A Pilot Study Assessing the Effectiveness of an Animal-Assisted Outreach Program

Leslie A. Stewart[a], Franco Dispenza[b], Lindy Parker[b], Catherine Y. Chang[b] & Taffey Cunnien[c]

[a] Idaho State University, Pocatello, Idaho, USA

[b] Georgia State University, Atlanta, Georgia, USA

[c] Savannah College of Art and Design, Atlanta, Georgia, USA
Published online: 25 Sep 2014.

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LESLIE A. STEWART
Idaho State University, Pocatello, Idaho, USA

FRANCO DISPENZA, LINDY PARKER, and CATHERINE Y. CHANG
Georgia State University, Atlanta, Georgia, USA

TAFFEY CUNNIEN
Savannah College of Art and Design, Atlanta, Georgia, USA

The prevalence of anxiety and loneliness on college campuses and the simultaneous reduction in college counseling center resources has created a need for creative approaches that meet the needs of student populations. This exploratory study evaluated the effectiveness of an animal-assisted therapy (AAT) outreach program on symptoms of anxiety and loneliness among college students ($N = 55$) at a small arts college. Results revealed significant decreases in self-reported anxiety and loneliness scores following the AAT intervention. Additionally, the goals of sessions and approach of interventions significantly predicted lower anxiety scores but did not predict the reduction of loneliness scores. Lastly, interaction with the dog was identified as the most impactful aspect of the intervention. The results of this study reveal that AAT outreach interventions may be an efficient and effective way for university and college counseling centers to meet the growing demands of their student populations.

KEYWORDS   animal-assisted therapy, college counseling, anxiety, outreach programs, creativity in counseling

Address correspondence to Leslie A. Stewart, Department of Counseling, Idaho State University, 921 South 8th Ave., Stop 8120 Pocatello, ID 83209-8120, USA. E-mail: lesliestewart330@gmail.com

A significant percentage of psychologically distressed college students are not receiving adequate mental health services (Harrar, Affsprung, & Long, 2010). Of college students seeking mental health counseling services, approximately 47% are reporting moderate to higher levels of anxiety and an additional 33% are experiencing stress significant enough to interfere with academic performance (American College Health Association, 2013). Social, intellectual, and emotional pressures may contribute to the high prevalence of anxiety and stress among college student populations (Bayram & Bilgel, 2008), and many clinicians are in agreement that stress and anxiety have major implications for student quality of life and academic success. If anxiety and stress are untreated, Grayson and Meilman (2006) identified that college students can develop a host of maladaptive coping behaviors such as avoidance, unassertiveness, self-destructive behaviors (including substance abuse and addiction), and social deficits. In addition to stress and anxiety, loneliness is another significant pervasive concern for college students. According to a study of 625 undergraduate students, approximately 30% of college students reported feelings of loneliness (McWhirter, 1997). According to Grayson and Meilman, the pervasiveness of loneliness among young-adult college students is particularly important to address because the task of establishing intimacy in relationships can be conceptualized as a developmentally normal struggle.

Despite the reported increase in the severity of symptoms and levels of psychological distress among students seeking counseling at university and college counseling centers, there has been no corresponding increase in the number of college counseling staff members (Benton, Robertson, Tseng, Newton, & Benton, 2003). Furthermore, college counseling center staff members also reported that time spent in individual counseling sessions has actually decreased in recent decades, relative to the percentage of time spent writing reports, completing paperwork, and consulting with referral sources (Benton et al., 2003). This means that college counseling center staff must work more quickly and efficiently to provide student care and balance multiple professional demands (Benton et al., 2003). The high prevalence of anxiety and loneliness on college campuses, combined with the reduction of college counseling center staff resources, has created a need for innovative and creative approaches to help students (Ratanasiripong, Sverduk, Hayashino, & Prince, 2010).

One such innovative approach is the use of group-based interventions to help deliver mental health services to college and university students. According to Boldt and Paul (2011), a group approach is ideal for addressing college student depression, anxiety, and interpersonal concerns. However, Boldt and Paul noted that engaging college students in group counseling can be challenging, and college counseling center group attendance is generally low. Thus, college counseling center staff must seek alternative ways of offering group-based services to their students, such as group-based

outreach programming. Group-based outreach interventions can be effective strategies for reaching students in need of counseling services (Mier, Boone, & Shropshire, 2008). In addition to providing services beyond the walls of the counseling center, Campbell and Hemsley (2009) reminded college counselors that effective counselors must still provide services that meet the unique needs of their population while continuously collecting feedback that acknowledges client goals, change, the client's view of the method of intervention, and the client's view of the therapeutic relationship. From this perspective, students must perceive the college counseling center as a resource that meets their needs and addresses their concerns through relevant interventions. Grayson and Cooper (2006) stated that such presenting concerns among college students are multidimensional and complex; thus, college counseling centers must offer more than evidence-based single interventions and one-dimensional approaches. Although college and university counseling centers can address student anxiety and loneliness through individual and group counseling services, few of these centers offer innovative or creative programming solutions that meet the needs of the student populations while respecting the increased demands placed on college counseling centers.

The inclusion of animal-assisted therapy (AAT) as an innovative outreach is gaining momentum on college campuses nationwide (Stewart, Chang, & Jaynes, 2013). AAT in counseling is an area of curiosity for many professional counselors, and the approach is gaining popularity among a wide variety of practitioners. AAT in counseling is defined as the incorporation of specially trained and evaluated pets as therapeutic agents into the counseling process; thus, counselors utilize the human–animal bond in goal-directed interventions as part of the treatment process (Chandler, 2012). Counselors can integrate AAT into sessions in many different ways, and it may be appropriate across a variety of settings (Chandler, 2012), including university and college campuses and counseling centers.

Although the empirical benefits associated with AAT in counseling are only beginning to be explored, several researchers and practitioners have found that AAT may facilitate the alliance between mental health providers and clients, while decreasing the need for language in therapy (Chandler, 2012; Fine, 2006; Reichert, 1998; Stewart, Chang, & Rice, 2013). Stewart, Chang, & Rice, (2013) found that interacting with an appropriately qualified therapy animal often encourages nonthreatening interactions between people. Additionally, Stewart et al.'s (2013) findings suggested that the presence of a specially trained therapy animal positively impacted the climate of therapy and encouraged client relaxation (Barker, Knisely, McCain, Schubert, & Pandurangi, 2010; Cole, Gawlinski, Steers, & Kotlerman, 2007; Odenaal, 2000). These aspects of AAT may help college counseling center staff to create the welcoming environment that Grayson and Cooper (2006) suggested as important for anxious college students. Due to its flexibility and potential

to positively impact the student's experience, the authors proposed that an AAT intervention may meet the needs of the college counseling center by offering an innovative and creative outreach intervention that is both cost-effective and time-efficient for college counseling center staff. To date, no known study exists that examines the impact of an AAT outreach intervention on college students.

PROPOSED STUDY

This study was exploratory in nature, as the outcomes of AAT have not been directly evaluated in a college counseling setting. This pilot study aimed to address a gap in counseling literature by proposing and evaluating the use of AAT delivered in a group format to help address symptoms of anxiety and loneliness among college students. To facilitate this exploration, the following research questions were considered: Do college students experience reduced severity of symptoms of anxiety and loneliness after participating in the AAT outreach program? Are there measureable therapeutic factors related to AAT that can lead to the reduction of anxiety and loneliness after participating in an AAT outreach program among college students? The authors hypothesized that: (a) Students would report feeling less anxious after participating in the intervention; (b) students would report feeling less lonely after participating in the AAT outreach program; and (c) there would be notable predictive factors when evaluating the effectiveness of the session that contribute to the reduction of anxiety and loneliness postintervention. More specifically, the authors hypothesized that the relationship with the therapy dog, goal for the outreach presentation, and the approach of the intervention would contribute to the reduced ratings of anxiety and loneliness.

METHOD

Research Context and Participants

All procedures presented in this exploratory pilot study were preapproved by a university institutional review board in the Southeastern United States. Data were collected from 55 undergraduate students who voluntarily attended a college counseling center-sponsored AAT outreach program in a residence hall lobby. All 55 student volunteers were from a small liberal arts college in the Southeastern United States. Given that the outreach program took place in a crowded public area and student confidentiality was a concern, college administrators asked that the research team not require students to provide demographic data (e.g., age, gender, class year, race/ethnicity) to volunteer for the study. However, college administrators provided the overall demographic data of the institution. The institution consists of 1,929

students; 62.3% are female and 37.7% are male. The ages of undergraduate students at this institution range from 16 to 70 years, with a mean age of 21 years. Of these students, 42.9% identify as Caucasian/White, 28.1% identify as Unknown, 12.7% identify as International/Nonresident Alien, 8.2% identify as Black (Non-Hispanic), 4.8% identify as Hispanic, 2.5% identify as Asian/Pacific Islander, and 0.9% identify as American Indian/Alaskan Native. Participant demographic information is likely to correspond with the demographics of the institution.

Measures

BURNS ANXIETY INVENTORY

The Burns Anxiety Inventory (Burns AI; Burns, 1989) is a 33-item self-report scale measuring anxious feelings (e.g., *anxiety, nervousness, worry, or fear*), anxious thoughts (e.g., *feeling that you're on the verge of losing control*), and physical symptoms related to anxiety (e.g., *racing heart*). Each symptom was rated on a Likert scale ranging from 0 (*not at all*) to 3 (*a lot*). Results obtained in a study of 498 outpatients with symptoms of mood disorders suggested excellent reliability and internal consistency ($\alpha = .94$), as well as a test–retest reliability coefficient of .53 during a period of 12 weeks (Burns, 1998). The authors chose this instrument because it classifies a full range of anxiety symptoms. The Cronbach's alpha measurement for this scale associated with the current study was .94.

UNIVERSITY OF THE PHILIPPINES LONELINESS ASSESSMENT SCALE

The University of the Philippines Loneliness Assessment Scale (UPLAS; Tharayil, 2011) is a 25-item self-report scale that measures emotional states of loneliness (e.g., *alienation, feeling empty, feeling faceless*), negative self-perceptions, and depression. Each symptom was rated on a Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Results obtained in a study of 495 individuals from 41 countries of both collectivistic and individualistic cultures suggested excellent reliability and internal consistency ($\alpha = .93$), as well as a significant correlation coefficient ($r = .63$) with the Revised University of California Los Angeles Loneliness Scale which indicates a moderate level of concurrent validity. The authors chose this instrument because of its effectiveness in assessing symptoms of loneliness in a cross-cultural sample. The Cronbach's alpha measurement for this current scale associated with the current study was .93.

SESSION RATING SCALE

The Session Rating Scale (SRS; Duncan et al., 2003), a brief 4-item measure, employs a ranked visual analogue scale that ranges from low to high. The

measure yields four different scores that range from 0 to 100 using a millimeter for scale measurement. Items measure the client's perception of the therapeutic relationship, goals and topics, approach and methods, and overall satisfaction. A study of 65 individuals presenting with anxiety, depression, and/or relationship issues suggested a strong reliability ($\alpha = .93$). Duncan et al. (2003) recognized the SRS as a valid measure of therapeutic alliance. The authors chose this measure because of its brevity to assess how well the intervention met the goals and needs of the student population. The Cronbach's alpha measurement for this current scale associated with the current study was .93.

OUTREACH PROGRAM EVALUATION FORM

The Outreach Program Evaluation Form is a brief, open-ended questionnaire used by the institution's college counseling staff in all outreach interventions. Student participants are asked to identify and rank-order the top three most helpful aspects of the outreach program. Students are also provided a space to offer suggestions for improvements or other general comments. The authors included this measure per institution policy and to identify the specific interventions that students found helpful.

Procedure

Data were collected in a within-subjects pretest–posttest field-initiated design (Babbie, 2001). Participants completed the Burns AI and the UPLAS measures immediately before engaging in the outreach intervention and again immediately after engaging in the intervention. Participants also completed session rating forms and the Outreach Program Evaluation Form after participating in the outreach. Participants were provided a written informed consent form prior to volunteering to participate in completing any paperwork. Participants used an anonymous identification generator so that pretests and posttests could be paired without compromising the identity of the participant.

INTERVENTION

The AAT outreach intervention included the primary author, who is a member of the institution's counseling staff and a member of a registered Pet Partners therapy team with her therapy dog, "Sophie May." The primary author and her therapy dog conducted the intervention by stationing themselves in the common area of a popular undergraduate residence hall for a period of 2 hr, while students were invited to "drop in" and interact with the therapy dog, the author, and other student attendees. The intervention

occurred twice monthly for an academic quarter. Average attendance for each event included 10 to 15 students. Students who volunteered to participate in this study were provided with an informed consent document, which was kept separately from participant data. During the intervention, the author facilitated interactions between the student attendees and the therapy dog in an unstructured and informal format. During the intervention, students engaged with the therapy dog in the following ways: petting the dog, sitting near the dog, hugging the dog, brushing the dog's coat, feeding treats to the dog, drawing/photographing the dog, and playing fetch with the dog. Although the therapy dog was available for students to interact with for a period of 2 hr, the amount of time students chose to spend with the dog during each event ranged from approximately 5 min to 2 hr. In addition to facilitating interactive experiences between the students and the therapy dog, the author provided information about the institution's college counseling center and education about AAT, and responded to questions about the therapy dog (e.g., the dog's breed, age, training, and general personality). The author did not provide counseling services or psychoeducation during the time of the intervention. The second author was also present and served as a quality control auditor to ensure that all aforementioned procedures were appropriately followed during the AAT outreach. It is important to note that the authors were intentional about including a specially trained and evaluated therapy animal and handler team in this intervention. Because all human–animal interactions carry certain risks, the inclusion of only appropriately qualified handler–therapy animal teams ensured a safe and therapeutic interactive experience for all humans and the animal involved.

RESULTS

A total of five participants were dropped from the analysis due to incomplete premeasures or postmeasures on the Burns AI or UPLAS. A Bonferroni adjustment was made to control for Type I error across the four statistical analyses, establishing the alpha level to .013. All statistical analyses were computed using the IBM Statistical Package for the Social Sciences Statistics Version 19.0.

Given the small sample size, a repeated-measures analysis of variance (ANOVA) was used over a paired-samples t test to provide a more conservative and stringent analysis of the data. A one-way repeated-measures ANOVA was calculated comparing pre- and post-Burns AI scores. A significant effect was found, $F(1, 49) = 76.29$, $p = .001$, partial $\eta^2 = .609$, observed power = 1.0, with scores on the postadministration of the Burns AI significantly lower ($M = 10.66$, $SD = 12.98$, 95% CI [6.97, 14.35]) than in the preadministration of the Burns AI ($M = 33.39$, $SD = 21.51$, 95% CI [27.28, 39.50]). A subsequent one-way repeated-measures ANOVA was calculated comparing the scores

on the pre- and post-UPLAS. A significant effect was found at the .013 alpha level, $F(1, 49) = 10.94$, $p = .002$, partial $\eta^2 = .182$, observed power = .90, with scores on the post-UPLAS significantly lower ($M = 43.97$, $SD = 13.05$, 95% CI [40.23, 47.68]) than on the pre-UPLAS ($M = 51.36$, $SD = 11.59$, 95% CI [48.07, 54.65]).

To test the effect of the AAT intervention on the reduction of anxiety and loneliness ratings, two separate multiple linear regressions were calculated, utilizing the three components of the SRS (relationship, goals for the session, and the method or approach of the intervention) on the post-Burns AI and post-UPLAS ratings. First, a simultaneous linear regression was calculated to predict Burns AI postratings based on ratings of the relationship, goals for the session, and method or approach of the intervention. A significant regression equation was found, $F(3, 45) = 13.05$, $p = .001$, with an adjusted R^2 of .465 (approximately 46.5% of the variance was explained by this model). Goals for the session ($\beta = -.47$), $t(45) = -3.83$, $p = .001$, and the method or approach of the intervention ($\beta = -.43$), $t(45) = -3.28$, $p = .002$, were significant predictors of lower anxiety scores. Perception of the relationship during the session was not a significant predictor of lower anxiety scores, $t(45) = 1.02$, $p = .277$.

The second multiple linear regression was calculated to predict post-UPLAS ratings based on ratings of the relationship, goals for the session, and the method or approach of the intervention. A nonsignificant regression equation was found, $F(3, 45) = 2.23$, $p = .098$, with an adjusted R^2 of .13. Goals for the session, $t(45) = -1.74$, method or approach of the intervention, $t(45) = -0.682$, and perception of the relationship, $t(45) = -0.261$, were all nonsignificant predictors of lower loneliness scores at the .013 alpha level.

After providing post-Burns AI and post-UPLAS ratings, students were also asked to identify and rank the top three most helpful aspects of the outreach program in order of importance on an open-ended survey. Approximately 84% of students indicated that interacting with the therapy dog was the most helpful aspect of the outreach program. Subsequently, the remaining 16% indicated that interaction with other students and staff members was the most helpful.

DISCUSSION

College and university counseling centers are struggling in many ways to meet the needs of the students they serve. The high prevalence of stress, anxiety, and loneliness on college campuses combined with the reduction of college counseling center staff resources has created a need for innovative approaches to help students (Ratanasiripong et al., 2010). This study was an exploratory investigation of a creative intervention to help address these symptoms and needs. The flexibility and growing popularity of AAT outreach

programs offer college and university counseling center staff an efficient and potentially impactful treatment option for the student populations they serve.

The results of this investigation support the first hypothesis. Students reported feeling less anxious after participating in an intervention with a specially trained and evaluated therapy dog and handler, as indicated by lower scores on the Burns AI postintervention. The physiologically calming impact of positive human–animal interactions (Barker et al., 2010; Cole et al., 2007; Odenaal, 2000) may account for some of the reduction in self-reported anxiety scores. Odenaal (2000) found that positive human–animal interaction reduces physiological symptoms of stress in humans by increasing levels of the neurotransmitter oxytocin and decreasing levels of cortisol. Certain aspects of the intervention's environment may account for other explanations for the reduction in Burns AI scores. The intervention was casual and unstructured, and social supports (other students, counseling center staff) were present during the students' interactions with the therapy dog. This may have created an overall relaxed climate in the space utilized for the intervention that impacted students' self-reported symptoms of anxiety. The therapy dog's impact on physiological symptoms of anxiety, the structure of the intervention, and the presence of social supports are factors that may have contributed to the reduction of self-reported anxiety symptoms on the Burns AI.

The results of this investigation also confirm the second hypothesis. Student scores on the UPLAS were significantly lower when compared with scores before participation. The socially facilitating effect of human–animal interaction (Stewart, Chang, & Rice, 2013) may be one potential explanation for the reduction in loneliness, as the presence of the therapy animal may have provided participants with opportunities for nonthreatening interactions with one another. Other potential explanations for this result are the group-based nature of the intervention, which encouraged participant interaction, and the presence of common factors among participants (i.e., fondness for dogs/animals, missing family pets, feeling lonely). These aspects may account for the reduction in self-rated loneliness scores on the UPLAS following the intervention.

With regards to the third hypothesis, the results support that there were notable predictive factors related to the reduction in anxiety postintervention. The results of the SRS reveal that goals for the session and the method or approach of the intervention were significant predictors when it came to reducing anxiety scores. The authors confirmed that both the goal of the session (to reduce anxiety) and the approach of the intervention (interaction with a therapy dog) were viewed as both relevant and efficacious by the students who participated. It is possible that due to the voluntary nature of the program, students were able to seek the support they needed at a self-directed pace without committing to regular services. Thus, the same mechanisms that can contribute to treatment success in individual and group

therapy were likely at play in an AAT outreach program (i.e., goal directness, participant self-selection, self-awareness of symptoms, willingness to seek solutions for symptoms). The perception of the relationship was not found to be a significant predictive factor in the reduction of student anxiety. This result was surprising to the research team considering the empirical support for the impact of AAT on the therapeutic alliance (Chandler, 2012; Fine, 2006; Reichert, 1998). One possible explanation for this result may be related to the handler's role during the outreach event. Although the handler is part of the institution's counseling staff, she served exclusively as the therapy dog's handler and did not assume a counseling role during the event. In this way, the therapeutic alliance may not have been especially applicable in this circumstance.

With regards to the UPLAS, the authors did not find that the goals of the session or approach of the intervention significantly predicted reductions in student self-reported loneliness scores. One potential explanation for this is the role of the facilitator as an animal handler rather than as a counselor. As discussed in the Methods section, the handler of the therapy dog intentionally refrained from providing counseling interventions during the outreach event. Because of this role differentiation, the handler did not prompt or direct group therapy interventions. Although the results of this investigation showed a reduction in self-reported loneliness scores as measured by the UPLAS, the authors were not able to identify notable factors contributing to the reduction of loneliness scores.

The results of the Outreach Program Evaluation Form allowed the authors to identify that participants viewed the interaction with the therapy dog as a helpful and relevant aspect of the intervention. Despite these findings, the authors recognize that isolating the effect of the therapy dog is difficult in outcome-based studies, and AAT may not be the sole mechanism responsible for the changes in participant scores. Although more sophisticated means of identifying the impact of the therapy animal on the assessment results should be utilized in future studies, this study revealed that in the view of these college student participants, the presence of the therapy dog was an important factor.

Implications for Counseling

Overall, the results of this study reveal that AAT outreach interventions may be an efficient and effective way for university and college counseling centers to meet the growing demands of their student populations in a way that students view as relevant. The pilot program in this study, Therapy Dog Nights, proved to be effective in reducing student anxiety and loneliness, which college counseling literature and the institution's internal assessment have

identified as top student concerns. Additionally, this program allowed college counseling staff to interact with students who were not seeking services at the institution's counseling center.

The structure of the program was effective, and the mechanisms and processes were helpful in facilitating the reductions in anxiety.

This intervention potentially represents a grey area between what is known as AAT and animal-assisted activities (AAA). Many animal-assisted outreach programs are defined as AAA—spontaneous "meet-and-greet"-style interactions during which providers do not take detailed progress notes (Pet Partners, 2013). Although this intervention meets the criteria for AAA, it also included some essential aspects of AAT, such as intentional treatment goals (reduce anxiety and loneliness), documentation of participant progress (assessments), and direction by a health or human service professional with appropriate skills and expertise (handler was an appropriately qualified professional counselor; Pet Partners, 2013). This intervention potentially highlights the need for practitioners of AAA/AAT to examine the nuances of AAT in group settings that are unstructured yet include an intentional intervention aimed at addressing specific clinical concerns. Another aspect of this study that the authors hope to investigate in future studies is the presence of the same therapy dog during each outreach intervention. Unlike other therapy animal outreach interventions that may involve interaction with a different animal during each visit, the participants in this intervention were able to build familiarity and develop a relationship with the therapy dog "Sophie May," who was a consistent presence at each intervention and was well known among the college's relatively small student population. As AAT is a continually growing discipline within the counseling profession, practitioners are currently working to define and articulate their interventions and clinical intentionality. The authors hope that the intervention utilized in this study will facilitate dialogue among AAT providers as the discipline further establishes its professional identity and theoretical approach.

Limitations

This study was intended to serve as a pilot investigation of a potentially impactful intervention. As such, this study was limited by a small number of participants ($N = 55$). The small sample size creates problems with generalizing the results of this study and may have contributed to the inconclusive results of the predictive factors of the UPLAS. Future studies should include randomization and the use of a control group to increase the external validity of the results. Another limitation of this study is the SRS's ability to examine only four possible predictive factors. As described in the Procedures section

of this article, the authors were required to conduct this investigation according to the guidelines of the college's administration. Thus, the authors were unable to utilize an experimental design with a control group, collect detailed demographic data on participants, or collect data from students who chose not to participate in the intervention. In future studies, the authors hope to gain administrative approval to conduct more rigorous studies according to an experimental design. Therefore, the results of this study should be viewed as a pilot investigation of a handful of college students who participated in an AAT intervention.

Despite the limitations of this study, the authors have revealed that AAT outreach interventions are indeed efficacious in university and college counseling settings. The authors recognize the study as a real-time intervention that occurred in a natural student environment, rather than in artificially constructed or controlled laboratory conditions. Furthermore, the authors administered clinically based assessment instruments with strong empirical support to measure the impact of the intervention under investigation. These strengths contribute to this study's potential to inform the approaches of other professional counselors as well as to provide empirical assessment of AAT as a creative and efficient intervention. Although the intervention was investigated on a college campus, AAT's flexibility and potential to impact a wide range of clinical populations make it especially relevant for mental health professionals in other settings that may be experiencing an increase in the needs of a clinical population without corresponding increases in staff resources. Based on the results of this study, AAT may be a beneficial treatment option for other populations that experience loneliness and anxiety. Examples of some of these settings include correctional facilities, residential treatment programs and hospitals, group homes, secondary schools, and older-adult care facilities (Chandler, 2012; Stewart, Chang, & Rice, 2013). This pilot study may serve as a framework for other practitioners to create AAT outreach interventions to serve clients on college and university campuses as well as in other settings. In future research, a qualitative investigation to understand the participants' experiences and perceptions of AAT may help address questions related to the impact of AAT versus other therapeutic factors on client change.

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Leslie A. Stewart *is an Assistant Professor in the Department of Counseling at Idaho State University, Pocatello, Idaho.*

Franco Dispenza *is an Assistant Professor in the Department of Counseling and Psychological Services at Georgia State University, Atlanta, Georgia.*

Lindy Parker *is an Administrative Specialist and Academic Advisor at Georgia State University, Atlanta, Georgia.*

Catherine Y. Chang *is a Professor in the Department of Counseling and Psychological Services at Georgia State University, Atlanta, Georgia.*

Taffey Cunnien *is the Director of Counseling and Student Support Services at Savannah College of Art and Design, Atlanta, Georgia.*