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Examination of Post-Training Supervision of Peer Counselors in a Motivational Enhancement Intervention to Reduce Drinking in a Sample of Heavy Drinking College Students

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Abstract

Importance of peer counselor post-training supervision on Motivational Interviewing microskills and post-intervention drinking outcomes were evaluated in a sample of heavy drinking undergraduate students completing BASICS (Dimeff et al., 1999). Two peer counselor groups were trained using identical protocols. Post-training, one group was randomized to receive supervision, while the other received no supervision. Groups were subsequently compared on MI microskills. College students (N=122) were randomly assigned to either assessment-only control, supervision, or no supervision groups and completed a BASICS intervention. Post-intervention drinking outcomes were examined. Results suggested supervision aided peer counselors in reducing use of closed-ended questions. Both treatment groups reduced total drinks per week and heavy drinking behaviors compared to control. No differences on peak BAC or alcohol related consequences were observed. Differences in supervision did not influence drinking outcomes; however post-training supervision for peer counselors deficient in MI microskills may be needed to improve BASICS fidelity.

Keywords

Peer Counselors; College Students; Alcohol; Intervention; Motivational Interviewing

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1. Introduction

Hazardous drinking among college students is a significant health concern (Dimeff, Baer, Kivlahan, & Marlatt, 1999; O'Malley & Johnston, 2002; Turrisi, Mallett, Mastroleo, & Larimer, 2006), with 18% of college students meeting the criteria for alcohol abuse or dependence (Dawson et al., 2004), and 42% of both males and females reporting at least one heavy drinking episode (five or more alcoholic drinks in one sitting) within the past two weeks (American College Health Association, 2007). Universities have an increased awareness of the risks of alcohol and drug use on campus and the challenges in implementing effective prevention and intervention programs (Grossman, Canterbury, Lloyd, & McDowell, 2001).

One successful program used to reduce alcohol use in university students is the Brief Alcohol Screening and Intervention for College Students (BASICS; Dimeff et al., 1999). BASICS is a manualized intervention based upon work by Marlatt and colleagues (Marlatt & Gordon, 1985; Marlatt et al., 1998) and informed by the Motivational Interviewing (MI) approach (Miller & Rollnick, 1991, 2002). BASICS counselors use MI style and specific MI microskills, specifically open-ended questions and complex reflections, to facilitate a one-on-one discussion about drinking behaviors based on personalized feedback from a comprehensive assessment. BASICS has shown efficacy in reducing drinking and negative consequences when delivered in a controlled research environment (e.g., Larimer et al., 2001; Marlatt et al., 1998).

Larimer and colleagues (2001) examined the efficacy of peer vs. professional counselor delivered BASICS with heavy drinking university students. Results showed individuals who completed the intervention with peer providers drank less per occasion and reported lower peak BAC than control group participants, and peer providers were found to be at least as effective as professionals in prompting participant drinking reductions (Larimer et al., 2001).

1.1. Training and Supervision of Alcohol Peer Counselors

Although research supports the use of peer counselors in delivering BASICS to heavy drinking college students, little is known about the role peer training and supervision procedures have on BASICS efficacy. Larimer et al. (2001) trained peer counselors over 2-days, conducted 2 individual supervision meetings post-training, assessed counselor competency prior to intervention implementation, and continued supervision throughout intervention delivery. This training, supervision, and evaluative approach (Evidence-Based Application Approach, EAA) document a successful implementation of MI and BASICS fidelity resulting in reduced drinking behaviors. In contrast, the majority of peer delivered programs currently utilized on college campuses are not utilizing this same approach (Mastroleo, Mallett, Ray, & Turrisi, 2008). Mastroleo et al. (2008) found the modal peer delivery system for alcohol interventions in university settings included a similar 2-day training, but little supervision prior to or during the intervention protocol, and no assessment of peer counselor competency or behavioral outcomes (Common Practice Approach, CPA). The use of unstandardized training and supervision, combined with the use of inexperienced peers as providers, may result in uncertain effects on the fidelity and efficacy of the intervention.

1.2 Training and Supervision of Professional Counselors

Past research studies have systematically examined the use of supervision to enhance and retain MI skills in professional counselors, while specific measures designed to aid the process have also been developed (e.g., Madson, Campbell, Barrett, Brondino, & Melchert, 2005). An early study identified a 2-day workshop training on MI was insufficient for participants to achieve competence (Miller & Mount, 2001). Miller et al. (2004) conducted a randomized trial comparing five training conditions. Only the enhanced (training + follow-up supervision)

conditions helped counselors exceed the proficiency standard for MI adherent behavior at the four month follow-up point. Schoener et al (2006) found training followed by supervision aided community mental health therapists in improving Motivational Interviewing Skills Code (MISC; Miller et al., 2003) scores on empathy, MI spirit, reflective listening, closed-ended questions, and advising without permission. In contrast, Baer et al. (2004) examined professional counselors' retention of MI skills after 2 months with no on-going supervision. Results indicated less than 50% of trainees achieved and sustained MI proficiency standards. Moyers et al. (2008) trained substance treatment behavioral health care providers in MI and found skill level increased, however overall gains decreased by 4-month follow-up with personalized feedback and consultation offering no additive effect for clinician skill level. Finally, Mitcheson and colleagues (2009) conducted a randomized trial of training and supervision of adolescent drug treatment providers. Results identified counselors in the immediate training group significantly enhanced MI spirit scores compared to the delayed training group, however not all counselors completed supervision meetings post-training which may have led to the modest effect on MI spirit (Mitcheson, Bhavsar, & McCambridge, 2009).

Taken together, these studies suggest combining workshops presented by trained experts followed by continued clinical supervision may be an effective method for disseminating MI skills to practitioners (Martino, Ball, Charla, Frandforter, & Carroll, 2008; Mitcheson et al., 2009). Using only a workshop to train individuals in MI skill delivery causes limited improvement in professional clinicians MI proficiency (Baer, Rosengren, Dunn, Wells, Ogle, & Hartzler, 2004). It is likely the same model implemented with peer counselors will have similar effects on MI skill implementation and retention, though we are aware of no prior published research with peer counselors addressing this question.

1.3. MI Microskills and Drinking Outcomes

The relationship between specific MI microskills and college student drinking behavior has been assessed, and supports further research on methods to enhance peer counselor MI microskills. Tollison and colleagues (2008) examined the relationships between MI microskill behavior counts (open/closed ended question, simple/complex reflections), change talk, and post-intervention drinking behaviors with supervised peer counselors implementing a BASICS intervention. Results indicated higher rates of closed questions were linked to less contemplation to change drinking behaviors post intervention. Also, higher use of simple reflections was associated with increased drinking at three months, yet this effect was attenuated by use of complex reflections. This study highlights the importance of competent delivery of specific MI microskills and the role continued training and supervision of peer counselors may have on achieving and retaining these skills (Tollison, Lee, Neighbors, Neill, Olson, & Larimer, 2008). Although delivery and fidelity of MI reach beyond the use of microskills, the work of Tollison et al. (2008) identifies the important role these specific microskills may have in impacting drinking outcomes.

Research indicates BASICS implemented with peer providers trained using the Evidence-Based Application Approach (EAA) is effective in reducing heavy drinking in college students, however most colleges and universities use the Common Practice Approach (CPA) to implement BASICS and related brief alcohol interventions. Thus, it is not clear whether campuses using peer counselors to provide brief interventions are achieving desired drinking reductions in the students they serve. No prior research has examined the effectiveness of BASICS when implemented by peer counselors trained using the CPA compared to the EAA approach, nor has research systematically evaluated the impact of supervision on MI microskill acquisition for peer counselors. Therefore, an examination of supervision effects on peer counselor skill acquisition and participant drinking outcomes is warranted to inform best practices in implementing BASICS interventions using peer providers on college campuses.

This paper compares two documented supervision approaches (EAA, CPA) and an assessment only control group on peer counselors' abilities to acquire the necessary microskills to implement a BASICS intervention with fidelity and the subsequent impact on undergraduate student drinking outcomes. The following hypotheses were examined:

1. Peer counselors receiving post-training individual supervision (EAA group) will significantly improve MI microskills (e.g., open/closed questions, simple/complex reflections) when compared to peer counselors not receiving supervision (CPA group).
2. EAA supervision will result in BASICS participants reporting significant reductions in total drinks per week, peak BAC, heavy drinking behaviors, and negative consequences when compared to participants completing BASICS with a CPA peer counselor and an assessment-only control group.

2. Methods

2.1. Recruitment

First semester first-year students (n=947) were randomly selected through the university database of student information at a large, rural, public Northeastern university. Potential participants were mailed an introductory letter inviting their participation during the first week of the fall academic semester, which included a web-link, a personalized identification number (PIN) and information describing how to access the informed consent form and web-based survey. A total of 468 undergraduate students (49.4%) logged into the survey, completed baseline measures within two weeks of their first semester of classes, and were screened for heavy drinking. Inclusion criteria for longitudinal participation included age (18–20 years) and heavy episodic drinking (consumption of 5 or more drinks for men or 4 or more for women within two hours at least once in the prior 2 weeks). Of 468 screened respondents, 238 (50.8%) met inclusion and were randomly assigned to one of the three groups (EAA, CPA, control). Past studies have shown similar response rates with randomly selected college student populations (e.g., Turrisi, Larimer, Mallett, Kilmer, Ray, Mastroleo et al., 2009).

2.2. Participants

Of 238 participants, 114 (48%) were female. Participants were primarily White (92.44%), with 3.36% Asian, 1.68% Multiracial, 0.42% Native Hawaiian or Other Pacific Islander, 0.42% African American, and 1.68% "other" with 12% of the sample identifying as Hispanic/Latino. This distribution is consistent with the university population as a whole as 13% of students identify as non-White. The mean age of the sample was 18.12 years (*SD* = .37). After randomization to condition, 82 participants (45 females; 55%) were assigned to the CPA group, 74 (30 females; 41%) were assigned to the EAA group, and 82 (39 females; 48%) were assigned to control. Follow-up surveys were sent via email three months post baseline and of the 238 follow-up surveys delivered, 200 (47.3% females) participants completed measures yielding an 84% follow-up rate. Follow-up measures were completed by 85.4% (n = 70) of the control group, 84% (n = 69) of the CPA group, and 82.4% (n = 61) of the EAA group. Participants were paid $20 for each survey and $10 for completing a BASICS session evaluation. All study procedures were approved by the institution's Social Sciences Institutional Review Board.

Forty-three percent (n = 35) of CPA participants and 35% (n = 26) of EAA participants completed a BASICS intervention. Although these rates are low relative to studies where mandated students are the target population (e.g., Barnett, Murphy, Colby, & Monti, 2007; Borsari & Carey, 2005), these rates are similar to other studies in which participants volunteer to participate in an in-person intervention (e.g., Turrisi et al., 2009). Of individuals in the treatment groups, 38% (n = 31) of CPA and 28% (n = 21) of EAA group participants completed

both the BASICS intervention and follow-up measures (treatment completed sample). Therefore, 51.3% (n = 122; control = 70, CPA = 31, EAA = 21) of participants were included in all analyses (treatment completed analyses). BASICS completers and non-completers were compared on gender and baseline drinking to determine whether or not those that completed the intervention differed from non-completers. Results indicated no significant differences with respect to gender, χ^2 (1, 51) = .89, *ns* or total drinks consumed per week at baseline, $F(1, 51) = 0.59$, *ns*.

2.3. Intervention

Upon completion of the baseline survey, CPA and EAA participants were scheduled to meet individually with a peer counselor to complete a BASICS (Dimeff et al., 1999) session. The peer counseling interventions were conducted within two weeks of completing the baseline assessment. Personalized graphic feedback, community and university resources, and a brochure on reducing drinking related harm was given to each participant. Each BASICS session lasted approximately 50 minutes and was audio recorded.

2.4. Selection of Peer Counselors

Undergraduate peer counselors were recruited through class announcements in various introductory psychology, biobehavioral health, and human development classes. Consistent with methods used in past randomized control trials, potential peer counselors were interviewed initially in a group meeting, followed by individual interviews to assess interest level, basic interpersonal skills, and appropriateness for conducting alcohol interventions with fellow undergraduate students (Turrisi et al., 2009). Of 49 applicants interviewed, 20 were selected to be trained as peer counselors. Nineteen individuals accepted positions as peer counselors and were randomly assigned to one of two training groups for which they received course credit. There were several steps to the peer counselor randomization process. First, peer counselors were randomly assigned to one of the two groups (identified as blue and white groups). Second, the groups were then randomly assigned to training dates. Finally, following the training, the blue and white groups were randomly assigned to supervision condition (EAA or CPA) through use of a coin flip. Trainers (including the first author) were masked to condition and were not involved in the assignment to supervision groups. Further, to avoid study contamination between supervision groups, members of the blue and white groups were scheduled to complete interventions on different days of the week, were instructed to only discuss study related questions with the first author, and were told not to discuss their work on the project with individuals outside their training group.

Peer counselors (9 CPA; 10 EAA) were primarily White (n = 17) with one identifying as African American and one identifying as multiracial. The EAA group had a mean age of 20.4 (SD = .84) and mean GPA was 3.55 (SD = .36). The CPA group mean age was 21 (SD = 1.5) years with a mean GPA of 3.25 (SD = .60). Independent t-test and chi-square analyses revealed no significant differences between groups in any individual characteristics prior to training. Peer counselors in both groups had no prior MI training or experiences.

2.5. Peer Counselor Training Procedures

Training was conducted in two successive, 2-day (12 hours total) trainings prior to the start of the fall 2007 semester. Both peer counselor trainee groups completed identical BASICS training workshops. Training workshops consisted of a review of the BASICS manual, videotaped examples of BASICS and MI intervention practice exercises, and review of the individual graphic feedback information used in each peer counseling session. Specific training components included an overview of MI (including discussion around empathic responses and the spirit of MI), information on reflective listening skills, use of open- and closed-ended questions, change talk facilitation, rapport building strategies, and ways of dealing with

resistant clients. Peer counselors were instructed on specific alcohol information related to BAC levels, alcohol outcome expectancies, college normative beliefs, protective behaviors, family history, and other general alcohol information as described in the BASICS manual (Dimeff et al., 1999).

2.5.1. Trainer characteristics—Training sessions were led by the first author and 4 additional training team members. All trainers had been trained to conduct BASICS training sessions, teach MI skills, had conducted similar trainings with undergraduate peer counselors, and were currently involved with other on-going BASICS efficacy trials. The members of the EAA group were randomly assigned to meet with one of two individual supervisors. Supervisors were two equivalently skilled doctoral students who completed specific training on supervision techniques for MI skills and BASICS interventions and had over three years of peer counselor supervision experience. Supervision was standardized through using identical procedures to give peer counselors individual feedback on MI and BASICS implementation skills.

Initial supervision consisted of one hour of individual feedback on peer counselors' role-plays during which motivational interviewing skill acquisition and enhancement was discussed through review of audio-recorded sessions. Specific instruction on ways to increase use of open-ended questions and complex reflections through reduction of closed-ended questions was presented. Using the Peer Proficiency Assessment (PEPA; Mastroleo, Mallett, Turrisi, & Ray, 2009) as a guide for identifying MI microskills behavior counts, supervisors worked to help peer counselors identify ways to improve MI consistent behaviors while reducing behaviors found to be inconsistent with effective MI delivery (e.g., closed-ended questions). Once peer counselors began completing interventions with participants, members of this group continued in weekly individual (1 hour) and group (1 hour) supervision. Members of the CPA peer counselor group received no individual or group supervision throughout the study.

2.6. Measures

2.6.1. MI microskills demonstration (Peer Proficiency Assessment, PEPA; Mastroleo et al., 2009)—Evaluation of behavior counts (open/closed questions, simple/complex reflections) was used to assess peer counselor use of MI microskills to examine the effects of supervision on microskill acquisition. The initial 15-minutes of each audio-recorded BASICS intervention session was evaluated to rate peer counselor use of reflective listening statements and the use of open and closed-ended questions. The PEPA has been shown in research to yield comparable values and validity as the Motivational Interviewing Treatment Integrity 2.0 (MITI; Moyers, Martin, Manuel, Hendrickson, & Miller, 2005) and was chosen because it was developed and validated specifically for the evaluation of peer counseling sessions.

Behavior counts identified through the PEPA were examined at four different sessions for each peer counselor conducting interventions: an initial role play (RP1), a second role play (RP2), a first BASICS session (B1), and a second BASICS session (B2). Examination of numbers of open (designed to elicit open-ended responses) and closed (yes/no questions and answers with restricted range) ended questions, and simple (convey understanding but offer little or no meaning to client statements) and complex (substantial meaning is inferred or hypothesis testing is explored) reflections were recorded. The current study included undergraduate student coders who completed training, received coding supervision, and had over 20 hours of previous supervised coding experience. Each session was coded by a minimum of two coders using intraclass correlations (ICC) to assess interrater reliability of coded sessions. Cicchetti (1994) identified ICC categories of .40 = poor, .40 to .59 = fair, .60 to .74 = good, and .75 to 1.00 = excellent in the ability to evaluate the usefulness. ICC scores for the current study were:

open-ended questions = .61, closed-ended questions = .82, simple reflections = .67, and complex reflections = .62.

2.7. Drinking Outcome Measures

All alcohol questions were operationalized using the definition of a standard drink (i.e., 12 oz. beer, 4 oz. wine, 1 oz. distilled liquor).

2.7.1. Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985)— Drinking rates were evaluated using a modified version of the DDQ. Participants reported their typical drinking on each day of the week, averaged over the last three months. The weekly sum of typical daily drinking over the past month was chosen to reflect typical drinking patterns.

2.7.2. Quantity/Frequency/Peak Index (QF; Dimeff et al., 1999)—Participants reported their typical drinking frequency, quantity, and the single greatest amount (peak) of alcohol consumption, and hours spent drinking during the past month. A computerized algorithm (ratio of milligrams of alcohol per 100 milliliters of blood reported as a percentage) was used to produce estimations of peak blood alcohol levels based upon the quantity and rate of consumption, body weight, and gender.

2.7.3. Heavy drinking—Heavy drinking was assessed with four items. First, students were asked, “During the past 30 days (about 1 month), how many times have you gotten drunk, or very high from alcohol?” (Collins et al., 1985). Response options ranged from “Never” to “more than 9 times” on a 6-point scale. Second, students were asked, “Think back over the last two weeks. How many times have you had 5 or more drinks (4 for women) in a row within two hours?” Third, students were asked, “Think of the occasion when you drank the most in the past month. How much did you drink?” Finally, using items from the DDQ (Collins et al., 1985), participants were asked the number of drinks consumed on a typical Friday and Saturday. These items were summed to create a weekend drinking index. The latter three questions allowed for open-ended responses and participants responded by writing in a number that reflected their answers. Items were standardized using z-scores and combined to create one index of heavy drinking at baseline ($\alpha = .828$) and follow-up ($\alpha = .882$).

2.7.4. Rutgers Alcohol Problem Index (RAPI; White & Labouvie, 1989)—The RAPI consists of 23-items and assesses the role alcohol plays in social, academic, and personal functioning over the past year and was used to assess alcohol-related consequences. Follow-up asked for participants to identify number of consequences experienced over the past 3-months.

2.8. Analytic Strategy

2.8.1. MI skill acquisition—A series of mixed ANOVAs were conducted on MI microskill behavior counts and drinking outcome variables. Hypothesis one was tested by conducting a series of 4 × 2 (time; RP1, RP2, B1, and B2 × group; CPA vs. EAA) mixed ANOVAs on open and closed-ended questions and simple and complex reflections. Four BASICS sessions were included in the analyses for each peer counselor to determine changes in MI microskill acquisition over time and to test the effects of supervision on acquiring MI microskills. In each peer counselor group one individual did not meet the required four BASICS sessions to be included in the analyses, therefore nine EAA and eight CPA peer counselors were included.

Initially we examined findings at the traditionally statistically significant level of $p < .05$. Next, we made an a priori decision to examine trends at the $p < .10$ level given the small sample size of peer counselors and preliminary nature of the research in order to provide guidance for future research in this area.

2.8.2. Drinking outcomes—Hypothesis two was tested by conducting a series of 2 × 3 (time; baseline, follow-up × group; control, EAA, CPA) mixed ANOVAs on drinking outcomes to examine intervention effects on student alcohol use. Preliminary analyses identified a small percentage of missing data (less than 5%) across follow-up measures and was assumed to be random in nature due to the small amount present in the study (Jaccard & Guilamo-Ramos, 2002). Therefore, the EM method as implemented in SPSS 15.0 to impute missing data was used (Little & Rubin, 2002) and all missing data was imputed prior to data analysis.

3. Results

3.1. Peer Counselor Skill Demonstration

Results indicated a statistically significant supervision effect for closed-ended questions ($F(3, 16)=5.238$, $p<.05$, $eta^2 = .259$), and supervision effects at the trend level for open ended questions ($F(3, 16) = 4.096$, $p < .10$, $eta^2 = .214$.), and simple reflections ($F(3, 16) = 3.447$, $p < .10$, $eta^2 = .187$). Analyses revealed no significant or trend-level effects ($F(3, 16) = .029$, $p > .10$, $eta^2 = .002$) for complex reflections.

The above results suggest individuals in the EAA group were able to improve their use of closed-ended questions following post-training supervision (see Figure 1). Examination of the means identified EAA peer counselors use of open- and closed-ended questions and simple reflections improved over time. Results also seemed to suggest peer counselors in the CPA group reached a plateau in their skill demonstration over time (see Table 1).

3.2. Intervention Efficacy

Results indicated significant time x group effects for total drinks per week ($F(2, 119) = 3.59$, $p < .05$, $eta^2 = .057$) and heavy drinking ($F(2, 119) = 3.676$, $p < .05$, $eta^2 = .058$). No significant treatment effects were found for peak BAC ($F(2, 119) = 1.45$, $p >.05$, $eta^2 = .024$) or negative consequences ($F(2, 119) = 2.21$, $p > .05$, $eta^2 = .036$) despite identification of trends towards significance on these variables. No differences were found between treatment groups, rather results indicated differences between treatment and control groups (see Table 2).

4. Discussion

The current study evaluated the use of post-training supervision on peer counselors' abilities to perform MI microskills during a BASICS intervention and subsequent drinking outcomes among heavy drinking first-year college students. Following identical training procedures, supervision appeared to aid less-skilled peer counselors in reducing their use of closed-ended questions, an important MI microskill for BASICS intervention fidelity. However, overall only trends in MI microskill improvement resulted from participation in post-training supervision. Additionally, participation in BASICS reduced heavy drinking and drinks per week for participants in both treatment groups (EAA and CPA) when compared to the assessment-only control group.

Our first hypothesis examined whether peer counselors receiving post-training supervision would improve their MI microskills significantly more than those only receiving training. Although trends in the data identified some supervision effects, supervision had only a minimal impact on MI microskills implementation. The CPA group seemed to need less supervision post-training to implement successful interventions. However, examination of BASICS sessions over time suggest counselors in the CPA condition experienced static or deteriorating skills across the course of multiple sessions. In contrast, although EAA peer counselors demonstrated an initial deficiency in MI adherent microskills, they showed growth in

microskills over time. These results are similar to past studies examining the use of supervision with newly trained professional clinicians delivering MI with a substance using population (e.g., Baer et al., 2004; Miller et al., 2004). Thus, when using a 2-day training model, supervision may attenuate skill deterioration over time with peer counselors able to obtain MI microskills immediately following training. This highlights the importance of a sustainable infrastructure in university settings seeking to implement peer-led BASICS interventions. As MI is more complex to learn than may be suggested by its apparent simplicity (Mitcheson et al., 2009), a staff able to train and supervise peer counselors may be needed to replicate research study findings of reduced drinking, Yet, the resources needed to help peer counselors achieve and maintain MI competency may be limited in university based settings requiring a change in organizational culture to ensure successful implementation. This offers insight regarding the translation to practice for wide-scale delivery of peer based intervention approaches.

Our second hypothesis evaluated whether or not post-training supervision (EAA) would result in BASICS participants reporting significant reductions in high-risk drinking relative to students in the CPA and assessment only control group. Although we did not find differences in drinking behaviors between students in the EAA and CPA group, students receiving the BASICS intervention in either group did report significant reductions in heavy drinking and weekly drinking compared to those in the assessment-only control group. As there were no differences between treatment groups, it may be that supervision has little effect on the overall ability of peer counselors to implement BASICS resulting in drinking reductions. However, examination of behavior counts on use of MI microskills indicated supervision may have improved less skilled peer counselors' use of specific MI microskills (i.e., closed-ended questions) therefore improving their overall delivery of BASICS sessions. This resulted in both EAA and CPA peer counselors implementing identical interventions, however due to the small peer counselor sample sizes and finding only trends towards significance in the MI microskills data, it is difficult to identify the role supervision played in reducing drinking outcomes for the EAA group. In addition, only short-term effects were measured where past research has found sustained intervention effects 12 months post intervention after similar reductions in short-term drinking changes (Carey et al., 2006). This holds important implications for interventions, as early intervention may prevent the development of more risky behavior and have the potential to reduce progression to significant alcohol-related risks (Larimer et al., 2001).

Despite the reductions in heavy drinking, the intervention did not impact reductions in reported alcohol-related negative consequences or peak BAC. Although one might expect to also find reductions in negative consequences after significant reductions in drinking behaviors, this is not always the case after a three month follow-up. Larimer and colleagues (2001) also reduced heavy drinking behaviors with a high-risk college student population, but did not identify significant reductions in alcohol-related problems. Similar to the Larimer et al. (2001) study, this may be due in part to continued heavy drinking behaviors by study participants which is associated with continued risk for negative consequences (Weschler et al., 1998, 1999). Further, as identified in a meta-analyses conducted by Carey and colleagues (2007), reductions in negative consequences often emerge at longer follow-up time points. Finally, study findings did not identify changes in peak BAC at a statistically significant level. Additional research is needed to further explore the specificity of BASICS effects on various indicators of college student drinking research.

4.1. Limitations

Although study findings showed continued support for use of BASICS with peer counselors, it is important to note several study limitations. The first limitation is the ability to generalize study findings due to the small sample size of peer counselors as well as the low response rate of students to complete BASICS interventions. Despite numerous email and phone contacts

with participants, it was difficult to schedule appointments and often, despite a scheduled appointment, many either cancelled or simply did not show up for their BASICS session. Important to note, analyses revealed no differences between those participants who attended or did not attend the BASICS session on any variable. This study confirmed the difficulty in scheduling and conducting the intervention with voluntary participants. Without the ability to conduct the BASICS intervention with potential participants, the findings have limited utility for a larger scale intervention. Also, although not statistically significant, there was a trend for CPA counselors to score higher on baseline microskills than EAA counselors. Future research with larger samples of peer counselors and stratified random assignment to supervision condition based upon baseline MI skills may more clearly identify the role of supervision. Finally, only MI microskills were examined to test for supervision effects, which only represent one aspect of MI fidelity. Future research to examine MI Spirit, Empathy and other global scores to more holistically examine peer counselor acquisition of MI skills is an important next step. Notwithstanding these limitations, the data presented offer important findings for use of a peer-led BASICS approach to reducing drinking behaviors in college students.

4.2. Implications for Training and Treatment

Study findings point to implications related to treatment of hazardous drinking in college student populations. First, using peer providers to deliver BASICS may offer expanded services to heavy drinking college students while placing minimal demands on university counseling center staff. Although this will reduce the professional resources needed to provide counseling, peer counselor supervisors may be needed to insure proper implementation of BASICS, particularly for therapists with initial low skill acquisition and/or to prevent therapist drift. Using a well designed supervision approach, implementing group supervision to minimize supervision time demands and identifying individuals with lower levels of microskills post-training for skill coaching would require fewer resources. Finally, the difficulty in getting voluntary students to participate in the BASICS sessions seems to limit the utility of the intervention. Therefore peer-delivered brief alcohol interventions should be incorporated into a comprehensive strategy including community, campus environment, and individual-level programs for high-risk groups (Sullivan & Risler, 2002).

4.3. Conclusion

This study supports the use of peer counselors to deliver brief alcohol interventions to voluntary first-year students, yet found post-training supervision had only a minimal impact on MI microskill demonstration. Findings suggest colleges and universities may benefit from use of peer counselors to deliver BASICS interventions and that post-training supervision may aide in reducing the use of closed-ended questions. Further research with larger sample sizes may more clearly identify the role of post-training supervision on peer counselor MI microskill demonstration and related effects on drinking reductions among high-risk college students.

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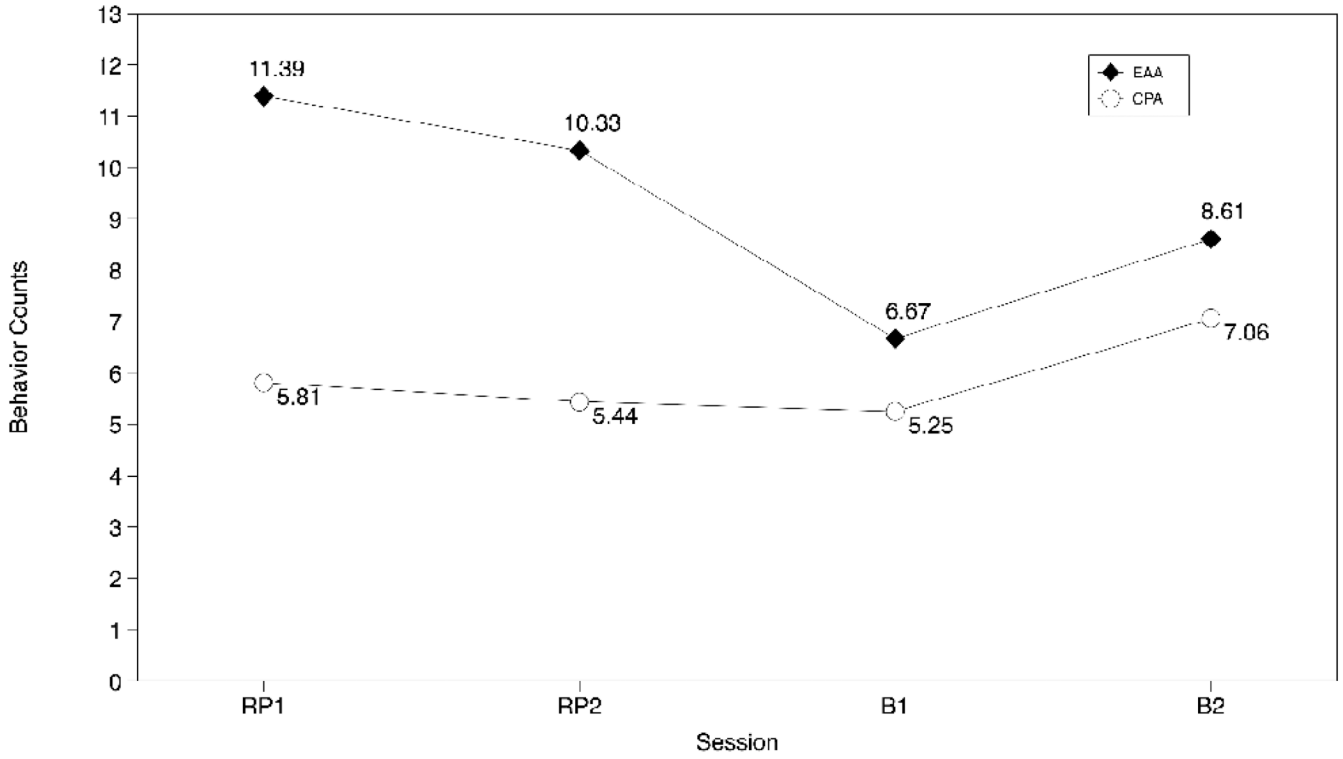

Figure 1.
Closed Ended Question Behavior Counts
Note. RP1 = Role Play 1, RP2 = Role Play 2, B1 = BASICS session 1, B2 = BASICS session 2

Table 1

Motivational Interviewing Microskill Acquisition

	RP1 Mean (SD)	RP2 Mean (SD)	B1 Mean (SD)	B2 Mean (SD)
Open Questions				
CPA	10.75 (1.44)	13.81 (1.39)	13.5 (1.15)	11.31 (1.10)
EAA	11.39 (1.36)	15.56 (1.31)	14.78 (1.08)	15.17 (1.04)
Mean Difference	**0.64**	**1.75**	**1.28**	**3.86**
Closed Questions				
CPA	5.81 (1.89)	5.44 (1.65)	5.25 (1.14)	7.06 (1.43)
EAA	11.39 (1.78)	10.33 (1.55)	6.67 (1.08)	8.61 (1.35)
Mean Difference	**5.58**	**4.49**	**1.42**	**1.55**
Simple Reflections				
CPA	2.5 (0.50)	2.31 (0.62)	3.5 (0.63)	3.38 (0.70)
EAA	2.5 (0.48)	4.11 (0.58)	4.78 (0.59)	4.33 (0.66)
Mean Difference	**0.00**	**1.80**	**1.28**	**0.95**
Complex Reflections				
CPA	5.19 (0.71)	4.38 (0.69)	4.19 (0.86)	4.13 (0.77)
EAA	3.39 (0.67)	4.06 (0.65)	5.72 (0.81)	5.17 (0.73)
Mean Difference	**1.80**	**0.32**	**1.53**	**1.04**

Note. CPA = Common-Practice Approach (no supervision); EAA = Evidence-based Application Approach (supervision); RP1 = Role Play 1, RP2 = Role Play 2, B1 = BASICS session 1, B2 = BASICS session 2

Table 2

Intervention Effects

	Baseline Mean (SD)	Follow-Up Mean (SD)
Peak BAC		
Control	.17 (.11)	.15 (.11)
CPA	.19 (.13)	.14 (.08)
EAA	.15 (.06)	.13 (.08)
Total DDQ[*]		
Control	14.24 (10.89)	14.54 (11.93)
CPA	16.23 (7.76)	11.42 (6.69)
EAA	13.00 (5.91)	11.57 (8.05)
Heavy Drinking[*]		
Control	−.30 (3.34)	.05 (3.59)
CPA	.52 (2.99)	−.58 (2.66)
EAA	−.58 (2.70)	−1.07 (3.08)
Negative Consequences (Total RAPI)		
Control	27.67 (4.18)	28.76 (6.23)
CPA	29.39 (4.49)	28.52 (4.73)
EAA	28.23 (4.16)	30.67 (6.89)

Note.

[*] $p < .05$ (CPA = Common Practice Approach, no supervision; EAA = Evidence Based Application Approach, supervision)