The Therapeutic Alliance in the Context of a Brief Motivational Intervention for College Student Alcohol Use

by

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Honors Thesis

Appalachian State University

Submitted to the Department of Psychology
in partial fulfillment of the requirements for the degree of

Bachelor of Science

May 2019

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Abstract

College students, on average, drink greater quantities of alcohol and drink more frequently than their non-college peers. To address this issue, many college campuses employ brief interventions, which have proven effective at reducing alcohol consumption and alcohol-related problems. Although these brief interventions typically include the person-centered style of motivational interviewing that attends to the therapeutic alliance, few studies have investigated the therapeutic alliance directly in the context of brief interventions for alcohol use with college students. The therapeutic alliance presents as a possibly helpful variable in keeping college students engaged in the alcohol prevention and intervention efforts. The present study sought to evaluate the specific role of the therapeutic alliance during a brief intervention for alcohol use among college students. Working alliance inventory (WAI) scores before and after college students participated in a brief alcohol intervention were evaluated across two meetings, and in relation to alcohol use and consequences two weeks afterwards. WAI scores increased across time. Only ratings of perceived goal agreement negatively correlate with alcohol use at follow-up. College counseling centers might find these results advantageous because they display that an element of effective treatment, therapeutic alliance, can be increased in a short period of time. Further, because the scores as a whole did not correspond to drinking outcomes, students can likely complete this intervention effectively on the computer without a provider present. While this study was limited by a small sample size and short follow-up period, future studies should evaluate the effect of brief interventions without a facilitator.

keywords: therapeutic alliance, college students, alcohol use, working alliance inventory

Therapeutic Alliance and Brief Motivational Interventions for College Students and Alcohol Use

As the field of psychology advances, new therapies surface alongside older ones, yet research finds many therapies yield similar efficacy across a variety of problems (Ardito & Rabellino, 2011, Wampold et al., 1997). These findings led researchers to search for common variables among the various effective therapies, and gradually renewed interest in identifying and studying the therapeutic alliance and other relationship-related common factors in therapy (Ardito & Rabellino, 2011; Norcross & Lambert, 2011). The therapeutic alliance, or the quality of the relationship between the client and therapist, is an important facet of most psychotherapeutic interventions. While the concept of the therapeutic alliance might appear straightforward, there are disagreements about defining, measuring, and determining the utility of the alliance in the therapeutic process.

Some researchers, such as Horvath and Luborsky (1993), trace the therapeutic alliance back to Sigmund Freud and his theorization of transference in 1913. Despite originally considering it a negative quality, Freud later considered that this relationship factor could be a beneficial attachment (Freud, 1913). Other authors have since collectively built on Freud's idea, but differentiated the therapeutic alliance from transference (Bibring, 1937; Bowlby, 1988; Horwitz, 1974). As the concept continued to evolve in the scientific literature, so too did its definition and characteristics. Rogers (1951) identified empathy, congruence, and unconditional positive regard as "active components" which he considered both necessary and sufficient to the therapeutic relationship and therapeutic change. Strong (1968) further postulated when the client is convinced their therapist is competent in their abilities, the therapist would have the necessary influence to help bring about changes for the client.

Bordin (1979), proposed a description of the alliance that highlighted the collaborative relationship between client and therapist to address the client's concerns. Bordin further proposed that an ideal therapeutic alliance is achieved when the client and therapist share beliefs with regard to the goals of treatment and view the methods used to achieve these as efficacious and relevant (Ardito & Rabellino, 2011). With these factors agreed upon, both the therapist and client commit to their specific roles throughout the course of treatment. Another important contribution of Bordin (1979) was the suggestion that the therapeutic alliance influences treatment outcome. Contrary to being healing in its own right, Bordin (1979) claimed that the alliance allows the client to "accept, follow, and believe in treatment" (Ardito & Rabellino, 2011, p. 2).

Measuring the Alliance

Little information remains known about the components, modeling, and discrete measurement of the alliance despite evidence of its overall efficacy (Elvin & Green, 2007). As such, researchers have developed a number of scales to assess the strength of the alliance from a variety of perspectives including the therapist, the client, and external observers. This variability in perception may hinder objectivity in measurement, called the Rashomon effect, according to (Migone, 1996). Despite these challenges, most of the scales do accurately assess the same underlying processes, and no particular scale stands out among the rest (Ardito & Rabellino, 2011; Martin, Garske, and Davis, 2000). Martin et al. (2000) found insignificant differences across many scales, yet the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989), The California Psychotherapy Alliance Scales (CALPAS; Gaston & Marmar, 1994), and Penn Helping Alliance Scale (Morgan, Luborski, Crits-Christoph, Curtis, & Solomon, 1982) are the most frequently used in current psychological research.

In addition to defining and measuring the therapeutic alliance, researchers test for its utility in psychological science. Strupp, (2001) and Huibers & Cuijpers, (2015) showed psychotherapeutic outcome is often influenced by nonspecific factors including but not limited to catharsis, structure, reassurance, and identification with therapist. In a meta-analysis of 24 studies, Horvath & Symonds (1991) found a moderate, but reliable association between positive therapeutic alliance and improved outcomes in both youth and adult individual psychotherapy for a variety of problems. Ardito and Rabellino (2011) examined multiple meta-analyses (Martin et. al, 2000; Shirk & Karver, 2003; Karver, Handelsman, Fields, & Bickman, 2006) and concluded that the quality of the alliance was more predictive of positive outcome than the specific type of intervention for a variety of problems.

Therapeutic Alliance and Substance Use

While many consider the therapeutic alliance as an important part of most efficacious psychotherapies, researchers and clinicians have not always acknowledged or actively addressed it in substance use disorder (SUD) interventions. As reported by McCrady, Owens, Borders, & Brovko (2013), psychosocial treatments for substance abuse problems changed across time, and have included psychoanalytic, aversion, 12-step/Alcoholics Anonymous, group, family, complementary/alternative, and behavioral/cognitive behavioral approaches. Traditional disease-based models often focus on the importance of direct confrontation of behavioral patterns, while other approaches such as cognitive behavioral therapy (CBT) and motivational interviewing (MI) acknowledge the value of the therapeutic alliance.

In 2014, 21.5 million Americans aged 12 and over met criteria for a SUD in the past year, which is equivalent to 8.1% of the population (Hedden, 2015). Of those above the age of 12 with a substance use disorder, 79.1% have alcohol use disorder (AUD), which equates to 17 million

Americans (Hedden, 2015). Substance use disorders and problems with alcohol are particularly concerning in college students aged 18-25 as they are in periods of important physical and mental development (Hedden, 2011). Merikangas and colleagues (2010) found that young adults, aged 18-25, had the highest prevalence of any mental illness than any other subsection of the population at 22.1%. Further, college students in particular drink on average more frequently and consume more alcohol when they do drink than their non-college peers (Carter, Brandon, & Goldman, 2010). Consequences from harmful drinking in college students vary, but can include death, assault, sexual assault, unsafe sex, academic problems health problems and injuries (Hingson, Heeren, Winter, and Wechsler; 2005, Thombs et al., 2009).

Recent research into the role of the therapeutic alliance for adults in SUD treatment has shown that a stronger alliance is linked to more engagement with treatment, better retention, early improvements in substance use and related distress, and larger improvements in self-efficacy (Gibbons et al., 2010; Hartzler, Witkiewitz, Villarroel, & Donovan, 2011; Lebow, Kelly, Knobloch-Fedders, & Moos, 2006; Meier, Barrowclough, & Donmall, 2005). This remains particularly important because one of the most difficult barriers to treatment for AUD is low motivation to change or seek help. The development of a strong alliance may be "particularly critical for treatment engagement and outcomes among youth, given their typical low levels of intrinsic motivation for change at treatment entry" (Diamond et al., 2006; Urbanoski et al., 2012, p. 345).

Positive therapeutic relationships might be particularly important for treating low motivation clients (Ilgen et al., 2006). If a client rates the therapeutic alliance positively during a particular session of treatment, they are less likely to involve themselves with alcohol between that session and the next time they meet with the therapist (Connors et al. (2016). This is an

important finding because it demonstrates how a strengthened perception of the therapeutic alliance may aid the client in both in the process of therapy and after treatment has concluded. When considering long-term use, studies have found client ratings of the therapeutic alliance directly relate to changes in the frequency of alcohol use following outpatient SUD treatment (Cook et al., 2015; Prince et al., 2016).

Therapeutic Alliance and Brief Interventions

Motivational interviewing and brief interventions present a divergence from previous interventions in that they tend to be less confrontational and focus on the relationship between the client and therapist (McCrady et. al., 2014). Dr. William Miller first described motivational interviewing (MI) in 1983, and today it continues to exist as a "collaborative, person-centered form of guiding to elicit and strengthen motivation for change" (Miller & Rollnick, 2009, p.137). Miller & Rollnick (2009) further describe MI as much more complex than a technique, but rather as a style of communication. The power of MI rests in its assumptions and style, which do not aim at what the client lacks, but rather what is already within them. As opposed to directing the conversations, MI therapists guide the client along towards goals the clients identify themselves. This collaborative and positive emphasis allows the client and therapist to focus on the client's intrinsic motivation to change. Drawing on and developing intrinsic motivation to change is particularly important to SUD treatment.

Meta-analytic research finds that MI generally results in small to medium effect sizes across a variety of behavioral outcomes, with the strongest of the evidence found in the treatment of addictive behaviors (Miller, 2013). One meta-analysis of MI found that 75% of studies obtained an observable effect, regardless of whether the problem was psychological or physiological in nature and no apparent effects of harm to clients (Rubak, 2005). Further, an MI-

consistent style was positively associated with both therapeutic alliance and client engagement (Boardman, Catley, Grobe, Little, & Ahluwalia, 2006). In addition, more confrontational styles are associated with lower levels of therapeutic alliance with the client. This evidence supports Miller & Rollnick (2013) in their claims that the spirit and style of MI are important for increasing therapeutic alliance and client engagement. Norcross & Lambert (2011) found that with youth, a positive alliance is predictive of treatment outcome over time, even across a variety of presenting problems and diagnoses (Miller, Wampold, & Varhely 2008).

As defined by Babor & Higgins-Biddle (2001), brief interventions are therapeutic interventions that identify problematic substance use and motivate individuals to take action to reduce risk. Brief interventions are delivered during a short time frame and tend to work better than no intervention, perform similarly to extensive interventions, and improve the effectiveness of subsequent treatment (Bien, Miller, & Tonigan, 1993). Miller and Sanchez (1993) summarized common elements in these brief interventions by the widely utilized acronym FRAMES: Feedback, Responsibility, Advice, Menu, Empathy, and Self Efficacy. Feedback refers to giving participants information based on their self-reported drinking habits. Responsibility involves encouraging the participant to take responsibility for their actions; Advice refers to providing advice to the participant if requested. Menu refers to providing participants with a "menu" of options to choose from for their next steps, Empathy means sharing the therapist's understanding of the participant's feelings, and self-efficacy refers to helping the participant believe that they have the ability to change their drinking habits.

Brief interventions also provide a unique advantage to college students and emerging adults because they highlight flexibility and collaboration while accounting for particular social and environmental variables college students encounter on daily basis (Dimeff et al., 1999;

Kirschner, 2017). Research also suggests when combined with assessment, brief feedback is associated with reduced alcohol use and consequences in college students (Larimer and Cronce, 2002). In fact, brief interventions with a motivational component may be successful even with college students who do not drink heavily (Larimer et al., 2001).

The Brief Alcohol Screening and Intervention for College Students (BASICS) is an empirically supported brief intervention often used with an MI style designed specifically for college students. The non-judgmental and non-confrontational computerized delivery of BASICS facilitates assessment of alcohol use and associated consequences, as well as provision of information on healthy behavioral choices and coping skills. Administration through an online web-based platform may be particularly advantageous to college students as they are already familiar with technology, and because it allows them the opportunity to disclose information about hazardous health habits (Paperny, Aono, Lehman, Hammar, & Risser, 1990; Turner et al., 1998; Walters, Miller, & Chiauzzi, 2005).

BASICS consists of two 50-minute sessions. The first session focuses on gathering information on patterns of alcohol use and consequences, while the second session provides students with personalized feedback on their drinking patterns, blood alcohol levels, and normative information on personal drinking relative to other students (Grossbard, et. al., 2010; Mastroleo, Turrisi, Carney, Ray, & Larimer 2010; Whiteside, Cronce, Pedersen, & Larimer, 2010). This type of intervention with personalized, norm-referenced, and computerized feedback reduces alcohol use at 3-month and 6-month follow-ups, especially among social drinkers (Neighbors, Larimer, & Lewis, 2004). The aim of BASICS is to challenge inaccurate views of alcohol norms, as well as to reduce future risks of alcohol consumption by providing options to make changes and referrals to other types of care if desired (Grossbard, et. al., 2010). Brief

interventions for college students with alcohol use disorders yield the greatest improvements if delivered by a trained facilitator (Ickles, Haider, & Sharma, 2015). As such, BASICS is generally offered to college students in the setting of a counseling center with trained therapists.

While research on brief interventions is promising overall for college students with harmful alcohol use, there remains a lack of independent information on the specific role of the therapeutic alliance in the context of brief interventions (Larimer, Cronce, Lee, & Kilmer, 2004). For example, brief motivational approaches with a counselor are only slightly more efficient than computerized interventions for mandated samples of college students (Barnett, Murphy, Colby, & Monti, 2007). The goal of the present study was to assess and evaluate the role of the therapeutic alliance in the context of a brief intervention for alcohol use among voluntary college students by measuring perceptions of the alliance from students participating in BASICS with a trained facilitator using an MI style. It was hypothesized that participant perceptions of the alliance would increase from session one to session two, and that participant alliance ratings at session two would negatively correlate with alcohol consumption and related problems at the two-week follow up.

Method

Participants

Twenty-nine undergraduate students (58.6% female) who identified as "interested in learning about their drinking" participated in the present study, which included a BASICS assessment session, a feedback session, and a 2-week follow-up. Participants' ages ranged from 18 to 25 years old (M = 20.10, SD = 1.99). The sample consisted of 41.4% freshmen, 10.3% sophomores, 24.1% juniors, and 24.1% seniors, with a slight majority of individuals living off campus (55.1%). At baseline, participants endorsed consuming between one and 10 drinks per

week (M = 4.58, SD = 2.28) and between one and four alcohol consequences (M = 4.68, SD = 3.80).

Measures

Demographic information. Participants were asked to indicate sex, age, living situation, relationship status, occupation, and education level on a self-report measure.

Brief Alcohol Screening for College Students (BASICS)

BASICS (Dimeff et al., 1999) is an online assessment and feedback program that assesses multiple aspects of alcohol use including consumption patterns (e.g., frequency), personal experiences with (e.g., alcohol-related consequences), understanding of social alcohol norms, protective drinking behaviors (e.g., getting a ride instead of drinking and driving), and family history and is usually administered by a trained facilitator.

BASICS includes a modified version of the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985). The DDQ is a self-report measure of alcohol use. Alcohol use was assessed by asking participants to report the number of drinks consumed each day across the past month (quantity). The quantity estimate reflects the average number of drinks consumed on a single occasion using these self-reports. The DDQ is reliable when compared to self-monitored drinking reports with college students (Kivlahan, Marlatt, Fromme, Coppel, & Williams, 1990). Similarly, McKenna, Treanor, O'Reilly, & Donnelly (2018) found these types of self-report measures that assess quantity and frequency in short-term recall to be valid.

The BASICS program also includes a modified version of the Young Adult Alcohol Problems Screening Test (YAAPST; Hurlbut & Sher, 1992) that assesses negative consequences associated with alcohol use over the student's lifetime and the past year, including frequency of these experiences and behaviors (e.g., hangovers, blackouts, drunk driving, missing class). The

YAAPST utilizes 27 items, which outline specific consequences related to drinking among young adults, and asks participants to indicate the frequency of occurrence for each item in the last year. Participants respond to each consequence (e.g., missing class, regrettable sexual situations, driving while intoxicated) with *no, never* = 0, *yes, but not in the past year* = 1, or *yes, in the past year* = 2. For questions 1 through 8, *yes* responses for occurrences in the past year were calculated as: 1 time = 2; 2 times = 3; 3 times = 4; 4-6 times = 5; 7-11 times = 6; 12-20 times = 7; 21-39 times = 8; 40 or more times = 9. For questions 9 through 20, response options for the past year were 1 time = 2; 2 times = 3; 3 or more times = 4. Additionally, for questions 21 through 27, the response *yes, in the past year* = 2. These results are scored as a sum of consequences, with higher scores indicating more alcohol-related consequences (scores can range from 0 – 134).This measure has been found to have good internal consistency, stability, and validity (Devos-Comby & Lange, 2008; González, Riveros, Uribe, & Luna, 2006).

WAI-Short Version (Horvath & Greenberg, 1989). The Working Alliance Inventory (WAI) is a 12-item self-report measure (see Appendix A) designed to assess the quality of the therapeutic alliance (also referred to as working alliance) between the client and therapist. The short form of the measure utilizes three subscales: task (4 items; e.g., *I believe the way we are working with my problem is correct*.), bond (4 items, ____ *and I trust one another*.), and goal (4 items, *We have established a good understanding of the kind of changes that would be good for me*.). Participants rate the 12-items on a 7-point Likert-scale ranging from 1 (*Never*) to 7 (*Always*). Higher scores are indicative of more a positive, developed working alliance between client and therapist. Data on this scale suggests that the instrument has adequate reliability (α = 0.80 to 0.93), correlates with other measures of the alliance, and maintains validity in measuring levels of working alliance (Paap, Schrier, & Dijkstra, 2018). Our data displayed similar

reliability both at session one (bond $\alpha = .84$, task $\alpha = .79$, goal $\alpha = .60$) and session two (bond $\alpha = .92$, task $\alpha = .74$, goal $\alpha = .71$).

Procedure

Volunteer participants were recruited from the Psychology Subject Pool at a medium-sized university in the southeast United States. Participants scheduled the initial meeting through SONA, an online software where students elect to sign up for experiments. Potential participants were also recruited through flyers posted at the Wellness Center, Counseling Center, and Health Services on campus. Inclusion criteria included students 18 years of age or older who generally consume alcohol weekly and were not currently participating in alcohol use treatment. Interested participants who met inclusion criteria were scheduled for an initial individual 90-minute meeting with a researcher in a private office in the Psychology Department on campus.

Participants were randomly assigned to one of two intervention conditions: a researcher-driven condition and a choice condition where the participants had the option to request up to two additional sessions. No participant requested additional sessions and outcomes did not vary by condition (Kirschner, 2017); thus, the present study collapsed across conditions. During the initial meeting, participants reviewed an informed consent document. The researcher discussed study procedures and participation requirements, emphasized the risks and benefits of partaking in the study, and addressed concerns and questions. Participants signed the consent form (see Appendix B) if they agreed to participate. Next, participants completed the computerized BASICS program, and an online self-report measure (i.e., WAI) using Qualtrics, a data collection and analysis website. At the end of this meeting, participants scheduled an individual MI-consistent feedback session with a graduate-level clinician (under supervision of a doctoral-level psychologist) approximately one week later where they completed a post-treatment WAI

form. Participants then attended a two-week follow-up session during which alcohol use and associated problems were assessed.

Results

A paired samples t-test was utilized to compare scores at pretest and posttest on the three subscales of the WAI (i.e., task, bond, goal) to evaluate if participant perceptions of the alliance increased from session one to session two. Participant scores significantly increased from pretest (M = 4.8, SD = 1.30) to posttest (M = 5.9, SD = 0.81) on the task scale of the WAI; t(28) =-5.84, p = .001. Scores significantly increased from pretest (M = 5.4, SD = 1.13) to posttest (M = 6.2, SD = 0.77) on the bond scale; t(28) =-5.43, p = .000. Similarly, scores significantly increased from pretest (M = 5.1, SD = 1.08) to posttest (M = 6.1, SD = 0.88) on the goal scale; t(28)=-5.53, p = .005.

Pearson correlations were calculated between WAI scores at posttest and measures of self-reported alcohol consequences and alcohol quantity per drinking occasion at follow up on all three subscales to determine if participant alliance ratings at session two negatively correlated with alcohol consumption and related problems at the two-week follow up. Bond, task, and goal scores at posttest did not significantly correlate with alcohol consequences at follow up. However, goal scores negatively correlated with self-reported alcohol quantity at follow up (r = -.53, see Table 1).

Discussion

The present student study evaluated the role of the therapeutic alliance in the context of a brief motivational intervention for college student alcohol use. As predicted, participant ratings of the therapeutic alliance increased from session one to session two. Contrary to the hypothesis, most ratings of the therapeutic alliance did not correlate with self-reported frequency of alcohol

consumption and associated consequences at follow up. Goal scores negatively correlated with alcohol quantity at follow up.

The increase of WAI scores over the course of treatment is consistent with previous literature that suggests a generally positive linear model of growth for WAI scores (Kivlighan & Shaughnessy, 1995). Bachelor & Salamé (2000) found that alliance ratings likely stabilize mid-treatment. However, their study measured participants who had engaged in a longer treatment, an average of 26 sessions, compared to the two sessions in the present study. Additionally, the facilitators in the present study refrained from confrontational approaches to setting goals for participants, which may have served in and of itself to increase WAI scores over time as opposed to the intervention entirely mediating the change (Marlatt, 1998; Neighbors, Larimer, Lostutter, & Woods, 2006).

Overall, the therapeutic alliance was not associated with self-reported drinking quantity per occasion and consequences at the two-week follow-up assessment. Conversely, previous studies have found that for adults in SUD treatment a stronger alliance is linked to more engagement with treatment, earlier improvements in substance use and related distress, and larger improvements in self-efficacy (Cook et al., 2015; Gibbons et al., 2010; Lebow, Kelly, Knobloch-Fedders, & Moos, 2006; Meier, Barrowclough, & Donmall, 2005; Hartzler, Witkiewitz, Villarroel, & Donovan, 2011; Prince et al., 2016). These studies differ from the present study in that they had longer follow up periods and higher levels of endorsed drinking. Further, much of the current research comes from samples of treatment-seeking participants, as opposed to volunteer college student participants who endorsed an interest in learning about their drinking. Our study also did not seek to utilize any diagnostic measures for SUD.

An interesting finding of the study was the significant negative correlation between the goal scale of the WAI and alcohol quantity per occasion reported at follow up. This implies that when the client perceives the therapist and themselves to have the same goal that this relates to lower quantities of alcohol consumed during an average drinking occasion over a brief follow up period. This finding is contrary to Long (2001) who found that perceptions of the goal agreement between client and therapist might be different from actual agreement on goals, and therefore is unlikely to affect early treatment outcomes for a variety of problems. Because participants were volunteers interested in learning about their drinking, it is unknown if they had actual drinking goals and it is likely that merely having goals might affect alcohol quantity at follow up.

Implications of the current research are twofold. First, the study suggests that the therapeutic alliance can increase even in the context of a very short intervention with a non-treatment seeking sample, which could be particularly advantageous to those on college campuses with limited ability to meet with students over long periods of time. In a 2014 survey of college counseling centers by the American College Counseling Association (ACCA), 30% of colleges limit the number of counseling sessions allowed, 17% of larger colleges increased training for staff in time-limited therapy, and 50% offered psychoeducational assistance on a web page (Gallagher, 2015). The demand for college counseling has increased more than four times faster than the student body; this is equivalent to a 30% increase in the number of students seeking treatment compared to a 6% enrollment increase each year from 2009 to 2014 (Xiao et al., 2017). Further, the ability to increase the therapeutic alliance quickly could be helpful to SUD therapists in general, as other research has shown the therapeutic alliance to benefit treatment retention, and treatment dropout is a major hurdle in SUD treatment (Gibbons et al., 2010).

Second, the finding that ratings of the therapeutic alliance did not correlate with self-reported frequency of alcohol consumption and associated consequences at follow up is valuable in its own right. The fact that therapeutic alliance formed by in-person interaction might not be critical to outcomes for brief interventions like BASICS could actually provide benefits to those who implement it. BASICS can be completed without an active facilitator, and thus could be helpful in areas with limited resources for college students without SUDs. Brief motivational interventions have reliably shown decreases in both alcohol frequency and consequences for college students (Borsari & Carey, 2000; Borsari et al., 2015; Carey, DeMartini, Prince, Luteran, & Carey, 2013; Dimeff et al., 1999; Kazemi et al., 2012). These effects in decreasing alcohol use and related consequences occur even when the participants volunteer for the intervention, which is similar to findings for students who are mandated for treatment (Barnett et al., 2007; Borsari & Carey 2000). Due to the significance of the goal scale on quantity outcomes, clinicians might focus on the goal aspect of therapeutic alliance as opposed to the generally focused on bond part of the alliance.

Limitations and Future Directions

The sample was limited to college student volunteers who were interested in learning about their drinking but not necessarily interested in changing their drinking or experiencing a diagnosed SUD. This potentially limits generalization of the results, especially with college students mandated to participate (e.g., campus alcohol violations) for which BASICS is often used and tested (Barnett et al., 2007; Borsari et al., 2015). In addition, the small sample size limits the generalizability and power to detect findings. Further, the study relied on self-reported drinking and consequences. Self-report measures are vulnerable to response biases such as social desirability or demand characteristics (Latkin, Edwards, Davey-Rothwell, & Tobin, 2017). These

biases might have led participants to report lower levels of drinking throughout the intervention and at follow up, either to "please" the researcher, or to sound more socially acceptable particularly if recently informed of normative trends of their drinking in their particular social context. However, self-reports are frequently used in substance abuse research and have been found both reliable and valid (McKenna, et al., 2018).

Follow-up occurred two weeks after the second BASICS intervention meeting, thus the long-term relationship between the alliance and drinking behavior was not assessed. However, previous literature has found that the alliance has a long-term effect on treatment outcome, even three years after treatment (Hersoug, Høglend, Gabbard, & Lorentzen, 2013). Alternatively, a confrontational therapeutic relationship has been found to result in increased "resistance" and, in turn, increased future drinking (Miller, Benefield, & Tonnigan, 1993). While little research is available on alliance ratings and short-term follow-ups, Stiles-Shields, Kwasny, Cai, & Mohr (2015) found that the length of follow up did not alter the effect of the alliance on outcomes for depression treatment. Horvath and Symonds (1991) similarly found a modest relationship between the alliance and treatment outcome when the alliance was measured early in treatment for a variety of presenting concerns.

Despite these limitations, the present study provides further understanding into the role of the therapeutic alliance in the context of brief motivational interventions for college students interested in learning about their drinking. It is recommended that BASICS without therapist interaction be directly compared to BASICS administered by a therapist (Cronce, Bittinger, Liu, & Kilmer, 2014) with non-treatment seeking college students.

Table 1

Correlations Among WAI Scores at Post Intervention and Alcohol Patterns at Follow Up

	M (SD)	Task	Bond	Goal	Alc Con	Alc Quant
Task	5.9483 (.15)		.75*	.63*	-.02	-.11
Bond	6.2414 (.14)	.75*		.69*	-.10	-.12
Goal	6.0948 (.16)	.63*	.69*		.00	-.53**

Note. Alc Con = Alcohol Consequences, Alc Quant = Alcohol Quantity

**p < 0.01 **p < 0.05 level*

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Appendix A

Working Alliance Inventory – Client Version
Short Form

Counselor: _____ Client ID#: _____ Date: _____

Instructions:
On the following page there are sentences that describe some of the different ways you might think or feel about your counselor.
As you read the sentences mentally insert the name of your interviewer in place of _____in the text.

Below each statement there is a seven-point scale:

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

If the statement describes the way you always feel (or think) circle the number 7; if it never applies to you, circle the number 1. Use the numbers in between to describe the variations between these extremes. Work quickly, your first impressions are the ones we would like to see.
PLEASE DON'T FORGET TO RESPOND TO EVERY ITEM.
Thank You!

1. _____ and I agree about the things I will need to do in counseling to help improve my situation.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

2. What I am doing in counseling gives me new ways of looking at my problem.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

3. I believe _____ likes me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

4. _____ does not understand what I am trying to accomplish in counseling.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

5. I am confident in _____ 's ability to help me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

6. _____ and I are working towards mutually agreed upon goals.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

7. I feel that _____ appreciates me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

8. We agree on what is important for me to work on.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

9. _____ and I trust one another.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

10. _____ and I have different ideas on what my problems are.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

11. We have established a good understanding of the kind of changes that would be good for me.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

12. I believe the way we are working with my problem is correct.

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

Appendix B

Consent to Participate in Research
Information to Consider about this Research

BASICS for Alcohol Use in College Students

Principal Investigator: Lisa Curtin
Department: Psychology
Contact Information: Lisa Curtin, curtinla@appstate.edu; 828-262-2272 ext. 413
Brittany Kirschner; Contact Information: kirschnerbn@appstate.edu

What is the purpose of this research?
You are invited to participate in a research study testing the impact of assessment and feedback on alcohol use for college students. We will ask you questions about your alcohol use and history and other experiences (e.g., anxiety) to help address this question. We plan to share the results of this study by presenting the findings at conferences and in publications (all results will be group findings; no individual findings will be presented).

Why am I being invited to take part in this research?
You are invited to participate in this research because you are at least 18 years old, generally consume alcohol on at least a weekly basis, are willing to participate in additional meetings, and are not currently in alcohol use treatment.

What will I be asked to do?
You will be asked to participate in two interviews and to complete follow-up questions two weeks, one month, 3 months, and 6 months after the start of the study. It is estimated that full participation will take approximately 4-5 hours of your time.

The interview(s) will take place in a private office (201 D) in Smith-Wright Hall at Appalachian State University. The individuals who will be conducting the interviews will either be a licensed psychologist and health service provider (Lisa Curtin, Ph.D.) or Brittany Kirschner, a graduate clinician under her supervision.

If you choose to participate, the initial interview will last approximately **two hours** and will consist of learning about the study and your potential participation, completing a number of online alcohol use questionnaires, completing two pencil and paper tasks, and completing additional questionnaires on the computer. The online alcohol use program and questionnaires ask about your alcohol and other substance use, alcohol-related problems, family history, prior treatment for alcohol use or any other mental health concerns, and thoughts about changing alcohol use. In addition, there are some questions about your perceptions of help-seeking and some personality-type questions. At the end of this meeting, you will meet briefly with a research assistant and will be asked to complete two brief measures about your interview

experience (about **10 minutes**). Your answers to these questions will not be shared directly with the person you met with during the interview (Lisa or Brittany).

You will then be scheduled for an interview with the same interviewer (about one week later) that will last approximately **one hour**. During the interview, your answers to the questionnaires will be reviewed and you will have a chance to discuss your concerns, if you have any. At the end of this meeting, you will again meet briefly with a research assistant and will be asked to complete two brief measures about your interview experience. Again, your answers to the questions regarding your interview experience will not be shared directly with the person you met with during the interview.

The second interview will be audio recorded to allow researchers to document the behavior of the interviewer (e.g., to be sure she or he is using the interview style we are interested in). The recordings will be erased after notes are taken on the interviewer style.

You will be asked not to seek treatment for your alcohol use while participating in the first two meetings. If you desire to seek treatment while in the study, please inform us of your intention and we will gladly provide you with a list of referral options and support your wish to discontinue participation in the study.

You will also be asked to complete follow-up questions related to your use of alcohol and other experiences 2-weeks, 1-month, 3 months, and 6 months after the start of the study. These questions will take approximately **20-30 minutes** and will be completed in person but on a computer. If you are not able to come in person, we will ask if you can complete the questions on the phone with a research assistant. You can participate in this follow-up portion of the study if you are in alcohol treatment.

What are possible harms or discomforts that I might experience during the research?
To the best of our knowledge, the risk of harm and discomfort from participating in this research study is no more than you would experience in everyday life. The greatest risk to you would be if someone not involved in the research learned about your participation or your answers to individual questions. For example, we ask about your use of alcohol and other drugs which may be illegal. We will attempt to maintain confidentiality throughout the study; however, due to the nature of internet access, the security of your online survey responses cannot be 100% guaranteed. We have many safeguards in place to keep your data confidential (described below).

You may find some of the questions we ask to be upsetting or stressful. If so, please talk with the interviewer about your experience. You can also contact the Counseling and Psychological Services Center on campus (1st floor Miles Annas Building; 262-3180) or the Wellness Center (2nd floor Miles Annas Building; 262-3148). If you disclose an immediate intention to harm yourself or someone else, or disclose harm to a minor or an elderly individual, the interviewer will need to take measures to keep you or others safe. This may involve disclosing this

information to a third party. Finally, you have the right to not answer any particular question or to withdraw your participation at any point in time.

What are possible benefits of this research?
This study may benefit you by learning about your drinking behaviors. Although there may be no personal benefit from your participation, the information gained by doing this research may help others in the future and inform future research regarding alcohol consumption.

How will you keep my private information confidential?
To ensure that your information is kept confidential, study identification numbers, but not names or other identifying information, will be used on all documents, computer files, and recordings. The information you provide us, as well as the recordings of the interviews, will be kept in a locked cabinet in the locked research laboratory in Smith-Wright Hall. The interview recording will be kept for a brief period of time (under lock and key); it will be destroyed after research assistants review to document the interviewer's behavior as consistent with the style being tested in this project. Your identifying information on this form will be the only document linked with your study identification number and it will be stored separately in a locked file cabinet in a private office in Smith-Wright Hall.

Many of the questionnaires will be completed on a computer using Qualtrics, a data collection and analysis company. The survey is administered over a secure (https) encrypted connection in an attempt to prevent eavesdropping or tampering with online communication. Qualtrics is commonly used by researchers affiliated with the Appalachian State University Department of Psychology. The researchers will not collect IP addresses. Qualtrics does not detail information collected, only acknowledging that their information includes (but is not necessarily limited to): *"…domain name, visited surveys, referring URLs, and other publicly available information."*

The Qualtrics privacy statement includes the following:

"We do not sell or make available specific information about our clients, their clients, or either of their data, except in cooperation with law enforcement bodies in regards to content violations or violations of applicable laws. We maintain a database of user information which is used only for internal purposes such as technical support, notifying members of changes or enhancements to the service."

Again, if you disclose an immediate intention to harm yourself or someone else, or disclose harm to a minor or an elderly individual, the interviewer will need to take measures to keep you or others safe. This may involve disclosing this information to a third party.

Whom can I contact if I have a question?
If you have questions about your rights as someone taking part in research, contact the Appalachian Institutional Review Board Administrator at 828-262-2692 (days), through email at

irb@appstate.edu or at Appalachian State University, Office of Research Protections, IRB Administrator, Boone, NC 28608.

Will I be compensated?
If you are in a psychology class, you can earn 4 Experiential Learning Credits (ELCs) for the first interview and 2 ELCs for the second interview. Your course instructor can also provide you other non-research alternatives to obtain ELCs. One non-research option to receive 1 ELC is to read an article and write a 1-2 page paper summarizing the article and your reaction to the article. More information about this option can be found at: psych.appstate.edu/research. You may also wish to consult your professor to see if other non-research options are available.

You will be compensated $5 for completion of the follow-up questionnaires (2-weeks, 1-month, 3 months, and 6 months after the start of the project; $20 total if you complete all four); these questionnaires will take about 20-30 minutes each time. If you are in a psychology class you can earn 1 ELC for each of the follow-up sessions in lieu of the $5 compensation.

Do I have to participate?
Your participation in this research is completely voluntary. If you choose not to participate, there is no penalty or consequence. If you decide to take part in the study you can still decide at any time that you no longer want to participate. You will not lose any benefits or rights you would normally have if you do not participate in the study.

This research project has been approved on ###### by the Institutional Review Board (IRB) at Appalachian State University. This approval will expire on ####### unless the IRB renews the approval of this research.

I have decided I want to take part in this research. What should I do now?
If you have read this form, had the opportunity to ask questions about the research and received satisfactory answers, and want to participate, then sign the consent form and keep a copy for your records.

Participant's Name (PRINT) Signature Date

You may contact me for follow-up interviews or reminders at:

Phone number: _____
Email address: _____

You may leave a general phone message without identifying me as participating in this project:

Yes ☐

No ☐