB homeless youth (Cochran, Stewart, Ginzler, & Cauce, 2002; Gangamma, Slesnick, Toviessi, & Serovich, 2008; Noell & Ochs, 2001; Whitbeck, Chen, Hoyt, Tyler, & Johnson, 2004). Generally, GLB-identified homeless youth report more depressive symptoms than their heterosexual peers (Williams et al., 2005). In a study conducted by Whitbeck and colleagues (2004), GLB homeless adolescents were more likely to experience a major depressive

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episode (41.3%) than non-GLB youth (25.8%). Additionally, gay males, as opposed to heterosexual males, were more likely to experience internalizing symptoms such as depression and anxiety rather than externalizing symptoms such as substance use.

An increased risk of substance use is often linked to the GLB homeless population. Cochran and colleagues (2002) assessed a matched sample of 84 homeless GLB and heterosexual youth along psychosocial variables. They found that homeless GLB adolescents not only used more highly addictive substances, but also experimented with a greater variety of substances compared to heterosexual homeless adolescents. Similarly, Noell and Ochs (2001) found that the GLB youth in their sample had higher rates of amphetamine use and were more likely to inject drugs than heterosexual youth. Still, others have noted no differences in substance use among GLB and non-GLB homeless youth (Gangamma et al., 2008).

Intervention Efforts with Homeless, GLB Youth

Few researchers have proposed strategies to address and potentially enhance the well-being of GLB youth. Further, little research has examined intervention strategies to specifically improve the lives of homeless GLB youth. According to Safren and Rogers (2001), the literature suggests two extremes in service provision. At one extreme, therapists often do not consider the potentially important role of sexual orientation in symptom development and resolution when offering treatment for those who seek help for a variety of presenting problems. At the other, therapists overemphasize the role of sexual orientation when it is not related to presenting problems and offer potentially biased services. With a group that is doubly marginalized (GLB and homeless), or triply marginalized (GLB, homeless and ethnic minority), evaluation of intervention efforts to successfully meet the youths' needs are vital.

Current Study

The purpose of the current study is to compare the treatment effects of an intervention for homeless youth among GLB and non-GLB youth. This study is a secondary data analysis examining the outcomes of two intervention projects. The main outcome findings from one project on substance use, mental health and housing have been previously reported (Slesnick, Prestopnik, Meyers, & Glassman, 2007). The current study will evaluate if homeless GLB and non-GLB identified youth respond similarly to intervention efforts. According to Hart and Heimberg (2001), "there is no reason to believe that therapeutic techniques have greater or lesser effectiveness when applied to lesbian, gay, and bisexual youth," (p. 616). Therefore, it is hypothesized that both groups will respond similarly to treatment. Reductions in drug use and mental health symptoms are the expected outcomes.

Methods

Participants

All participants ($N = 268$) were involved in one of two intervention studies that examined substance use treatment outcomes among homeless youth engaged through the only drop-in center for homeless youth in Albuquerque, New Mexico, from November 2001 to February 2005. The two studies utilized the same measures and treatment intervention; however, one study included a mentoring component (up to 12 sessions) in addition to treatment. Participants in the two studies did not differ significantly on measures of age, ethnicity, or substance use. All youth were between the ages of 14-22 years and eligibility criteria for both studies included living in the metropolitan area for at least 3 months meeting DSM-IV criteria for Alcohol or other Psychoactive Substance Use Disorders and experiencing homelessness¹. Slightly less than half of the homeless youth in this sample were between the

ages of 14-18 (41.4%) with the remaining 58.6% falling into the 19-22 age range. The average age of the youth was 18.7 years ($SD = 2.2$). Participants identified as White (46.3%), Hispanic (31.1%), Native American (10.4%), and mixed or other ethnic group (12.0%). Males accounted for a larger proportion of the sample (63.6%) than females. Sexual orientation was assessed with the question, "Which of these terms best describes how you see yourself: straight, gay/lesbian, or bisexual?" An additional question was asked about the number of male and female sexual partners in the last 3 and 12 months. None of the males who identified as gay or bisexual reported having male sexual partners in the last 12 months. Two females reported having had a female sexual partner in the last 12 months. However, self-identification as GLB, rather than reports of having a same-sex sexual partner, was used for analyses as it has been considered a more reliable assessment of sexual orientation for youth (Saewyc et al., 2004). Just under 20% of youth in the intervention identified as GLB ($n = 52$), with 76% of youth identifying as heterosexual ($n = 205$). Information on sexual orientation identification was missing for 11 participants; these youth were excluded from subsequent analyses.

Procedure

Youth were approached outside the drop-in center (e.g., soup kitchens, the streets) and were encouraged to utilize the center's resources. At the drop-in center, youth had access to computers, free food and clothing, washer/dryer, and safe and secure showers. Potentially eligible youth were screened for participation in the study at the drop-in center. Eligible youth signed an IRB approved consent form and the pretreatment assessment battery was subsequently administered. Youth were then randomly assigned to either (1) Community Reinforcement Approach (CRA; $n = 144$) or (2) treatment as usual (TAU; $n = 124$). Youth assigned to the project intervention were offered 12 CRA therapy sessions and 4 HIV education/skills practice sessions. Some youth ($n = 48$) were also assigned an adult mentor, but the addition of mentoring sessions to the CRA condition did not significantly impact outcome measures, therefore, these youth were included in the present analysis. The intervention began following the completion of the pretreatment assessment battery and randomization. There was no blinding of condition.

All adolescents were evaluated at 3 and 6 months after the pretreatment assessment. Youth received a care package including blankets, toiletries and food items at the completion of the pre-treatment assessment and \$50 at the completion of each follow-up assessment. Treatment was planned to be completed in 3 months; however, given the unstable nature of the population, 6 months was a more realistic timeframe to enable the most clients to complete therapy. Since the 3 month follow-up assessment became a mid-treatment evaluation, and this paper evaluates the impact of treatment on outcomes, 6 month data was examined in the outcome analyses.

Community Reinforcement Approach (CRA)—CRA procedures and session guidelines are detailed in Meyers and Smith (1995) and Godley and colleagues (2001) ACRA manual for the treatment of adolescent marijuana abusers. However, the following provides a brief description of the sequence/timing of the intervention and the session topics.

Session 1 was used to establish rapport and to provide a clear rationale for the CRA approach. The goal for the end of Session 1 was to outline what would happen in treatment and for youth to feel that there is hope to improve their life situation. Session 2 focused on a

¹As defined by The McKinney-Vento Act (1987); This definition of homelessness is meant to capture the multiple locations where homeless youth seek refuge: those who lack a fixed, regular, and adequate nighttime residence; live in a welfare hotel, transitional living program or place without regular sleeping accommodations; or live in a shared residence with other persons due to the loss of one's housing or economic hardship.

tentative treatment plan developed in active collaboration between the therapist and youth, using the Happiness Scales (Meyers & Smith, 1995) to help the youth identify areas of their life they wanted to examine more closely. For sessions 3-12, therapists followed CRA treatment strategies using both a standard set of core procedures and a menu of optional treatment modules matched to clients' needs (Meyers & Smith, 1995). The core session topics included (1) job finding, (2) social skills training including communication and problem-solving skills; (3) social and recreational counseling; (4) decision-making; (5) a functional analysis of using behaviors; (6) drug refusal skills training; (7) a functional analysis of pro-social behaviors; and (8) relapse prevention. Optional treatment modules included, but are not limited to: (1) self talk and self guidance; (2) anger management and affect regulation; (3) relaxation and stress management; (4) couple's counseling; (5) assertiveness training; and (6) self-management planning. Role plays and homework assignments were incorporated into the sessions in order to generalize and practice newly learned skills.

In addition, four individual sessions were offered that covered AIDS education and assessment of risk, risk reduction and skills practice, sexual assertiveness and practicing negotiation as well as behavioral self-management and problem-solving strategies. These sessions used strategies drawn from those used successfully by St. Lawrence, Kelly and their colleagues, *Becoming a Responsible Teen* (B.A.R.T.; Kelly, St. Lawrence, Hood, & Brasfield, 1989; St. Lawrence, Jefferson, Alleyne, & Brasfield, 1995; St. Lawrence, Jefferson, O'Bannon, & Shirley, 1995).

Treatment sessions—For the CRA group, mean number of treatment sessions completed was 6.8 ($SD = 5.5$). Eighteen youth did not attend any treatment sessions.

Treatment as usual—Youth assigned to the treatment as usual control condition were referred to the drop-in center. The drop-in center offered the amenities described previously and case management that linked youth with community resources at the youth's request. On average, TAU youth reported attending 3.4 case management sessions.

Therapist training and supervision—Therapist training included reading materials, a twoday didactic and role-play seminar, and on-going weekly supervision done in groups with all therapists. CRA procedures and session guidelines are detailed in Meyers and Smith (1995) and Godley and colleague's (2001) ACRA manual for the treatment of adolescent marijuana abusers. The 4 HIV prevention sessions were drawn from those used successfully by St. Lawrence, Kelly and colleagues, *Becoming a Responsible Teen* (B.A.R.T.; Kelly, St. Lawrence, Hood, & Brasfield, 1989; St. Lawrence, Jefferson, Alleyne, & Brasfield, 1995; St. Lawrence, Jefferson, O'Bannon, & Shirley, 1995).

Audiotape recordings of therapy sessions were used for treatment adherence checks, fidelity monitoring, and supervision. Selected portions of audiotapes were reviewed, feedback was provided and issues were discussed, including further instruction on how and when to apply CRA techniques and how to find and use the clients' "reinforcers" to increase positive behavior change.

Four therapists conducted the majority (77%) of the CRA therapy intervention. These therapists were female master's level licensed professional counselors ranging in age from 26 to 47 years with 2-12 years experience in the field. Therapist differences were investigated among these four therapists. Two therapists completed more therapy sessions than the other two therapists (completing 7.05 and 7.58 sessions on average as compared to 3 and 4.58 sessions on average), although the differences were not statistically significant. Further, an interaction between therapist and time was found for percentage of days of

substance use, with two therapists showing an overall decrease in substance use in their clients (overall $F(3, 59) = 3.59, p < .05$).

Measures

Demographic measures—A demographic questionnaire designed to characterize and compare participants was administered. The questionnaire included measures of age, gender, and ethnicity.

Substance use—The Form 90, developed for NIAAA funded Project Match (Miller & Del Boca, 1994), was the primary measure of quantity and frequency of drug and alcohol use. This measure uses a combination of the timeline follow-back method (Sobell & Sobell, 1992) and grid averaging (Miller & Marlatt, 1984). This tool has shown adequate test-retest reliability for indices of drug use in major categories (Tonigan, Miller, & Brown, 1997; Westerberg, Tonigan, & Miller, 1998) including with runaway substance abusing adolescents (Slesnick & Tonigan, 2004) with kappas for different drug classes ranging from .74 to .95. Alphas in the current sample ranged from .55 to .94 for the different drug classes. Percent days of alcohol and drug use was the primary dependent measure in this study.

The Youth Self-Report (YSR) of the parent-reported Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1982) provides a standardized format to quickly elicit reports of children's behavior across a wide range of problem areas. The 120-item scale provides factor scores for internalizing and externalizing as well as total behavior problems. Internal consistency for the present sample was $\alpha = .89$ for the internalizing subscale, and $\alpha = .85$ for externalizing subscale.

Depressive symptoms were measured using the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report instrument for measuring depressive symptoms in adults and adolescents age 13 and above. Beck and colleagues (1996) report internal consistencies ranging from .92 to .93 and a test-retest correlation of .93. Cronbach's alpha for the current sample was .91.

Results

Overview of analyses

In order to explore responses to the intervention between GLB and non-GLB identified youth, exploratory analyses included sample descriptive statistics, factorial MANOVA, and two repeated measures MANOVAs. Group means of six response variables from two categories (drug use, mental health), treatment group (TAU, CRA), sexual orientation identification (GLB, non-GLB), and observation time (baseline, post-intervention) are provided in Table 1. One hundred ninety four participants who identified as straight and 50 participants who identified as GLB were included in this analysis ($n = 244$). The descriptive statistics indicated that all youths' mean scores improved from baseline to post-intervention regardless of treatment condition.

Baseline analyses

To assess for group differences at baseline, a 2×2 factorial MANOVA was completed utilizing all response variables. The results are presented in Table 2. Analyses of baseline responses indicated group differences on three response variables: drug use other than tobacco, alcohol or marijuana; depression, and internalizing symptoms. With respect to drug use, GLB identified youth in the TAU condition had significantly higher scores ($F(1, 240) = 6.06, p < .05$) than non-GLB identified youth or GLB identified youth in the CRA condition.

GLB identified youth also reported higher depression scores at baseline than non-GLB identified youth ($F(1, 240) = 4.12, p < .05$). For internalizing symptoms, youth in the CRA condition had significantly higher scores at baseline than youth in the TAU condition ($F(1, 240) = 5.51, p < .05$) and GLB identified youth had significantly higher scores than non-GLB identified youth ($F(1, 240) = 6.19, p < .01$).

Repeated measures analysis

To assess the differential effect of treatment for GLB and non-GLB youth, two repeated-measures MANOVA procedures, one for the drug use variables and one for the mental health variables, were conducted (see Table 2). This procedure was chosen to reduce the possibility of a type-I error and to take into account the correlation between the variables. To test if GLB and non-GLB identified youth responded similarly to intervention efforts, the repeated measures analysis of variance was analyzed to assess the differential effect of treatment on GLB and non-GLB youth. Analyses of within-subjects effects indicated no significant three-way interactions of time by treatment group by sexual orientation.

Univariate results are presented due to the sample size and low power. The main effect of time on response variable scores is an indicator of the significance of the change from pre- to post-intervention. Mean scores significantly improved on all response variables, indicating less drug use and fewer mental health symptoms at post-intervention regardless of treatment group or sexual orientation.

The interaction between time and sexual orientation (GLB or non-GLB) is an indicator of the differential effects of sexual orientation on score improvement. No multivariate within-subjects effect was found for sexual orientation for the drug use variables ($F(1, 191) = 1.550, p = .20$). Analysis of the mental health variables revealed a significant interaction effect for sexual orientation ($F(1, 191) = 3.303, p = .02$). This indicates that GLB-identified youth improved more than non-GLB youth on the mental health variables.

Univariate results showed a significant interaction effect of sexual orientation on two of the drug use variables, drug use except tobacco ($F(1, 187) = 4.50, p < .05$) and drug use except tobacco and alcohol ($F(1, 187) = 4.46, p < .05$). A significant interaction effect of sexual orientation was also present for scores on two of the mental health variables, the internalizing symptoms measure ($F(1, 164) = 6.30, p < .05$) and scores on the depressive symptoms measure ($F(1, 178) = 4.93, p < .05$). GLB-identified youth improved more than non-GLB identified youth on all of these variables.

Discussion

The current study was a secondary analysis of two clinical trials comparing treatment outcomes among street-living GLB and non-GLB identified youths. At follow-up, no treatment differences were found among GLB and non-GLB youths. Overall, GLB and non-GLB youth showed similar improvements across a range of outcomes. However, while all youth improved from baseline to post-intervention, GLB identified youth had significantly higher scores than heterosexual youth at baseline, but their scores were not significantly different from heterosexual youth at post-intervention. When the variables were analyzed within a MANOVA framework, GLB identified youth continued to show greater improvement on the mental health variables, while accounting for correlations among the variables.

The greater improvement of GLB identified adolescents is notable given the multiple challenges associated with being a member of a marginalized group as well as experiencing homelessness. Indeed, prior research has shown homeless youth who identify as GLB often

experience greater victimization (Bontempo & D'Augelli, 2002; Cochran et al., 2002, D'Augelli, 2002; Hunter, 2008; Williams et al., 2005), sexual abuse (Rew, Whittaker, Taylor-Seehafer, & Smith, 2005; Tyler, 2008), discrimination (Milburn, Ayala, Rice, Batterham, & Rotheram-Borus, 2006), and depression (Cochran et al., 2002; D'Augelli, 2002; McDaniel, Purcell, & D'Augelli, 2001; Russell & Joyner, 2001; Ryan, Huebner, Diaz, & Sanchez, 2009; Safren & Heimberg, 1999). The reduction in drug use and mental health symptoms for GLB youth points to the resiliency and strength of this population. However, the theme of resiliency is only beginning to emerge as a topic of study with sexual-minority youth, yet resiliency studies note the success of GLB youth despite adversity (Savin-Williams, 2001; Yarbrough, 2004).

One possible explanation for the improvement in the GLB identified youth compared to the non-GLB youth may be due to the supportive therapist-client relationship developed during the intervention. Sullivan (2002) notes the lack of positive, understanding role models in the lives of many GLB adolescents. The period of adolescence is often a time of confusion (Savin-Williams, 2001), and even more so for sexual-minority youth who have insufficient guidance from an experienced mentor who has dealt with similar challenges. Instead, GLB youth are often isolated from family and friends as they attempt to understand their own identity (Milburn et al., 2006; Rew et al., 2002; Sullivan, 2002). For homeless adolescents, the isolation from family is not only emotional, but also physical (Cochran et al., 2002). However, the homeless GLB youth in our sample may have been encouraged by a knowledgeable therapist experienced in the issues surrounding at-risk and sexual-minority adolescents which facilitated the youths' improvement in drug use and mental health outcomes.

While early research on sexual-minority individuals assumed stark contrasts between the experiences and behaviors of those identifying as GLB versus their heterosexual counterparts, current research questions the practice of segregating the two groups so severely and dismissing all commonalities (Elze, 2005; Savin-Williams, 2001). In this study of at-risk youth, all participants, regardless of treatment type or sexual orientation, demonstrated a reduction in drug use and fewer mental health symptoms indicating a consistent, positive response to treatment among all adolescents. Additionally, a qualitative study of GLB adolescents (Eccles, Sayegh, Fortenberry, & Zimet, 2004) found that participants saw their developmental experiences as being very similar to that of their heterosexual counterparts, leading the authors to argue against assumptions of adversity due specifically to sexual orientation during treatment.

Limitations

Some limitations should be considered when interpreting the findings. This was a secondary data analysis and the focus of the original study was not on treatments for GLB youth. As such, the sample of GLB youth was small, and treatments developed specifically for GLB youth were not examined. Length of follow-up was short, and a longer follow-up period would provide a better estimate of the stability of treatment effects. Given that a significant body of literature indicates that GLB adolescents are over-represented in the homeless youth population—often due to parental rejection—the lack of parental perspective or involvement in the current study precludes direct analysis and evaluation of this influence. In addition, despite randomization, youth assigned to the CRA condition had higher scores on the internalizing symptoms variable at baseline. This could explain the difference in change over time for GLB youth on this variable given the possibility that the observed treatment effect of the mental health variable could be partially due to regression to the mean for the internalizing symptoms variable.

Implications and Future Directions

The current study demonstrates the utility of CRA for interventions with homeless youth regardless of sexual orientation. Both GLB and non-GLB adolescents showed improved functioning among all variables related to drug use and mental health symptoms. As previously cited, Safren and Rogers' (2001) assertion that therapy with GLB clients often suffers from an under- or over-emphasis on sexual orientation is well heeded by the CRA method. In this method, the client's goals and treatment plan are co-constructed by the therapist and youth in order to identify issues that are most salient for the youth. In other words, issues related to sexual identity are addressed to the extent that it is identified as important by the youth.

Youth in our sample exhibited improved outcomes despite their marginalized position in society. Findings suggest that specialized treatments for GLB youth might not be necessary in order to show positive treatment outcomes. Instead, interventions tailored to the unique needs of each youth may be useful. For example, the development of a supportive relationship with an understanding therapist might partially explain the positive findings; however, future research may benefit from the exploration of within-group differences among GLB youth to discover individual differences associated with improvement. Further, future researchers might consider evaluating resiliency in their work with GLB youth.

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References

- Achenbach, TM.; Edelbrock, CS. Manual for the Child Behavior Checklist and Child Behavior Profile. Child Psychiatry, University of Vermont; Burlington, VT: 1982.
- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed.. APA; Washington, DC: 2000. (DSM-IV-TR)
- Beck, AT.; Steer, RA.; Brown, GK. Manual for Beck Depression Inventory II (BDI-II). Psychology Corporation; San Antonio, Texas: 1996.
- Bontempo DE, D'Augelli AR. Effects of at-school victimization and sexual orientation on lesbian, gay, or bisexual youths' health risk behavior. *Journal of Adolescent Health*. 2002; 30:364–374. [PubMed: 11996785]
- Cochran BN, Stewart JA, Ginzler JA, Cauce AM. Challenges faced by homeless sexual minorities: Comparison of gay, lesbian, bisexual, and transgender homeless adolescents with their heterosexual counterparts. *American Journal of Public Health*. 2002; 92:773–777. [PubMed: 11988446]
- D'Augelli AR. Mental health problems among lesbian, gay, and bisexual youths ages 14 to 21. *Clinical Child Psychology and Psychiatry*. 2002; 7:433–456.
- D'Augelli AR, Grossman AH, Starks MT. Parents' awareness of lesbian, gay, and bisexual youths' sexual orientation. *Journal of Marriage and Family*. 2005; 67:474–482.
- Eccles TA, Sayegh MA, Fortenberry JD, Zimet GD. More normal than not: A qualitative assessment of the developmental experiences of gay youth. *Journal of Adolescent Health*. 2004; 32(2):137–138.
- Elze DE. Research with sexual minority youths: Where do we go from here? *Journal of Gay and Lesbian Social Services*. 2005; 18:73–99.
- Gangamma R, Slesnick N, Toviessi P, Serovich J. Comparison of HIV risk among gay, lesbian, bisexual and heterosexual homeless youth. *Journal of Youth and Adolescence*. 2008; 27:456–464. [PubMed: 18607514]
- Godley SH, Meyers RJ, Smith JE, Karvinen T, Titus JC, Godley MD, Dent G, et al. The Adolescent Community Reinforcement Approach for Adolescent Cannabis Users. 2001:01–3489.DHHS Publication No. (SMA)

- Hart T, Heimberg R. Presenting problems among treatment-seeking gay, lesbian, and bisexual youth. *Journal of Clinical Psychology*. 2001; 57:615–627. [PubMed: 11304702]
- Hunter E. What's good for the gays is good for the gander: Making homeless youth housing safer for lesbian, gay, bisexual, and transgender youth. *Family Court Review*. 2008; 46:543–553.
- Kelly JA, Lawrence JS, Hood HV, Brasfield TL. Behavioral intervention to reduce AIDS risk activities. *Journal of Consulting & Clinical Psychology*. 1989; 57(1):60–67. [PubMed: 2925974]
- McDaniel JS, Purcell D, D'Augelli AR. The relationship between sexual orientation and risk for suicide: Research findings and future directions for research and prevention. *Suicide and Life-Threatening Behavior*. 2001; 31(Suppl.):84–105. [PubMed: 11326762]
- McKinney-Vento Homeless Assistance Act of 1986, Pub. L. No. 100-77, 101 Stat. 482. 1987
- Meyers, RJ.; Smith, JE. *Clinical Guide to Alcohol Treatment: The Community Reinforcement Approach*. Guilford Press; New York, NY: 1995.
- Milburn NG, Ayala G, Rice E, Batterham P, Rotheram-Borus MJ. Discrimination and exiting homelessness among homeless adolescents. *Cultural Diversity and Ethnic Minority Psychology*. 2006; 12:658–672. [PubMed: 17087527]
- Miller WR, Del Boca FK. Measurement of drinking behavior using the Form 90 family of instruments. *Journal of Studies in Alcohol*. 1994; 12(Suppl.):112–118.
- Miller, WR.; Marlatt, GA. *Manual for the comprehensive drinker profile*. Psychological Assessment Resources; Odessa, FL: 1984.
- Noell JW, Ochs L. Relationship of sexual orientation to substance use, suicidal ideation, suicide attempts, and other factors in a population of homeless adolescents. *Journal of Adolescent Health*. 2001; 29:31–36. [PubMed: 11429303]
- Remafedi G, Farrow JA, Deisher RW. Risk factors for attempted suicide in gay and bisexual youth. *Pediatrics*. 1991; 87:869–875. [PubMed: 2034492]
- Rew L, Fouladi RT, Yockey RD. Sexual health practices of homeless adolescents. *Journal of Nursing Scholarship*. 2002; 34:139–145. [PubMed: 12078538]
- Rew L, Whittaker TA, Taylor-Seehafer MA, Smith LR. Sexual health risks and protective resources in gay, lesbian, bisexual, and heterosexual homeless youth. *Journal for Specialists in Pediatric Nursing*. 2005; 10:11–19. [PubMed: 15673425]
- Rosario M, Schrimshaw EW, Hunter J. A model of sexual risk behaviors among gay and bisexual men: longitudinal associations of mental health, substance abuse, sexual abuse, and the coming-out process. *AIDS Education and Prevention*. 2006; 18(5):444–460. [PubMed: 17067255]
- Russell ST, Joyner K. Adolescent sexual orientation and suicide risk: Evidence from a national study. *American Journal of Public Health*. 2001; 91:1276–1281. [PubMed: 11499118]
- Ryan C, Huebner D, Diaz RM, Sanchez J. Family rejection as a predictor of negative health outcomes in White and Latino lesbian, gay, and bisexual young adults. *Pediatrics*. 2009; 123(1):346–352. [PubMed: 19117902]
- Saewyc EM, Bauer GR, Skay CL, Bearinger LH, Resnick MD, Reis E, et al. Measuring sexual orientation in adolescent health surveys: Evaluation of eight school-based surveys. *Journal of Adolescent Health*. 2004; 35:345.e1–345.e15. [PubMed: 15830439]
- Safren SA, Heimberg RG. Depression, hopelessness, suicidality, and related factors in sexual minority and heterosexual adolescents. *Journal of Consulting and Clinical Psychology*. 1999; 67(6):859–866. [PubMed: 10596508]
- Safren SA, Rogers T. Cognitive-behavioral therapy with gay, lesbian, and bisexual clients. *Journal of Clinical Psychology*. 2001; 57:629–643. [PubMed: 11304703]
- Savin-Williams RC. A critique of research on sexual-minority youths. *Journal of Adolescence*. 2001; 24:5–13. [PubMed: 11259066]
- Slesnick N, Prestopnik JL, Meyers RJ, Glassman M. Treatment outcome for homeless, street-living youth. *Addictive Behaviors*. 2007; 32:1237–1251. [PubMed: 16989957]
- Slesnick N, Tonigan JS. Assessment of alcohol and other drugs used by runaway youths: A test-retest study of the Form 90. *Alcoholism Treatment Quarterly*. 2004; 22:21–34. [PubMed: 18563208]
- Sobell, LC.; Sobell, MB. Timeline follow-back. In: Litten, R.; Allen, J., editors. *Measuring alcohol consumption*. Humana Press; Totowa, NJ: 1992. p. 41-72.

- Lawrence JS, Jefferson KW, Alleyne E, Brasfield TL. Comparison of education versus behavioral skills training interventions in lowering sexual HIV-risk behavior of substance-dependent adolescents. *Journal of Consulting and Clinical Psychology*. 1995; 63:154–157. [PubMed: 7896983]
- Lawrence JS, Jefferson KW, O'Bannon RE, Shirley A. Cognitive-behavioral intervention to reduce African American adolescents' risk for HIV infection. *Journal of Consulting and Clinical Psychology*. 1995; 63:221–237. [PubMed: 7751483]
- Sullivan TR. Obstacles to effective child welfare service with gay and lesbian youths. *Child Welfare*. 1994; 73(4):291–304. [PubMed: 8045162]
- Sullivan M, Wodarski JS. Social alienation in gay youth. *Journal of Human Behavior in the Social Environment*. 2002; 5:1–17.
- Tonigan JS, Miller WR, Brown JM. The reliability of Form 90: An instrument for assessing alcohol treatment outcome. *Journal of Studies on Alcohol*. 1997; 58:358–364. [PubMed: 9203116]
- Tyler KA. A comparison of risk factors for sexual victimization among gay, lesbian, bisexual, and heterosexual homeless young adults. *Violence and Victims*. 2008; 23:586–602. [PubMed: 18958987]
- Westerberg VS, Tonigan JS, Miller WR. Reliability of form 90D: An instrument for quantifying drug use. *Substance Use*. 1998; 19:179–189.
- Whitbeck LB, Chen X, Hoyt DR, Tyler KA, Johnson KD. Mental disorder, subsistence strategies, and victimization among gay, lesbian, and bisexual homeless and runaway adolescents. *The Journal of Sex Research*. 2004; 41:329–342.
- Williams T, Connolly J, Pepler D, Craig D. Peer victimization, social support, and psychosocial adjustment of sexual minority adolescents. *Journal of Youth and Adolescence*. 2005; 34:471–482.
- Yarbrough DG. Gay adolescents in rural areas: Experiences and coping strategies. *Journal of Human Behavior in the Social Environment*. 2004; 8:129–144.

Table 1

Means for Outcome Variables by Intervention Group and Sexual Orientation, baseline n = 244, post-baseline n = 163

Outcomes (Mean, SD)	TAU				CRA			
	Baseline		Post		Baseline		Post	
	GLB	Non-GLB	GLB	Non-GLB	GLB	Non-GLB	GLB	Non-GLB
Drug Use...								
other than Tobacco	64.41 (31.21)	59.25 (35.04)	47.09 (45.88)	60.59 (40.38)	63.88 (30.85)	66.91 (31.48)	37.52 (40.78)	46.04 (40.00)
other than Tobacco & Alcohol	61.38 (33.25)	54.73 (36.78)	46.11 (46.72)	53.61 (42.17)	59.70 (33.64)	60.80 (34.15)	36.05 (40.37)	43.02 (40.56)
other than Tobacco, Alcohol, & Marijuana	22.28 (28.78)	11.82 (21.21)	11.18 (28.37)	9.64 (22.31)	8.78 (15.34)	16.24 (22.87)	5.02 (10.58)	12.45 (24.47)
Mental Health								
BDI Depression	19.64 (10.63)	16.34 (11.27)	12.10 (12.03)	12.47 (9.65)	22.18 (10.03)	18.44 (10.74)	9.56 (9.87)	11.96 (11.70)
YSR Internalizing Symptoms	21.61 (9.13)	18.75 (9.16)	17.00 (7.53)	16.00 (8.92)	26.50 (9.62)	20.96 (9.72)	15.67 (8.70)	15.84 (10.94)
YSR Externalizing Symptoms	23.25 (9.95)	23.33 (8.50)	20.70 (5.01)	20.62 (9.45)	24.32 (8.26)	24.38 (8.26)	20.22 (8.48)	18.87 (10.64)

Note: Drug use variables are not log transformed for the reporting of Means and Standard Deviations.

Table 2
 Statistical Analyses Results for Outcome Variables by Intervention Group and Sexual Orientation (F statistic)

Outcomes	Differences at Baseline			Univariate Effects			Multivariate Effects		
	Tx Group	S.O.	Time	Time × Group	Time × S.O.	Time × Group × S.O.	Tx Group	S.O.	Time × Group × S.O.
Drug Use...									1.55
other than Tobacco	3.23	0.13	57.46***	0.82	4.50*	0.41			
other than Tobacco & Alcohol	1.27	0.45	54.35***	0.51	4.46*	0.36			
other than Tobacco, Alcohol, & Marijuana	0.34	<0.00	15.46***	0.04	0.21	1.89			
Mental Health									3.30*
BDI Depression	1.79	4.124*	37.68***	3.00	4.931*	0.23			
YSR Internalizing Symptoms	5.514*	7.726**	52.56***	7.56**	6.30*	2.54			
YSR Externalizing Symptoms	0.48	<0.00	27.58*	0.95	0.03	0.07			

Note: Baseline n=244. Repeated Measures sample sizes ranged from 168-191 based on list-wise deletion. For the drug use variables, the log10 transformed results are presented. Significance

- * p<0.05
- ** p<0.01
- *** p<0.001