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Determining the Impact of a Comprehensive Substance Assessment on Problem Recognition, Ambivalence, and Taking Steps

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Heavy use of alcohol is a major public health problem as well as being considered the greatest single contributor to morbidity and mortality in college students (Hingson, Heeren, Winter, & Wechsler, 2005; Nelson, Xuan, Lee, Weitzman, & Wechsler, 2009). Reportedly, in 2008, 61% of full time college students were current drinkers, 40.5% binge drank, and 16.3% were heavy drinkers (Substance Abuse and Mental Health Services Administration [SAMHSA], 2009). "The magnitude of problems posed by excessive drinking among college students should stimulate both improved measurement of these problems and efforts to reduce them" (Hingson et al., 2005, p. 268).

Negative consequences of students' excessive use of alcohol can include property damage, community disruptions, physical assaults, and driving under the influence [DUI] (Hingson et al., 2005; Wechsler et al., 2002). As many as 40% of traffic fatalities in the United States occur due to impaired driving (Wagenaar, Maldonado-Molina, Ma, Tobler, & Komro, 2007). Persons ages 21 to 34 have the highest numbers of impaired driving crashes and fatalities (National Highway Traffic Safety Administration [NHTSA], 2008) and college students make up nearly one-third of the 18-24 year old population in the United States. In 2001, among persons ages 18-24, there were 8,842 alcohol related traffic deaths; of these, 1,349 (32%) were college students (Hingson et al., 2005). Substance abuse interventions can reduce problematic substance abuse among college students (Barnett et al., 2004; Borsari & Carey, 2005; Carey, Scott-Sheldon, Carey, &

DeMartini, 2007). Assessment interviews alone may contribute to positive clinical outcomes (Edwards et al., 1977; Hermansson, Helander, Brandt, Huss, & Rönnerberg, 2010; Project MATCH Research Group, 1998). Kypri, Langley, Saunders, and Cashell-Smith (2007) reported that a brief assessment produced a reduction in hazardous drinking for students. What if initial assessments were considered brief and efficacious interventions? The purpose of this preliminary study was to evaluate if a substance abuse assessment might impact change in college students who completed a substance abuse assessment due to an alleged alcohol use infraction.

This article briefly reviews the research on alcohol use in college students, brief interventions, and the therapeutic relationship in counseling. This information is then integrated to address the primary research question of this study: Can a substance abuse assessment impact problem recognition, ambivalence, and taking steps in college students who complete a brief substance abuse assessment provided with a therapeutic relationship and measured by the change factors from the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) scale? The SOCRATES was designed to reflect the stages of change as described by Prochaska, DiClemente, and Norcross (1992). Recognition scores were related to one's ability to recognize the existence of a problem, ambivalence scores were related to certainty of having a problem, and taking steps scores were related to action taken with change; together the three measures have been reported, although inconsistently, as being related to readiness to change (Bertholet, Cheng, Palfai, Samet, & Saitz, 2009; Harmon, McCormick, Werkner, & Zhang, 2004; Miller & Tonigan, 1996).

Alcohol Use in College Students

There are a variety of risk factors that predict alcohol abuse among college students such as seeking sensation, being an Anglo-American male, having limited parental or religious connections, and using alcohol consistently before entrance to college (Borsari, Murphy, & Barnett, 2007; Hingson, Assailly, & Williams, 2004; Hingson, Heeren, & Edwards, 2008). Factors found related to increased alcohol use once in college include ineffective coping, stress, expectations that alcohol use will solve problems and enhance social skill, depression, low self-regulation, beliefs about drinking being the norm, being surrounded by heavy drinkers, intrapersonal perceptions of alcohol use, turning age 21, and Greek membership (Beck et al., 2010; Borsari et al., 2007; Bujarski, Klanecky, & McChargue, 2010; Hustad, Carey, Carey, & Maisto, 2009; Leeman, Feeton, & Volpicelli, 2007; Mallett, Bachrach, & Turrisi, 2009; Masten, Faden, Zucker, & Spear, 2009; Quinn & Fromme, 2011; Rosenquist, Murabito, Fowler, & Christakis, 2010; Talbott et al., 2008).

Heavy use of alcohol can result in educational and relational difficulties, overdoses, antisocial activities, high-risk sexual behaviors, memory impairment, and DUI (Beck et al., 2010; Molnar, Busseri, Perrier, & Sadava, 2009; Parada et al., 2011; Singleton & Wolfson, 2009; Wechsler, Lee, Kuo, & Lee, 2000). Extreme drinking practices result in catastrophic consequences such as suicide and death (Gruenewald, Johnson, Light, & Saltz, 2003; Schaffer, Jeglic, & Stanley, 2008). "Alcohol misuse remains a pervasive problem on American college campuses" (White, Kraus, & Swartzwelder, 2006, p. 1006).

Most problems associated with alcohol occur with persons who meet criteria for misuse or harmful use of alcohol (Anderson, Aromaa, Rosenbloom, & Enos, 2008; Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). From a survey of 119 four-year U.S. colleges, 31% of 14,000 students met the diagnostic criteria for alcohol abuse and 6% met the criteria for alcohol dependence in the previous 12 months (Knight et al., 2002). From 1998-2001, among college students ages 18-24, alcohol related deaths increased 6% (1600 to 1700 students) and the proportion of students who reported a DUI increased from 26.5% to 31.4% [2.38 million to 2.8 million students] (Hingson et al., 2005). Nelson et al. (2009) found increases in both DUI and riding with an intoxicated driver in college students following drinking five or more drinks. College students often drink a large amount of alcohol in a short time period (Gruenewald et al., 2003; White et al., 2006); thus they can easily develop high Blood Alcohol Concentration (BAC) levels. Studies indicate that in a 30-day time period, nearly one-quarter of college students have driven while under the influence (Beck et al., 2010).

An alcohol infraction can serve as an important opportunity for assessment and intervention (Holt, O'Malley, Rounsaville, & Ball, 2009); however, mandated clients are not always motivated to change (Nochajski & Stasiewicz, 2005; Stein & Lebeau-Craven, 2002). Brief interventions can offer a therapeutic way to enhance motivation in the person receiving services (Bien, Miller, & Tonigan, 1993; Gaume, Gmel, Faouzi, & Daepfen, 2009).

Brief Interventions

Brief interventions generally occur in 1-4 sessions and can include follow-up contacts (Bien et al., 1993; Kaner et al., 2007). Six conditions often cited as effective for brief interventions to impact change include: **F**eedback regarding personal risk or impairment; **e**mphasis on personal **R**esponsibility for change; **c**lear **A**dvice to change; a **M**enu of alternative change options; **t**herapeutic **E**mpathy as a counseling style; and **e**nhancement of client **S**elf-efficacy or optimism [FRAMES] (Gaume et al., 2009). Brief interventions often use assessments such as the Alcohol Use Disorders Identification Test (AUDIT); the Drug Abuse Screening Test (DAST); the Cut Down, Annoyed, Guilt, Eye-opener (CAGE); and the Brief Alcohol Screening and Intervention for College Students [BASICS] (Madras et al., 2008; Monti, Tevyaw, & Borsari, 2004-2005). Brief interventions are frequently implemented in emergency rooms and clinical evaluation settings; the primary goal is brevity of services.

Alcohol screenings and brief interventions can reduce alcohol use, abuse, and associated risks such as DUI (Bien et al., 1993; Edwards et al., 1977; Kaner et al., 2007; Madras et al., 2008; Monti et al., 2004-2005; Nilssen, 2004; SAMSHA, 2010; Schaus, Sole, McCoy, Mullett, & O'Brien, 2009). For more than 30 years brief interventions have enabled significant change for problem drinkers, and although there is no known way to explain the efficacy of brief interventions, they work (Miller, 2000). Perhaps assessments can be considered a form of brief intervention.

Assessments "may be one of the most important yet under-emphasized elements of contemporary addiction treatment" (Carise, Gurel, McLelland, Dugosh, & Kendig, 2005, p. 178). They can set the foundation for follow-up interventions through enabling treatment planning and outcome monitoring (Kypri et al., 2007). A number of researchers

have speculated that assessment interviews contribute to positive clinical outcomes (Edwards et al., 1977; Hermansson et al., 2010; Kaner et al., 2007; Kypri et al., 2007; Project MATCH, 1998). “Alcohol screening may in itself initiate a reduction in drinking” (Hermansson et al., 2010, p. 256); however, there has not been sufficient empirical testing to support this hypothesis (Walters, Vader, Harris, Field, & Jouriles, 2009).

The Therapeutic Relationship

Even though Web-based assessments and interventions have been reported as successful (Barnett et al., 2004; Saitz et al., 2004; Walters et al., 2009), an empathic, non-confrontational human interaction may enhance the impact of an assessment, set a foundation for a therapeutic relationship, and create an ideal setting to create change plans and make referrals (Lee et al., 2010; Stein & Lebeau-Craven, 2002). In a meta-analysis of 62 studies aimed to reduce college drinking, Carey et al. (2007) found that individual-level alcohol interventions using face-to-face interventions with motivational interviewing and personalized normative feedback, reduced alcohol use. “The therapeutic relationship has a partnership character, and the client's freedom of choice is emphasized” (Rollnick & Miller, 1995, p. 332).

The counseling relationship may influence client change even more than theory or technique (Lambert & Barley, 2001). Client engagement, strong interpersonal skills, client-centered approaches, and empathy in counselors have been found to be associated with greater effectiveness and improved client motivation (Gaume et al., 2009; Miller, Benefield, & Tonigan, 1993; Simpson, Rowan-Szal, Joe, Best, & Campbell, 2009). Norcross, Krebs, and Prochaska (2010) refer to the potentially effective relational stance taken by a counselor as a *nurturing parent* (p. 145). Even one, single empathic counseling session can substantially improve outcomes of follow-up treatment (Miller, 2000). In a review of effectiveness of alcoholism treatment, Cutler and Fishbain (2005) reported that “positive empathetic contact” (p. 9) could be the therapeutic benefit for participants who were successful in responding to therapy.

Walters et al. (2009) reported a working relationship combined with feedback has “a synergistic effect when used together” (p. 70). They reported enhanced outcomes when college students explored ambivalence and change, *and* were provided feedback about drinking patterns, actual college drinking norms, risk factors for heavy drinking, and costs resulting from heavy drinking. Combining assessment feedback with referral and resource information can enhance client outcomes (Carise et al., 2005). Comprehensive alcohol assessments, provided in a context of a caring and collaborative relationship, can provide excellent feedback and address the many complex factors and layers associated with alcohol use, abuse, and related consequences; however, the level of client readiness may influence the impact of an assessment.

Readiness to Change, Ambivalence, and Problem Recognition

Research supports a relationship between pretreatment state of readiness and progress made in counseling (Norcross et al., 2010). However, many clients enter counseling not ready to change and present with considerable ambivalence. Ambivalence about change results from a discrepancy between values and behaviors (Miller &

Rollnick, 2002) and evidence suggests that high ambivalence can derail behavior changes (Oser, McKellar, Moos, & Moos, 2010). High ambivalence has been found correlated to patterns of problematic use, treatment initiation, and use of alcohol following treatment (Oser et al., 2010).

Oser et al. (2010) reported three client factors positively correlated with the clients seeking treatment: (a) recognition of having a problem, (b) feelings of distress, and (c) lack of confidence in his/her ability to control drinking. All three of these variables correlated with high ambivalence: “Heightened ambivalence appears to initiate increased desire to change by mobilizing treatment seeking individuals to initiate treatment” (Oser et al., 2010, p. 369). In addition, they reported *reductions* in ambivalence were associated with a 3-year follow up of reduction in problem drinking. Nochajski and Stasiewicz (2005) found binge drinking positively associated with higher ambivalence and recognition subscales. In their study on motivation to change, Harmon et al. (2004) found that a high ambivalence score significantly predicted greater alcohol use over time. Rapp, Carr, Lane, Redko, and Carlson (2008) reported that a higher problem recognition score in pre-treatment clients was related to an increased desire to change and desire to change was related to treatment readiness suggesting a possible linear progression between the factors. Elevated problem recognition scores have been found to be related to greater severity in drinking rather than aspect of readiness to change (Bertholet et al., 2009). Freyer et al. (2005) suggested that readiness for change may not be as powerful of a motivation as problem severity. Overall, the three levels of change measured by the SOCRATES (problem recognition, ambivalence, and taking steps) are complex, interact, and may need to be considered independently (Maisto et al., 2011; Hallgren & Moyers, 2011).

Findings suggest that each client presents with diverse levels of ambivalence, problem recognition, and readiness to change; although these factors may be interrelated, they need to be considered individually to really understand a client (Miller & Tonigan, 1996). Given the support for efficacy of brief interventions combined with the importance of the therapeutic alliance, it was hypothesized that a client-centered, counselor-administered substance abuse assessment would impact these three variables (problem recognition, ambivalence, and taking steps) in college students.

Method

Sample

A total number of 39 clients completed the assessment during the research timeline (October 2010 through April 2011). Of those, 14 agreed to participate in the study; however, only 11 could be used for the results due to incomplete forms or individual not being in college. Of the total number of participants (n=11), five (45%) were male and six (55%) were female. The age range was 19-28 with the average age being 23.7 (sd=4.71). The majority of the participants identified as Caucasian (n=9) with a small percentage indicting an ethnic minority status, specifically, Latina (n=1) and American Indian (n=1). Ten of the participants had been externally mandated due to an alcohol use infraction (court ordered; Department of Transportation; school official) to complete a substance abuse assessment with eight primarily related to an alleged DUI event (n=8). One participant chose to complete the evaluation without an external

mandate but reported a problem with a DUI. Ten participants were enrolled in college and one enrolled in a post high school trade program.

Counselors in Training

All of the assessments were provided by first year counselors-in-training as part of their practicum experience. The practicum focus was on establishing the core skills of a counseling relationship, particularly emphasizing a client-centered approach (personal feedback class instructors). The full assessment contact typically included 3 to 5 sessions.

Interview Assessment Tool

Addiction Severity Index (ASI) The ASI is a comprehensive assessment used to evaluate seven areas of an individual's life including medical, employment, drug, alcohol, legal, family relationship, and psychiatric challenges. The results are integrated to measure problem severity and develop recommendations matched to the client's needs. The ASI is widely used due to extensive psychometric testing and its availability in the public domain. It has been a part of the standard clinical assessment of alcohol and drug abusing persons in more than 20 states (McLellan, Cacciola, Alterman, Rikoon, & Carise, 2006). Although the results of ASI were not a focus of this study, it is the evaluation assessment required for court ordered substance abuse evaluations in the state in which this study occurred.

Measures

Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES). The version 8 of the SOCRATES is an instrument designed to assess readiness for change in persons who abuse alcohol. This 19-item measure has three subscales: problem recognition, ambivalence, and taking steps. Scores range high to low with *problem recognition* indicating direct acknowledgement of problems with drinking (e.g., "I really want to make changes in my drinking"); *ambivalence* indicating uncertainty about having a problem (e.g., "Sometimes I wonder if my drinking is hurting other people"); and *taking steps* indicating things are already being done to make changes (e.g., "I have already started making some changes in my drinking"). These three scores are factorially-derived scale scores (Miller & Tonigan, 1996). The SOCRATES poses questions specifically about drug and alcohol use, and it is a public domain instrument used without special permission. It was developed originally to measure motivation for change in alcohol use and has been found to be reliable. Cronbach's alpha ranges from 0.68 to 0.88 on the *ambivalence* subscale, from .85 to 0.95 on *recognition*, and from 0.83 to 0.96 on the *taking steps* subscale (Miller & Tonigan, 1996). "Changes in SOCRATES scores could reflect the impact of an intervention on problem recognition, ambivalence, and taking steps toward change" (Miller & Tonigan, 1996, p. 88). The SOCRATES could provide evidence of an increase in readiness to change; however there is conflicting evidence between the measures and client outcomes (Bertholet et al., 2009).

Pre and Post Assessment Informational Questionnaires. A pre and post-assessment questionnaire was given to each participant. The pre-assessment questionnaire asked brief demographic and background information including (a) age, (b) educational level, (c) gender, (d) racial identification, (e) reason for referral, and (f) wishes from the referral. The post-assessment questionnaire asked four questions including (a) How was

this assessment experience for you? (b) What was most helpful from this assessment experience? (c) What changes will you make as a result of this assessment experience? and (d) Do you have any comments?

Procedure

The time period was from October 2010 through April 2011 and the site was a Council for Accreditation of Counseling and Related Educational Programs (CACREP) accredited clinical training program in a Rocky Mountain based counselor training clinic. Each counselor-in-training completed an ASI evaluation with each client addressing seven areas of the individual's life including medical, employment, drug, alcohol, legal, family relationship, and psychiatric challenges. The goal was to establish a therapeutic relationship to enable whatever time may be needed to address each area and the potential of how—and if—the area may be related to substance abuse. For example, a psychiatric challenge of social anxiety, may lead to use of alcohol; or a family history of use of alcohol can exacerbate use and abuse of alcohol. As mentioned earlier in this manuscript, there are a variety of risk factors that predict alcohol abuse among college students and alcohol use can result in significant risks and problems; consequently, the comprehensive assessment may enable recognition of the use in the context of what it may mean for the individual. This recognition can enable a more appropriate client-centered follow-up with recommendations fitting to the needs and history of each client. Once the assessments were completed, all clients were offered recommendations from their counselor-in-training varying from no treatment, to only DUI education class, to a full treatment program.

Ethical research principles were followed (Lambert, 2011); consequently the study was approved by the Institution's Review Board (IRB) and all clients were provided a description of the study with an approved informed consent. The participants who agreed completed the pre and post assessment SOCRATES and questionnaires before initiating and following completion of their ASI assessment. The responses were each coded by a unique number and confidentially stored.

Data Analysis

This study used a quantitative approach. The data were analyzed in SPSS version 17. A paired sample t-test was used to determine significance in changes in each of the three pre and post assessment measures on the SOCRATES Scales. Narrative feedback from the post assessment questionnaire is included to illustrate the implications from the findings. Because this was a preliminary study with a small sample, a fairly simple t-test was used to determine if there may be any significance in changes in each of the three pre and post assessment measures on the SOCRATES scales; if the findings indicated any significant changes, follow-up studies with larger samples could look at potential interactions in scores as demonstrated by an ANOVA assessment.

Results

Pre and post SOCRATES scores were recorded. Paired samples t-tests were conducted to determine if there were differences between the pre and post assessment

scores in Recognition (Re), Ambivalence (Am), and Taking Steps (TS) as shown in Table 1.

Table 1

Means and T-Statistics for SOCRATES Subscales

Sub-scale N = 11	Mean (standard deviation)	t-statistic (10 degrees of freedom)	Significance
Am (pre-assessment)	2.11 (0.88)	3.01	0.0065**
Am (post-assessment)	1.77 (0.92)		
Re (pre-assessment)	2.14 (0.86)	2.04	0.034
Re (post-assessment)	1.91 (0.90)		
TS (pre-assessment)	3.36 (1.07)	0.63	0.272
TS (post-assessment)	3.22 (1.40)		

Note. Am=Ambivalence; Re=Problem Recognition; TS=Taking Steps. Subscale Means are based on the following response options: 1= NO! Strongly Disagree, 2=No, Disagree, 3=Undecided or Unsure, 4=Yes, Agree, and 5=YES! Strongly Agree. **indicates significant result

To reduce the possibility of familywise error, modified Bonferroni alpha levels were used to determine significance (Olejnik, Li, Supattathum, and Huberty, 1997). There were significant differences in the ambivalence scores with positive changes in problem recognition that were very close to statistical significance. Taking steps showed no significant changes.

Discussion

The primary research question of this pilot study was, Can a substance abuse assessment impact problem recognition, ambivalence, and taking steps in college students? The findings imply that an assessment may significantly lower ambivalence; reduce problem recognition, although not at a significant level; and have no measureable impact on taking steps in a college student from the pre assessment to the post assessment time period.

Based on the SOCRATES, high ambivalence scores can reflect uncertainty about having a problem with alcohol use; whereas low scorers do not wonder if they use too much alcohol, are in control, or are harming others (Miller & Tonigan, 1996). In this study the participants showed a reduction in their ambivalence scores. Research shows that high ambivalence in a client may be related to more problem drinking in the future (Harmon et al., 2004; Nochajski & Stasiewicz, 2005; Oser et al., 2010). For this study, the implication could be that the assessment helped the participants to reduce their level of ambivalence; perhaps, encouraging them to understand their level of problems, become more decisive, and possibly reduce the likelihood of future problem drinking. This implication could be illustrated by comments from participants:

I don't need to become intoxicated to have a good time with my friends and I will NOT drive my car after I have been drinking ever again.

Will seek continuing counseling for my problems.

Although the changes in problem recognition were not statistically significant, they were in the direction of decreased levels. Problem recognition refers to having clear acknowledgement of problems with drinking and high scores have been found related to desire for change (Rapp et al., 2008); however high scores have been found associated with increased drinking at three months. Although it is speculative, the reduction in scores could indicate that the problem is not as overwhelming as initially perceived and/or the participant may not increase drinking in the future. This implication could be supported by the comments from participants:

It showed me the things I need to work on.

[It was helpful] just looking at different areas of my life maybe from a perspective I might not normally look at them.

The changes in taking steps were minimal. Findings from this study might imply that the participants had already begun making changes or did not intend to make any changes. This implication was supported by the comments from participants:

[What was most helpful was] getting the court order satisfied. *[Changes I will make are]* none. I made changes prior to the ASI.

[Regarding changes] I trust the recommendation given to me, but overall I have realized more about my relationship with drinking and can apply changes when needed though I don't know yet what they may be.

[Changes-are] probably none. *[Counselor]* did a nice job. I felt comfortable talking with her and she helped me getting the assessment done on time.

Although it was not identified as a research question, the human connection was described as helpful in 10 of the 11 post-assessment narratives; the assessment experience was described as a positive one. This support was illustrated by comments from participants:

I think what was most helpful was just talking. *[And now]* I will not drink and drive.

Good. Counselor is very friendly and seems to know how to talk to people.

Good. Less stressful than anticipated.

[What was most helpful was] being able to explain/talk about my experiences with someone who is unbiased and get feedback from that. The open-ended style questions made me think about the answers more in depth than a simple questionnaire. This style made me be more inwardly reflective.

Although alcohol overuse has significant negative effects on college students (Hingson et al., 2005; Molnar et al., 2009; Nelson et al., 2009; Singleton & Wolfson, 2009), alcohol remains a drug of choice for many young adults. Ambivalence about change may remain high for individuals who live in a culture that supports use (Quinn & Fromme, 2011). Clients mandated to counseling are not always motivated to change (Stein & Lebeau-Craven, 2002). However, this study found reduction in ambivalence in such individuals from their pre to post assessment scores. Similar to other studies, the findings from this study imply that an assessment may have an impact (Edwards et al., 1977; Hermansson et al., 2010; Kyprilou et al., 2007; Project MATCH, 1998). Although an initial evaluation may be perceived as “just paperwork” (McLellan, Carise, & Kleber, 2003, p. 120), this study suggests an assessment can open the door for a person to reduce ambivalence. It appears, too, that an important part of the assessment is the human connection, supporting the findings that a relationship may influence client change even more than theory, technique, or feedback only (Lambert & Barley, 2001; Walters et al., 2009).

Limitations

Even with implications, results in this study present numerous limitations. The small sample size (n=11) as well as the homogeneous (college students/similar ages) nature of the participants limit the generalizability of the results. One half of the participants were women, and research findings can be differing for women versus men (Vilmont, 2011). Self-reported data have limitations given some participants may have been hesitant to report accurate intentions due to the perceived legal complications (Clifford & Maisto, 2000). Given the participants were required to complete an assessment, control conditions could not ethically be offered; therefore, there is not a way to determine how and if the assessment experience per se impacted reported changes differently from a non-assessment condition. Respecting autonomy of all clients (Lambert, 2011) meant a significant number of clients chose not to participate; consequently, biases of self-selection may be evident in the results.

There was no information describing the participant’s pretreatment characteristics (e.g., severity of dependence; depression, etc.). Research studies make comparisons difficult and weaken conclusions when they do not adequately include characteristics of clients (Cutler & Fishbain, 2005). Motivation could be affected differentially by preexisting conditions (Oser et al., 2010). All services were provided by counselors-in-training which will inherently limit generalizations. The assessment requirement might affect the counseling relationship.

Conclusion

Further research will want to include a larger sample size, utilize diverse treatment settings, include descriptive background information of clients, and measure the impact of changes over a longer time period. Further analysis to identify potential interactions between the variables as well as comparing the results with standardized samples can provide greater understanding and application of the findings. In addition, differing levels of counselor training and skills will add depth to understanding the differential effects, if any, of the counselor relationship. Despite the limitations of this

study, it may offer support for the impact of a counselor administered substance abuse assessment as a way to reduce ambivalence in clients. The assessment experience could be an important opportunity, considered as a form of brief intervention, setting the stage for a therapeutic alliance and enabling reduction of ambivalence in a client. The fact that the counselors providing the assessments were in training can be an important recognition for the power of counselor education programs.

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