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Attitudes Associated With Alcohol and Marijuana Referral Actions by Resident Assistants

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Abstract

This exploratory study examined associations between resident assistant (RA) attitudes and referral actions to identify training strategies for strengthening the ability of these paraprofessionals to recognize and refer college students in their living units who misuse alcohol and marijuana. The study's hypotheses were that (1) referral self-efficacy and perceived referral norms would be positively associated with RA referral actions and (2) perceived referral barriers and referral anticipatory anxiety would be negatively associated with RAs' referral actions. A total of 317 RAs at eight residential campuses in different regions of the U.S. took part in the study. All participating RAs had at least one semester of work experience. Just prior to the Fall semester of 2012, RA's responded to an online survey that assessed their alcohol and marijuana referral attitudes and referral actions. Overall, RAs reported considerable anxiety about approaching and referring students who may have an alcohol and/or marijuana problem. Perceived referral norms among RAs indicated substantial variability in perceptions about others' expectations of them for referring students who may have alcohol and marijuana problems. Results from two multivariable logistic regression analyses showed that referral self-efficacy distinguished RAs who took alcohol referral actions and marijuana referral actions from those who did not do so. Neither length of RA service nor time spent on campus was associated with referral actions. RA training programs could give attention to strengthening referral self-efficacy through a series of increasingly difficult skill-building activities during pre- and in-service training. In addition, senior residence life and housing professional staff may consider assessing the extent to which RAs under their supervision

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Conflict of Interest.

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follow established protocols for assisting students with possible alcohol and marijuana problems. The development of evidence-based RA training programs will require additional research.

Keywords

Residence Life; Substance Abuse; Referral Skill Training

Introduction

One of the most pervasive problems faced by institutions of higher education in the United States is undergraduate alcohol and other drug abuse (Hingson, Zha, & Weitzman, 2009). According to the 2011 Monitoring the Future Study (Johnston, O'Malley, Bachman, & Schulenberg, 2013), in the past 30 days 63.5% of college students had used alcohol, 39.5% had been drunk, and 21.4% had used an illicit drug. Among these drugs, marijuana use is most prevalent (past 30-day rate = 19.4%). These data indicate that among the general population of college students, 4 in 10 may be at risk for an alcohol use disorder and 2 in 10 may be at risk for a marijuana use disorder.

Using data from the National Epidemiologic Study on Alcohol and Related Conditions, Blanco et al. (2008) estimated the 12-month prevalence rates for alcohol use disorders and drug use disorders in the American college student population. Based on DSM-IV criteria (American Psychiatric Association, 2000), 12.5% met criteria for alcohol dependence and an additional 7.8% met criteria for alcohol abuse (Blanco et al., 2008). In addition, 1.4% of college students met criteria for drug dependence and an additional 4.2% met criteria for drug abuse (Blanco et al., 2008). These alcohol and drug use disorder rates are twice as great as those in the general adult population. Blanco and colleagues also found that only 5.4% of college students with an alcohol or drug use disorder had sought treatment in the previous year. This finding is consistent with other studies that have found that only 1% to 3% of college students express willingness to seek professional assistance for an alcohol problem (Buscemi et al., 2010; Cellucci, Krogh, & Vik, 2006). The reluctance to seek help adds to the challenges of providing prevention services to college students.

Each year residential campuses in the United States hire thousands of undergraduate resident assistants (RAs) to work in residence halls. Chief among the roles of the RA is that of a paraprofessional advisor or counselor (Blimling, 2003). In this role, RAs are sentinel observers of residential campuses and over the course of one or more academic years they become repositories of information about the lifestyles and problems of the residents in their living unit (Sharkin, Plageman, & Mangold, 2003). RAs also serve as "first responders" in crises situations, and when residents exhibit problem behaviors, they are responsible for discussing the situation with residents and linking them to professional mental health services (Elleven, Allen, & Wircensk, 2001; Ness, 1985).

It has been recognized for more than two decades that RAs sometimes encounter challenging situations for which they are not well-prepared, including roommate conflicts and interpersonal violence, academic problems, depression and suicide, and in virtually every living unit, alcohol and marijuana use (Dodge, 1990; Owens, 2011; Rubington, 1996).

In addition, RAs are community leaders who cultivate a sense of unity and cohesion among their residents by organizing community program activities (Blimling, 2003). In a recent review of these challenges, Owens concluded that the RA staff position has not evolved over time to meet current demands and thus the job has become “too big” for today’s undergraduates (Owens, 2011).

A qualitative study of 48 RAs at three campuses indicated that RA intentions to approach and refer residents with possible substance use or mental health problems are weakened by their personal attitudes as well as by the conditions in their living unit (Reingle, Thombs, Osborn, Saffian, Oltersdorf, 2010). Many perceived the referral task to be emotionally burdensome, and they were not confident referrals would lead to positive outcomes. Moreover, some RAs acknowledged that they did not maintain frequent contact with many of their residents, limiting their ability to identify problems. Other RAs engaged in a questionable form of clinical screening and evaluation in which they told themselves that many of the problems they observed in their residents were not severe enough to warrant a referral. RAs were also hesitant to make referrals because of concerns that such an action would disrupt social cohesion in the living unit.

RA Training Today

The most recent edition of *Professional Standards for Higher Education* does not offer specific RA training standards for problematic substance use referrals (Council for the Advancement of Standards in Higher Education, 2012). Instead, the 8th edition briefly mentions the general need for campuses to develop a student assistance services system that trains students, faculty, and staff on alcohol and drug abuse referral skills (p. 60). Thus, on virtually all residential college and university campuses RAs are required to participate in some combination of pre-service and in-service training and supervision. However, systematic knowledge about the pervasiveness and intensity of alcohol/marijuana recognition and referral training for RAs on U.S. campuses is lacking (Reingle et al., 2010). In addition, there exist no evidence-based programs for effectively training RAs to address alcohol and marijuana use in their living units.

The Present Study

To design effective training strategies, there is a critical need to examine RA attitudes that facilitate and hinder resident referrals for the two most commonly abused drugs in the undergraduate population: alcohol and marijuana (Johnston et al., 2013). This examination is important because it can point to strategic training activities that target specific RA characteristics. The purpose of this exploratory study was to assess associations between RA referral attitudes and actions. We tested two hypotheses: (1) referral self-efficacy and perceived referral norms will be positively associated with RA referral actions for possible alcohol and marijuana problems; and (2) perceived referral barriers and referral anticipatory anxiety will be negatively associated with RA referral actions for possible alcohol and marijuana problems.

Methods

Participants and Procedures

A total of 721 undergraduate RAs at eight colleges and universities in the United States completed an online survey during August and September of 2012. The campuses were two large public universities and one historically black university in the Southeast United States; two small private colleges (1 co-ed and 1 woman only) and two medium-size public universities in the Midwest; and one private university in the Pacific Northwest. RA staff size on these campuses ranged from 24 to 204 (mean = 85.9). The different types of living units overseen by RAs on these campuses were traditional dorm-style residence halls, suites, and on-campus apartments.

The departments of housing/residence life on these campuses were participating in a 9-month randomized field trial investigating an online training program designed to strengthen the ability of RAs to recognize, approach, and effectively refer residents who may have a substance use problem. This randomized trial assigned four campuses to the investigational training program (intervention) and four campuses to a training-as-usual condition (controls). The RAs completed the trial's online baseline survey before residents returned to their campuses for the Fall semester of 2012. An email communication from the study's principal investigator directed RAs to a website where they used a unique user identification number (and self-selected password) to access the online survey. RAs who did not respond to the survey in a timely manner received reminder email communications. Campus supervisors followed up with non-responders.

The principal investigator obtained IRB approval at his institution and from the IRBs at all eight participating campuses. The director of residence life or housing at each campus provided informed consent in this investigational training study. RAs did not provide informed consent because the IRBs considered study participation to be a condition of their employment. Thus, all RAs at the participating campuses were required to participate in the online baseline survey as a condition of employment. All survey items included the response option "no answer" for which there was no penalty. Survey instructions informed RAs that officials at their institution would not receive their confidential responses.

This study reports *baseline* results from 317 RAs (or 44% of the total sample) who had served at least one semester as an RA prior to Fall Semester 2012. These returning RAs were located at both intervention and control campuses. The smallest housing/residence life department had nine returning RAs and the largest department had 106 returning RAs (campus mean = 40). RAs at intervention campuses completed the baseline survey prior to commencing the investigational training program. More than one-half of the returning RAs (51.4%) reported that they had served for two prior semesters as an RA, with 17.7% serving for one prior semester, 16.7% serving for four prior semesters, 8.2% serving for three prior semesters, and 6.0% serving for five or more prior semesters. The sample was mostly white (73.2%), with 17.4% identifying as African-American, 3.8% as Asian, 2.8% as multi-racial, 1.6% as Hispanic/Latino, and 1.3% as "other." On four of the eight campuses, the proportion of minority RAs closely mirrored the minority make-up of the undergraduate student body. A majority were women (61.5%). The mode and median age in the sample was 20 years.

Instrumentation

In addition to assessing demographic characteristics, survey items measured the total number of three different types of referral actions taken by an RA. The three alcohol referral action items were: *During the time you have served as an RA, (1) how many residents have you talked with about an alcohol problem?* (2) *how many residents have you referred to your immediate supervisor about an alcohol problem?* and (3) *how many residents have you referred to a counseling service?* RAs also responded to a separate set of parallel items for marijuana referral actions. Sums of these three-item sets determined the alcohol referral and marijuana referral scores for each RA. The rationale for this scoring approach was twofold. First, a single resident referral may involve a process including several meetings by an RA, and possibly their immediate supervisor, over the course of a semester (or longer). To address the complexity of these situations, the survey items assessed number of residents involved, rather than the number of meetings with any given resident. Second, there was a need for multiple referral items for each substance because campuses and RA supervisors had different protocols for how RAs were to make resident referrals. At some campuses in the study, RAs made direct referrals to campus counseling centers, whereas at other campuses, RAs made referrals to their immediate supervisor or another professional staff member.

Findings from a prior qualitative pilot study guided the design of the assessment tool (Reingle et al., 2010). The pilot findings indicated that attitudinal constructs from several health behavior theories, including the Health Belief Model and Social Cognitive Theory, were most salient to the referral task of the RA. Survey items were pre-tested using RA supervisors, that is, professional staff from a number of campuses.

Perceived referral barriers was measured by eight survey items. Using 5-point Likert scales ranging from *strongly disagree* (scored as 1) to *strongly agree* (scored as 5), responses indicated the extent of agreement with statements about negative aspects of making referrals (e.g., *a negative aspect of approaching and possibly referring a resident is that they will become defensive or angry with me*). Comprised of three items, *referral self-efficacy* relied on the same 5-point Likert scale, and included the item: *I feel confident in my ability to discuss with a resident those concerns I may have about their alcohol use*. Relying on the same 5-point Likert scale, four items measured *referral anticipatory anxiety*. One of these items was: *If I were to suggest that a resident see a professional at the counseling center, I would be afraid that he or she would become angry with me or dismiss the idea as ridiculous*. Separate sets of parallel items measured *perceived referral norms* for alcohol referrals and for marijuana referrals. RAs responded to two separate alcohol and marijuana questions: *What would the following people think of you if you referred a resident to the campus counseling center for a possible alcohol (or marijuana) problem?* Using 5-point Likert scales ranging from *strongly disapprove* (scored as 1) to *strongly approve* (scored as 5), responses were provided for 5 referents: (1) *RAs on your hall staff*, (2) *Your immediate supervisor*, (3) *Your director of residence life/housing*, (4) *Residents in your living unit*, and (5) *Parents of residents in your living unit*.

Analytic Strategy

First, we conducted frequency analyses to examine the distributions of all variables in the baseline survey. Second, we assessed the internal consistency of items comprising the attitudinal measurement scales. Third, we conducted a series of independent samples *t* tests (two-tailed) to compare scale means of RA referral action groups. Fourth, to test study hypotheses, we conducted two multivariable logistic regression analyses. The first regression analysis examined associations between referral attitudes and a binary measure of RA referral actions for alcohol (*no* vs. *yes*), adjusted for the potentially confounding effects of demographic variables. The second regression analysis examined the associations between referral attitudes and a binary measure of RA referral actions for marijuana (*no* vs. *yes*), also adjusted for the potentially confounding effects of demographic variables. The study used IBM SPSS Statistics 19 software.

Results

On all eight campuses there were returning RAs who reported taking and not taking referral actions for alcohol problems and marijuana problems. As shown in Table 1, RAs took more alcohol referral actions than marijuana referral actions, which is an expected finding because alcohol use is more prevalent than marijuana use among college students (Johnston et al., 2013). In the study sample, 60.1% had taken one or more alcohol referral actions while serving as an RA, compared to 39.0% who reported taking one or more marijuana referral actions. There also were small, but noteworthy proportions of RAs who chose the response options of *no answer* in response to the three-item set of survey items eliciting number of referral actions (separately for alcohol and marijuana), which suggests this is a sensitive issue for some RAs.

Our inspection of items assessing perceived referral norms revealed considerable variability among RAs in their perceptions about others' expectations of them for making resident referrals. For example, 22.2% reported they were *Uncertain* about how other RAs on their staff would react if they were to refer a resident with an alcohol problem, and an additional 12.5% indicated that other RAs would *Disapprove* or *Strongly Disapprove* (see Table 2). As a group, RAs were more certain about the alcohol and marijuana referral expectations of their immediate supervisor and the director of residence life/housing. However, there was substantial uncertainty about existing referral norms with regard to expectations of residents in their living unit and parents of their residents.

Table 3 summarizes the scale characteristics of the RA attitudinal measures, including *t*-test comparisons of scale means of groups classified by referral actions (*no* vs. *yes* for alcohol and marijuana, respectively). Each set of items had good to excellent internal consistency in the total sample of returning RAs. There were significant mean differences ($p < 0.05$) for referral self-efficacy (alcohol and marijuana) and perceived alcohol referral norm. Scores on referral anticipatory anxiety did not significantly differ across referral groups, but were relatively high (means > 15.6 on a scale of 4–20) indicating that returning RAs, as a group, were considerably apprehensive about performing the resident referral task.

To test our study hypotheses in a multivariable framework, we conducted two logistic regression analyses in which the binary dependent variables were RA referral action for alcohol and for marijuana. We coded RAs as a 1 (or *yes*) if they had talked with a resident about an alcohol/marijuana problem, referred a resident to their immediate supervisor because of an alcohol/marijuana problem, or referred a resident to a counseling service because of an alcohol/marijuana problem. We classified them as a 0 (or *no*) if they had not engaged in any of the three referral actions (determined separately for alcohol and marijuana). RA attitudinal measures were statistical predictors of resident referrals, and RA demographic characteristics were potential confounders of associations between RA attitudes and referral actions (see Table 4).

In partial support of study hypotheses, referral self-efficacy was positively associated with both alcohol referral actions and marijuana referral actions, adjusting for RAs' demographic characteristics. The adjusted odds ratio for referral self-efficacy was 1.19 (CI = 1.05 to 1.36, $p < 0.009$) for alcohol referral actions and 1.14 (CI = 1.01 to 1.30, $p < 0.05$) for marijuana referral actions, indicating that for every one-unit increase in the scoring scale (range 3–15), there were 19% and 14% increases, respectively, in the odds of RAs taking a referral action. Contrary to study hypotheses, perceived referral norms were negatively associated with alcohol referral actions after adjusting for demographic characteristics, and perceived referral barriers and referral anticipatory anxiety were not associated with either alcohol or marijuana referral actions. In addition, perceived referral norms were not associated with marijuana referral actions. Sex, race, number of semesters of RA service, and campus affiliation did not have significant effects on referral action outcomes. RA age was positively associated with marijuana referral status.

Discussion

This exploratory study is distinctive for three reasons. First, it is one of only a very few studies that has examined the referral attitudes and actions of RAs. Although skill training for alcohol and drug abuse referrals has been identified as an important student assistance activity in higher education (Council for the Advancement of Standards in Higher Education, 2012), there is a paucity of research on this important topic. Second, findings from a qualitative pilot study of RA referral attitudes guided the design of the attitudinal measures (Reingle et al., 2010). Third, the returning RAs worked at a diverse sample of eight college and university campuses. The institutions were located in different regions of the United States, and included public and private universities of different sizes, a historically black university, and a women's college.

The regression results provided partial support for the first study hypothesis: RA referral self-efficacy was positively associated with both alcohol and marijuana referral actions. However, there was no support for the second study hypothesis: RA perceived referral barriers and referral anticipatory anxiety were not associated with RA referral actions. Unexpectedly, lower levels of perceived referral norms were significantly associated with taking alcohol referral actions. One explanation is that some RAs received criticism from their residents, fellow RAs, or other persons after they took steps to assist a resident with a possible alcohol problem.

A sizeable minority of RAs was either uncertain about how others would view them after referring a resident or they believed that others would have approved of their actions (see Table 2). Although there was somewhat greater agreement among RAs about referral expectations of their immediate supervisor and their director of residence life/housing, the norms in operation on all of the campuses appeared to represent a set of conflicting influences that must be challenging for RAs to navigate. In such work environments, the likelihood is high that many RAs will simply ignore or overlook alcohol and marijuana abuse to avoid criticism in their living unit is high. Clearly, there is a need for leadership from senior residence life/housing professional staff in articulately and consistently communicating how they expect RAs to assist residents with alcohol and marijuana problems.

Limitations

In interpreting the results of this study, three study limitations stand out. First, all measures relied on self-report. Although RAs were informed several times that their confidential responses would not be shared with any official at their institution, it is possible that some may have provided inaccurate responses to make themselves appear to be conscientious and reliable employees. This is consistent with study findings suggesting that RAs are concerned about negative reactions from others if they were to take referral actions. Furthermore, 6.6% of respondents selected the *no answer* options for alcohol referrals and 9.5% did the same for marijuana referrals, indicating possible concern for how their responses (if known to their superiors or others) might affect their employment. The extent to which this may have introduced a response bias is unknown. A second limitation is that the survey assessment of RA referral actions may not have captured the complexity and intensity of circumstances existing in living units. The referral action indicator could either under- or over-estimate the amount of effort an RA was undertaking to help his or her residents. Third, there was no knowledge of the prevalence of alcohol and marijuana abuse in the living units and RA opportunities to observe or learn of such substance use. Thus, strategies for RA referral skill training may be based on study findings, but the results cannot be used to determine the effectiveness of RAs as practitioners.

Conclusions

Results of this study provide guidance for RA training strategies to adopt as well as to avoid. To enhance RA self-efficacy (or confidence) in carrying out the referral task, training programs must focus on the *progressive* development of skills needed to approach residents. This involves conducting respectful discussions with residents to increase the likelihood that they will accept help for a possible alcohol or marijuana problem. RAs need repeated opportunities during pre- and in-service training to observe peer or role models employing effective and motivating referral skills in sensitive residence hall situations (Bandura, 1977; McAlister, Perry, & Parcel, 2008).

Innovative training programs of this type need to involve follow-up training sessions that take place throughout the academic year. Training sessions based on observational learning can: (1) maintain gains in self-efficacy, (2) rebuild confidence following an unproductive attempt at helping a resident, and (3) further enhance referral skills in increasingly

challenging situations (McAlister et al., 2008). Training sessions in the form of follow-up telephone or in-person coaching or supervision sessions have been found to effectively transfer communication skills learned in an initial training (e.g., 2- to 3-day workshop) to actual and ongoing practice among nurses (Heaven, Clegg, & Maguire, 2006) and substance abuse counselors (Martino, Ball, Nich, Frankforter, & Carroll, 2008; Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). It is because of these findings that many evidence-based practices, such as motivational interviewing, now include some form of follow-up training sessions to maintain and bolster initial training effects (Madson, Loignon, & Lane, 2009).

In the future, the online format may be an effective way to deliver RA recognition and referral training programs, using interactive video reenactments of resident referrals to teach effective helping practices and responses in these emotionally charged encounters. An interactive online program to train mental health practitioners in a specialized intervention (i.e., exposure therapy for anxiety disorders) increased practitioner self-efficacy and decreased negative attitudes about using this intervention (Harned, Dimeff, Woodcock, & Skutch, 2011). Training strategies employing video reenactments of RA-resident discussions about accepting help could provide powerful vicarious learning experiences for RA trainees (Bandura, 1977; McAlister et al., 2008). Observation of an RA model effectively carrying out the referral task on video would successfully demonstrate to RA trainees how to carry out the same task in their living units. Online delivery would also have the advantages of reaching a broad RA trainee audience while keeping training costs low.

Referral skill training programs must go beyond traditional information dissemination activities. These didactic activities have included providing information about: warning signs for alcohol and marijuana abuse; low-risk drinking guidelines; appropriate emergency response to alcohol and drug overdoses; and lists of telephone numbers for 12-step groups and addictions treatment agencies (Blimling, 2003). These activities may be a necessary and brief component of referral skill training programs for RAs. However, existing theory and empirical evidence about the relationship between knowledge, attitudes, and behavior indicate that there is little reason to believe that an information dissemination strategy, by itself, will help RAs to become effective referral agents (Fabrigar, Petty, Smith, & Crites, 2006).

Referral anticipatory anxiety did not distinguish between RAs who took referral actions and those who did not do so. However, the elevated anxiety scores across the entire sample of returning RAs suggest that this variable may nevertheless be a critical target for intervention. Social Learning Theory maintains that anxiety is a powerful signal to individuals that focuses attention on the possibilities of task success and failure, as well as on the amount of effort needed to achieve mastery and success (Bandura, 1977). High levels of anxiety can have a debilitating effect on self-efficacy. A training program that can successfully reduce the anxiety that understandably accompanies the referral task may bolster self-efficacy and motivate RAs to act with confidence when assisting a resident.

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References

- American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4. Washington, DC: Author; 2000. text rev
- Bandura, A. Social learning theory. Oxford, England: Prentice-Hall; 1977.
- Blanco C, Okuda M, Wright C, Hasin DS, Grant B, Liu SM, Olfson M. Mental health of college students and their non-college-attending peers. *Archives of General Psychiatry*. 2008; 65:1429–1437. [PubMed: 19047530]
- Blimling, G. The resident assistant. 6. Dubuque, IA: Kendall Hunt Publishing; 2003.
- Buscemi J, Murphy JG, Martens MP, McDevitt-Murphy ME, Dennhardt AA, Skidmore JR. Help-seeking for alcohol-related problems in college students: Correlates and preferred resources. *Psychology of Addictive Behaviors*. 2010; 24:571–580. [PubMed: 21198220]
- Cellucci T, Krogh J, Vik P. Help-seeking for alcohol problems in a college population. *Journal of General Psychology*. 2006; 133:421–433. [PubMed: 17128960]
- Council for the Advancement of Standards in Higher Education. CAS Professional Standards for Higher Education. 8. Washington, DC: Author; 2012.
- Dodge, S. [Accessed 30 June 2013] The demanding job of resident assistant: Has it grown too big for students?. *Chronicle of Higher Education*. 1990 Feb 21. <http://chronicle.com/article/The-Demanding-Job-of-Resident/69138/>
- Elleven RK, Allen J, Wircenski M. Resident assistant training: A southwest perspective. *College Student Journal*. 2001; 35:609–616.
- Fabrigar LR, Petty RE, Smith SM, Crites SL. Understanding knowledge effects on attitude-behavior consistency: The role of relevance, complexity, and amount of knowledge. *Journal of Personality and Social Psychology*. 2006; 90:556–577. [PubMed: 16649855]
- Harned MS, Dimeff LA, Woodcock EA, Skutch JM. Overcoming barriers to disseminating exposure therapies for anxiety disorders: A pilot randomized controlled trial of training methods. *Journal of Anxiety Disorders*. 2011; 25:155–163. [PubMed: 20888186]
- Hingson RW, Zha W, Weitzman ER. Magnitude of and trends in alcohol-related mortality and morbidity among U.S. college students ages 18–24, 1998–2005. *Journal of Studies on Alcohol and Drugs*. 2009; (Supplement no. 16):12–20. [PubMed: 19538908]
- Johnston, LD.; O'Malley, PM.; Bachman, JG.; Schulenberg, JE. Monitoring the Future National Survey results on drug use, 1975–2011. Volume II: College students and adults ages 19–50. Ann Arbor, MI: Institute for Social Research, University of Michigan; 2012. http://www.monitoringthefuture.org/pubs/monographs/mtf-vol2_2011.pdf [Accessed 30 June 2013]
- Heaven C, Clegg J, Maguire P. Transfer of communication skills training from workshop to workplace: The impact of clinical supervision. *Patient Education and Counseling*. 2006; 60:313–325. [PubMed: 16242900]
- Madson MB, Loignon AC, Lane C. Training in motivational interviewing: A systematic review. *Journal of Substance Abuse Treatment*. 2009; 36:101–109. [PubMed: 18657936]
- Martino S, Ball SA, Nich C, Frankforter TL, Carroll KM. Community program therapist adherence and competence in motivational enhancement therapy. *Drug and Alcohol Dependence*. 2008; 96:37–48. [PubMed: 18328638]
- McAlister, AL.; Perry, CL.; Parcel, GS. How individuals, environments, and health behaviors interact: Social Cognitive Theory. In: Glanz, K.; Rimer, BK.; Viswanath, K., editors. *Health education and health behavior: Theory, research, and practice*. 4. San Francisco: Jossey-Bass; 2008. p. 169–188.
- Miller WR, Yahne CE, Moyers TB, Martinez J, Pirritano MA. A randomized trial of methods to help clinicians learn motivational interviewing. *Journal of Consulting and Clinical Psychology*. 2004; 72:1050–1062. [PubMed: 15612851]
- Ness E. The identification, confrontation, and referral of problem drinkers by resident assistants. *Journal of Alcohol Drug Education*. 1985; 31:32–40.

- Owens, EW. Doctoral Dissertation. Duquesne University; 2011. The resident assistant as paraprofessional counselor and crisis interventionist: A study of lived experience. ProQuest UMI Number: 3443375
- Reingle J, Thombs D, Osborn C, Saffian S, Oltersdorf D. Mental health and substance use: A qualitative study of resident assistants' attitudes and referral practices. *Journal of Student Affairs Research and Practice*. 2010; 47:325–342.
- Rubington E. The ethic of “responsible drinking. *Deviant Behavior: An Interdisciplinary Journal*. 1996; 17:319–335.
- Sharkin BS, Plageman PM, Mangold SL. College student response to peer in distress: An exploratory study. *Journal of College Student Development*. 2003; 44:691–698.

Table 1

Number of RA referral actions for possible alcohol and marijuana problems

Referrals Actions	Alcohol		Marijuana	
	Number of RAs	Percent	Number of RAs	Percent
0	118	37.2	175	55.2
1	35	11.0	39	12.3
2	38	12.0	26	8.2
3	31	9.8	14	4.4
4 or More	74	23.4	33	10.4
<i>No answer (to 3 items)</i>	21	6.6	30	9.5
Total	317	100.0	317	100.0

Note. RA = Resident Assistant.

Table 2

Perceived RA referral norms by five referent groups

What would _____ think of you if you referred a resident with an alcohol or marijuana problem to professional counseling services?				
	Alcohol Problem		Marijuana Problem	
	<i>n</i>	Percent	<i>n</i>	Percent
<i>the other RAs on your staff</i>				
Strongly Disapprove	7	2.3	7	2.3
Disapprove	32	10.3	19	6.2
Uncertain	69	22.2	66	21.5
Approve	144	46.3	140	45.6
Strongly Approve	59	19.0	75	24.4
<i>your immediate supervisor</i>	<i>n</i>	Percent	<i>n</i>	Percent
Strongly Disapprove	5	1.6	10	3.3
Disapprove	20	6.5	16	5.2
Uncertain	44	14.2	27	8.8
Approve	139	44.8	98	31.9
Strongly Approve	102	32.9	156	50.8
<i>the director of residence life/housing</i>	<i>n</i>	Percent	<i>n</i>	Percent
Strongly Disapprove	7	2.3	9	2.9
Disapprove	16	5.1	19	6.2
Uncertain	51	16.4	31	10.1
Approve	126	40.5	88	28.7
Strongly Approve	111	35.7	160	52.1
<i>residents in your unit</i>	<i>n</i>	Percent	<i>n</i>	Percent
Strongly Disapprove	24	7.7	8	2.6
Disapprove	74	23.8	48	15.7
Uncertain	151	48.6	166	54.2
Approve	49	15.8	56	18.3
Strongly Approve	13	4.2	28	9.2
<i>parents of residents</i>	<i>n</i>	Percent	<i>n</i>	Percent
Strongly Disapprove	13	4.2	6	2.0
Disapprove	27	8.7	20	6.6
Uncertain	128	41.4	103	33.9
Approve	99	32.0	102	33.6
Strongly Approve	42	13.6	73	24.0

Note. RA = Resident Assistant.

Table 3

Scale characteristics of RA attitudinal measures

Scale	Number of RAs	Reliability Coefficient (number of items)	No Alcohol Referral Actions-Mean (sd)	1 or More Alcohol Referral Actions-Mean (sd)	2-tailed <i>t</i> test- <i>p</i>	No Marijuana Referral Actions-Mean (sd)	1 or More Marijuana Referral Actions-Mean (sd)	2-tailed <i>t</i> test- <i>p</i>
Perceived referral barriers (possible range = 8 – 40)	288	.81 (8)	25.6 (5.5)	25.0 (5.5)	<i>ns</i>	25.3 (5.2)	25.1 (5.9)	<i>ns</i>
Referral self-efficacy (possible range = 3 – 15)	300	.81 (3)	10.1 (2.3)	11.0 (2.2)	0.002	10.3 (2.4)	11.1 (2.0)	0.003
Referral anticipatory anxiety (possible range = 4 – 20)	304	.83 (4)	15.8 (2.7)	15.8 (2.9)	<i>ns</i>	15.9 (2.6)	15.6 (3.0)	<i>ns</i>
Perceived alcohol referral norm (possible range = 5 – 25)	307	.90 (5)	18.5 (3.8)	17.6 (4.1)	0.05	not applicable	not applicable	--
Perceived marijuana referral norm (possible range = 5 – 25)	304	.89 (5)	not applicable	not applicable	--	10.7 (3.9)	11.1 (4.3)	<i>ns</i>

Note. RA = Resident Assistant. Independent samples *t* tests compare scale means of alcohol referral and marijuana referral groups.

Table 4

Multivariable logistic regression analyses of RA characteristics associated with referral actions

RA Characteristics	Alcohol Referral Action (<i>no</i> = 0; <i>yes</i> = 1)	<i>p</i>	Marijuana Referral Action (<i>no</i> = 0; <i>yes</i> = 1)	<i>p</i>
	<i>OR</i> (95% CI)		<i>OR</i> (95% CI)	
Perceived referral barriers	1.00 (0.95–1.06)	<i>ns</i>	0.99 (0.95–1.05)	<i>ns</i>
Referral self-efficacy	1.19 (1.05–1.36)	0.009	1.14 (1.01–1.30)	0.05
Referral anticipatory anxiety	1.01 (0.91–1.13)	<i>ns</i>	0.98 (0.88–1.09)	<i>ns</i>
Perceived referral norm	0.93 (0.86 – 0.99)	0.04	1.02 (0.95–1.09)	<i>ns</i>
Sex	1.55 (0.88–2.75)	<i>ns</i>	1.32 (0.73–2.38)	<i>ns</i>
Age	1.13 (0.83–1.53)	<i>ns</i>	1.64 (1.15–2.32)	0.006
Race (white vs. non-white)	0.86 (0.48–1.56)	<i>ns</i>	1.39 (0.75–2.59)	<i>ns</i>
Number of semesters of RA service	1.58 (1.19–2.12)	0.002	1.18 (0.91–1.54)	<i>ns</i>
Campus affiliation	--	<i>ns</i>	--	<i>ns</i>
Model Summaries:	Chi-Square = 43.99, <i>df</i> = 15, <i>p</i> < 0.001, Nagelkerke <i>R</i> ² = 0.208; <i>N</i> = 263.		Chi-Square = 32.39, <i>df</i> = 15, <i>p</i> < 0.006, Nagelkerke <i>R</i> ² = 0.158; <i>N</i> = 259.	

Note. RA = Resident Assistant. *OR* = odds ratio. CI = confidence interval.