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An Evaluation of Behavioral Skills Training to Teach Assertiveness Skills to College Students

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AN EVALUATION OF BEHAVIORAL SKILLS TRAINING TO TEACH ASSERTIVENESS SKILLS TO COLLEGE STUDENTS

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by

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ABSTRACT

AN EVALUATION OF BEHAVIORAL SKILLS TRAINING TO TEACH ASSERTIVENESS SKILLS TO COLLEGE STUDENTS

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Assertiveness skills are related to a variety of life factors including stress levels, social relationships, social fears, and anxiety. The previous research has shown that engaging in nonassertive behavior can have negative effects, and assertive behaviors can lead to a healthier life (Eldeeb, Enstar, & Eldosoky, 2014; Elliot & Gramling, 1990; Larijani, Aghajanie, Baheiraei, & Neiestanank, 2010; Morgan, 1974). The purpose of the current research was to determine if behavioral skills training (BST) was effective in teaching assertiveness skills to college students and if the skills would generalize to novel situations. BST is a method for teaching skills that uses instructions, modeling, rehearsal and feedback. In the current study, BST was used to identify and teach nine different assertive behaviors and help the participants differentiate between nonassertive, assertive, and aggressive behavior. The current study used a multiple baseline design to implement the BST intervention for three participants. Results showed that each participant met and exceeded an 80% mastery criterion for three trained role-play scenarios. Results also showed that assertiveness skills were generalized to three novel scenarios presented to each participant. Social validity was assessed and results showed that participants not only found the intervention helpful, but that they were more assertive in a variety of

social situations following BST. It has been determined that BST is an effective method for teaching assertiveness skills to college students.

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CHAPTER I

INTRODUCTION

Assertiveness skills have been shown to be related to a variety of life factors. Assertiveness has been shown to affect stress levels related to public speaking (Tomaka, Palacios, Schneider, Colotla, Concha, & Herrald, 1999), general stress levels of nursing students (Eldeeb, Eid, & Eldosoky, 2014), social relationships and support (Elliot & Gramling, 1990), social fears (Morgan, 1974), anxiety (Larijani, Aghahani, Baheiraei, & Neiestanak, 2010), sexual victimization and revictimization (Livingston, Testa, & VanZile-Tamsen, 2007). Assertiveness training has also been paired with self-defense training in the hopes that it would reduce sexual revictimization (Brecklin & Ullman, 2004). These are just a few of the areas where low assertiveness skills, or engaging in nonassertive behavior can have negative effects. Assertiveness is recognized as a construct in a significant portion of the research and, as such, there is a lack of applied behavior analysis research on the topic.

According to Baer, Wolf, and Risley (1968) an analysis of behavior can be completed on any overt behavior that can be observed and objectively defined. Applied research focuses on behaviors that are socially significant, and if conceptualized as a set of specific responses, assertiveness is an appropriate topic of study for applied behavior analytic research. In order for assertiveness to be the subject of applied research it must have an objective operational definition. According to Cooper, Heron, and Heward (2007), there are two ways to define behavior, either based on the topography or the function of the behavior. Topography refers to how the behavior looks; therefore the

definition of the target behavior is based on the form of the behavior. Functional definitions describe how the behavior impacts the environment. A topography-based definition would define the form of the behavior itself. For example, to enter a room one must grab the door knob and turn the knob clockwise half of a turn. The same scenario with a function-based definition would focus on the impact of the behavior on the environment. For example, the opening mechanism of the door knob was engaged. With the function-based definition the form of the behavior may vary while still meeting the definitional requirements. For example, the knob may have been turned counterclockwise or turned a full turn rather than a half. With a function-based definition, the important aspect is the result of the behavior not what the behavior itself looked like. A function-based definition of assertiveness would not be appropriate because assertive behaviors may not always lead to the desired outcome. A topography-based definition of assertiveness will take into account various observable and measureable aspects of the behavior regardless of the final outcome of the response. A topography-based definition of assertiveness will include descriptions of appropriate eye contact, body posture, distance, and physical contact, gestures, facial expression, voice tone, inflection and volume, timing and content (Alberti & Emmons, 2009). Each of these overt behaviors must be specifically defined so that they may be objectively measured.

The definitions of nonassertiveness and aggression also play a role in understanding assertiveness. Assertiveness is often confused with aggression, and in an effort to not appear aggressive, a person may become nonassertive. Assertiveness and aggression are not the same. In the most basic definition assertiveness takes into account

the basic human rights of all parties whereas aggression is a violation of another person's rights and nonassertive is a violation of a person's own rights. Alberti and Emmons (2009) defined assertiveness in the following way:

> Assertive self-expression is direct, firm, positive – and when necessary persistent – action intended to promote equality in person-to-person relationships. Assertiveness enables us to act in our own best interests, to stand up for ourselves without undue anxiety, to exercise personal rights without denying the rights of others, and to express our feelings (e.g., affection, love, friendship, disappointment, annoyance, anger, regret, sorrow) honestly and comfortably. (Alberti & Emmons, 2009, p. 8)

As is shown in this definition, assertiveness is not only needed in negative situations but also in positive situations when a person wishes to express positive emotions or convey happiness in a given situation. Alberti and Emmons (2009) define aggression as a way of accomplishing something at the detriment of another person's rights. Aggressive behavior does not take into consideration the other person and often hurts that person in the process of achieving one's personal goals (Alberti & Emmons, 2009). Nonassertive responses are those that violate the individual's personal rights, and the individual may not express how they are truly feeling and often are hurt or face feelings of anxiety as a result (Alberti & Emmons, 2009).

Assertiveness skills may be discouraged by society, especially in situations with people of authority. The work place may also encourage a person to be nonassertive.

While changes are being made to rectify this in the current job market, a lack of assertiveness is still problematic (Alberti & Emmons, 2009). If a person never learns appropriate assertiveness skills they may face a deficit in social areas of their life and may continue to be nonassertive or aggressive causing a variety of social problems (Alberti & Emmons, 2009). Therefore, the purpose of the current study is to implement a behavior analytic technique, behavioral skills training, to train college students to utilize assertiveness skills. The study aims to assess the effectiveness of this technique as well as the generalizability of the trained assertiveness skills along with determining if the training is a socially valid method to gain assertiveness skills.

CHAPTER II

REVIEW OF THE LITERATURE

The Need for Assertiveness

Many researchers have determined that assertiveness is an important skill for avoiding and overcoming a variety of life stressors. Elliot and Gramling (1990) conducted a study that linked assertiveness to social support, which, in turn, led to fewer depressive symptoms in times of stress. When students were faced with stressful situations, those who rated higher in personal assertiveness utilized the support found in social relationships to their benefit and, in turn, experienced fewer depressive symptoms (Elliot & Gramling 1990). Morgan (1974) aimed to assess the relationship between assertiveness and fear. Results showed that assertiveness scores increased with assertiveness training and scores on the Fear of Social Criticism Factor Scores or Fear of Social Incompetence Factor Scores decreased for the assertiveness training group as compared to the placebo and control groups. Tomaka et al. (1999) set out to examine the relationship between assertiveness and the stress of public speaking with women by using the stressful event of giving a spontaneous speech. Results indicated that women who rated higher on assertiveness scales also reported less stress when speaking. Women with high assertiveness showed stress levels that were consistent with being challenged and those women with low assertiveness showed stress levels that were consistent with a threat response (Tomaka et al., 1999). Larijani et al. (2010) examined the correlation between assertiveness and anxiety and found that there was a negative correlation among nursing and midwifery students showing that as assertiveness increased there was a

decrease in the students' anxiety. These studies show a need for assertiveness skills and that lack of assertiveness can have negative effects on an individual's wellbeing.

Previous Research for Teaching Assertiveness

A variety of methods for teaching assertiveness to various types of individuals have been reported in the literature. The previous research shows an emphasis on cognitive aspects by focusing on changing the thought process related to assertiveness. In the behavioral research the focus is placed on the social skills training including aspects of assertiveness. There is little research with a primarily behavioral emphasis that focuses on the overt behaviors of assertiveness and increasing those behaviors to increase assertiveness skills.

Assertiveness Training in the Psychological Research.

Lin et al. (2008) examined the effectiveness of a training program to teach assertiveness to psychiatric patients and evaluated the effects of assertiveness on self-esteem and social anxiety. The training program was conducted in a group setting and included nine components: teaching, demonstration, feedback, role-play, coaching, reinforcement, homework, group discussion, and self-directed learning. The Rathus Assertive Scale was used to measure the level of assertiveness before and after exposure to the training program. Results showed that the training was effective and there was an overall increase in assertiveness scores for the participants (Lin et al., 2008). The behaviors that were the focus of this particular study were covert behaviors, the training focused on the thoughts of the patients and expressing those thoughts in an assertive fashion (Lin et al., 2008).

Hammen, Jacobs, Mayol, and Cochran (1980) examined a skills approach versus a cognitive behavioral approach towards assertiveness training with adult participants. The skills approach focused on observations and ratings of relevant behavior along with the rehearsal of assertive behavior under the supervisions of trainers. The cognitive behavioral approach focused on discussions, lectures and cognitive restructuring. This technique also included rehearsal; however, the cognitive aspect included discussing interfering thoughts as well as rehearsing the behavior (Hammen et al., 1980). The authors assessed the difference between the two approaches for teaching assertiveness. Results showed that both approaches were successful in obtaining an increase in assertiveness, and neither method was shown to be more effective than the other. Perceived efficacy was also similar between the two types of training and included in the two groups were participants with varying levels of dysfunctional attitudes (Hammen et al., 1980). The authors concluded that it is not necessary to directly address the cognitive aspects of situations calling for assertion; the ability to implement practical assertive skills is adequate and may indirectly affect any cognitive aspects of the situation (Hammen et al., 1980).

Lee, Hallberg, and Hassard (1979) used assertion training to determine if it would affect the aggressive behavior of adolescents. Participants were 30 ninth grade students that were considered by their peers to be aggressive (Lee et al., 1979). Aggression was measured using a peer rating scale and assertiveness was measured with a self-report questionnaire. Scores were gathered previous to the implementation of assertion training and then once training had been completed. The participants were randomly assigned to

one of three groups: assertion training, placebo, and no-treatment control (Lee et al., 1979). Assertion training consisted of the participant observing and recording their own behavior as well as focusing on one situation and reviewing the behaviors they engaged in. Also included was the use of modeling to display the appropriate behavior, reviewing alternate responses of one's own behavior, visualizing the situation and then actually practicing the situation and receiving feedback on responses (Lee et al., 1979). The placebo group met as a group and took part in a how to make a decision experience. While there was no significant decrease in the peer rated levels of aggression the assertion training group did significantly increase their assertion scores. Because the measure of aggression was solely based on the opinion of peers, the possibility exists that the perception of the participants was unchanged and not the actual level of aggression (Lee et al., 1979). The authors also found that those who completed assertion training self-reported a decrease in levels of aggression. While the study was able to determine that assertiveness training increased assertion scores there is no way to determine if the participants would actually put into play the assertiveness skills that were learned during training (Lee et al., 1979).

Assertiveness Training in the Behavioral Research.

As previously stated, there is limited behavioral research that is geared towards teaching assertiveness or the behaviors relating to assertiveness. Frederiksen, Jenkins, Foy, and Eisler (1976) assessed the use of social skills training to increase socially appropriate responses from adults who displayed abusive verbal outbursts. While the term assertiveness is not specifically used in this study, the target behaviors are directly

related to the overt observable behaviors that are indicative of assertiveness such as eye contact and appropriate versus inappropriate requests. Researchers used novel scenarios that required an assertive response to measure the generalizability of the social skills training (Frederiksen et al., 1976). The study used a multiple baseline design across participants and implemented social skills training via instructions, modeling, behavior rehearsal and feedback. The training was completed in two sessions that were followed by post-training probes to test for generalization. Also included in the study was a method used to examine further generalization by creating situations in the natural environment where the participants were rated on their use of the social skills. During training, each of the participants showed an increase in appropriate social skills. While the generalization and post-training scores were not as high as training scores, the change remained socially significant for both participants, thus achieving high social validity.

Hersen and Bellack (1976) assessed the effects of social skills training on two individuals with schizophrenia. Role-play interactions were used to measure the participants overall assertiveness as well as specific target behaviors that related to social interactions, which participants failed to perform during baseline. Role-play, feedback, instructions, and modeling were all aspects of the training sessions. After 4-6 weeks of social skills training, follow-up was conducted at 2, 4, 6, and 8 weeks. All target behaviors changed in the desired direction along with an increase in overall assertiveness showing that this type of social skills training was in fact effective (Hersen & Bellack, 1976).

Previous psychological research has shown that covert behaviors such as thoughts and feelings play a role in assertiveness training, and a focus on those covert behaviors can increase assertiveness skills. However the fact that covert behaviors are the focus brings a subjective nature to the assessment. Previous research has shown that training including behavioral components such as instructions, modeling, feedback, and role play has been successful in increasing assertiveness skills (Frederiksen et al., 1976; Hammen et al., 1980; Hersen & Bellack, 1976; Lee et al., 1979). Behavioral skills training is an evidence-based method for teaching skills that will be used in the current research to train assertiveness skills by focusing on the overt measureable behaviors rather than the subjective measure of expressing thoughts in an assertive fashion.

Behavioral Skills Training

Behavioral skills training (BST) is an instructional method that has been demonstrated to be effective for teaching a variety of skills with various populations. BST includes four components: modeling, instructions, rehearsal, and feedback. Modeling includes the direct demonstration of the desired skill by an instructor. Instructions are provided either verbally or in written form depending on the skill and the level of the leaner. The learner is given the opportunity to rehearse the skill and is immediately provided with positive and, if necessary, corrective feedback on his or her performance. Although the components are listed linearly, the actual implementation of BST is somewhat fluid with the components provided in a manner that is dependent on the learner's performance. For example, instructions may be given before modeling and, if needed, again following rehearsal. Multiple opportunities for rehearsal and feedback

may be necessary as well. Sessions can be individualized for each learner in order to promote mastery of the skills taught (Miltenberger, 2012).

As stated previously, BST has been shown to be effective for teaching skills in a variety of situations with a wide range of populations. BST has been successfully used with children for teaching fire safety skills (Jones, Kazdin, & Haney, 1981), teaching appropriate responses for finding dangerous objects such as lighters or poison (Vanselow & Hanley, 2014), teaching self-protection skills to prevent abduction (Poche, Yoder, & Miltenberger, 1988), and teaching appropriate responses to finding firearms in order to prevent gunplay (Miltenberger, Flessner, Gatheridge, Johnson, Satterlund, & Egemo, 2004). With adults BST has been used to teach sexual abuse prevention skills to women with intellectual disabilities (Miltenberger, Roberts, Ellingson, & Galensky, 1999), to teach caregivers how to use the Picture Exchange Communication System as a form of augmentative communication (Homlitas, Rosales, & Candel, 2014), to teach clinical interviewing skills to college students (Miltenberger & Fuqua, 1985), and to master the skills required for discrete trail teaching (Sarokoff & Sturmey, 2004). BST has also been shown to be an effective instructional procedure for teaching a variety of social skills including refusal of unwanted sexual advances (Warzak & Page, 1990) and a reduction in aggressive behavior by replacing previously aggressive behavior with socially appropriate responses (Elder, Edelstein, & Narick, 1979).

While the specific format of each BST training session may follow a slightly different sequence due to the fluid nature of the process, the same components are always utilized. The following study gives a more detailed explanation of how that process may

look as the majority of the BST research follows the same procedure. Sarokoff and Sturmey (2004) examined the use of BST to teach proper implementation of discrete trail teaching (DTT) strategies to staff members working with children with developmental disabilities. Using a multiple baseline design across participants, the authors first conducted a baseline assessment in which participants were instructed to use DTT with a client to the best of their ability. The dependent measure was the correct implementation of DTT by the participant. This was determined by calculating the percentage of usage of 10 basic components of DTT. BST commenced with the provision of written instructions describing proper implementation of DTT. The trainer then reviewed the instructions with the participant and provided him or her with the data from the baseline assessment. The participant then rehearsed the appropriate DTT responses, and immediate feedback was provided as necessary. After the initial rehearsal, the experimenter modeled the aspects of the DTT procedure that had been performed incorrectly during rehearsal. Following BST, participant performance was assessed through completion of 10 uninterrupted discrete trials with a client. The BST procedures, followed by the brief assessment, were continued until the participant achieved a criterion of 90% accuracy on the brief DTT assessment for three consecutive sessions. Following mastery, post-training assessments were conducted in which participants used DTT with a client. Results demonstrated that participants successfully performed the DTT procedures following BST (Sarokoff & Sturmey, 2004).

Analyzing the Components of BST

Miltenberger (2012) provides an overview of BST procedures and a description of several factors that can enhance each of the four components of BST. Modeling is used to demonstrate the desired skill. The learner observes the appropriate manner of executing the skill, and the setting in which to utilize the skill (Miltenberger, 2012). According to Miltenberger (2012), there are several factors that can increase the effectiveness of a model. Preferably, the model should be an individual that is similar to the learner or is in a position of authority that commands the respect of the learner. The model must demonstrate the correct form of the desired behavior, and, if possible, the model should receive reinforcement for engaging in the correct behavior in the presence of the learner. The behavior being modeled should be at a skill-level appropriate for the learner, and, if feasible, the modeled behavior should occur in the appropriate setting (e.g., a real life situation or in a role-play that simulates a real life situation). For skills that are relevant for multiple environments, the behavior should be modeled in a variety of relevant contexts (Miltenberger, 2012).

Miltenberger (2012) also outlines several factors that can enhance the use of instructions, rehearsal, and feedback. Instructions can be provided in a verbal or written format, depending on the level of the learner. Instructions should be exact and clearly detail all information that will be needed by the learner; including information about the skill as well as in what contexts the skill should be used. In order to gain the most from the rehearsal component of BST, the behavior must be rehearsed in the appropriate context (e.g., the natural environment or a real-life role-play). The learner should not be

needlessly exposed to failure during rehearsal. Rehearsal should begin with a task of low difficulty in order to ensure success. Reinforcement should be provided when any aspect of the behavior is completed correctly, and rehearsal should continue until the desired behavior is completed correctly several times. Feedback is a vital aspect to BST and should be delivered immediately following rehearsal. Feedback should begin with praise or other reinforcement for the aspects of the behavior that were completed correctly. Praise should be specific to the behavior and provide the learner with information on precisely what was done correctly. Negativity is not an aspect of BST. When corrective feedback is needed, it should be given in a positive manner. Any aspects of the skill that can be improved should be identified in a way that does not imply the performance was wrong or bad (Miltenberger, 2012).

In addition to the four components of the BST intervention, research on BST often includes strategies to promote generalization of skills (Miltenberger, 2012). In order to promote generalization of skills to a variety of situations that may occur in the natural environment, various role-play scenarios or settings should be included during training (Miltenberger, 2012). Rehearsal with peers and assignments to practice the skills learned outside the training context can also be helpful. Another common method for promoting generalization is the use of in situ assessment and in situ training. In situ assessment involves creating a situation in which the researcher can observe the learner in the natural environment. In situ training involves teaching in the natural environment, so the learner receives feedback in a natural situation that requires use of the skill (Miltenberger, 2012).

A study by Poche, Brouwer, and Swearingen (1981) provides an example of the inclusion of strategies to promote generalization when using BST. These authors taught self-protection skills to preschool children. Three participants were taught how to appropriately respond in the event that an unknown person attempted to lure them away. Training was conducted in areas surrounding the children's school, and the "suspects" were individuals that resembled typical molesters that had been arrested in the surrounding area. BST was delivered using a multiple baseline design across participants. Baseline assessments involved a suspect approaching a child and presenting a verbal lure to encourage the child to leave with him. During BST, the appropriate responses to verbal lures were trained using modeling, rehearsal, and feedback. Following mastery of the skill using BST, generalization of the skill was tested on three separate occasions in community settings. All three participants demonstrated appropriate abduction prevention responses following BST and generalization to a community setting was evident (Poche et al., 1981).

Current Hypothesis

Based on the evidence, BST is a successful intervention for many populations within a variety of environments. Components of BST have been shown to be successful with social behaviors that relate to assertiveness such as the reduction of abusive verbal outbursts (Frederiksen et al., 1976) and increasing social skills (Hersen & Bellack, 1976). Therefore, this intervention package may be effective for directly teaching assertiveness. The purpose of the current study was three-fold.

1) Evaluate the effect of BST for teaching of assertiveness skills to college undergraduate and graduate students.
2) Assess generalization of assertiveness skills to novel role-play scenarios.
3) Evaluate the social validity of the BST intervention via an assessment of participant opinion on the quality and helpfulness of the procedure.

It was hypothesized that BST would produce an increase in assertiveness skills and that generalization of assertiveness skills to novel scenarios would occur. It was further hypothesized that participants would evaluate the BST intervention positively.

CHAPTER III

METHODS

Participants and Setting

Three Central Washington University (CWU) students were recruited using the Sona system and flyers placed around the CWU campus. Participants were at least 18 years of age. Pseudonyms were used to protect the identity of the participants. Jason was a male graduate student. Lacey was a female undergraduate student. Ashley was also a female undergraduate student. The first three students to sign up or contact the primary researcher via e-mail showing interest in the study were selected to participate, and subsequent students were put on a wait list. If a participant chose not to proceed after the first session, that individual's participation ended and a new participant was selected from the waiting list. Participants were excluded from the study if they demonstrated assertive behaviors during the initial baseline session. The exclusion criteria for assertive behavior was a score of 60% or greater on the Assertiveness Checklist (described below) during the initial baseline probe. The exclusion criterion of 60% was chosen because it allowed room for significant improvement in assertiveness skills. Participants were compensated with extra credit in their psychology classes for participating in Sona research. The amount of extra credit points was determined by the amount of time spent in the study as well as at the discretion of the psychology professor. Participants were also compensated in the form of a $5 gift card for every half hour spent participating in the study. The gift cards were presented upon completion of the study.

Sessions for the study took place in a 2 m x 3 m private research room. The room contained a desk and three chairs. Participants were either standing or sitting in a straight backed chair depending on the scenario that was being presented. There was also a laptop that was used to play videos during the training sessions.

Materials

Six scenarios were developed to assess assertive behavior (see Appendix A). Three scenarios were used during baseline and training, and three scenarios were used to evaluate generalization. Scenarios represented a variety of social interactions ranging from peer interactions to interactions with persons of authority.

Three videos created by the primary researcher were used during training sessions to model appropriate assertive behavior and show examples of nonassertive and aggressive behavior (see Appendix B). The three videos corresponded to the three assertiveness scenarios used in baseline and training sessions, and each video was approximately 3 minutes in length. Two research assistants enacted the training scenarios and served as models in the videos. Each video began with an example of nonassertive behavior followed by an example of aggressive behavior. A correct model of appropriate assertive behavior was then demonstrated.

Dependent Measures

Assertive behavior was defined based on the description of the various behaviors that comprise assertiveness provided by Alberti and Emmons (2009). Included under the heading of assertiveness were eye contact, facial expression, posture, voice, speech, calm, respectful, statement of purpose and conversation content. Definitions for each assertive

behavior were developed along with definitions for nonassertive and aggressive behavior (see Appendix C). Based on these definitions, the Assertiveness Checklist (Appendix D) was modified to rate the level of assertiveness presented by each participant during each role-play scenario (Project 12-Ways, 2007). Each behavior was scored on a scale ranging from 0 to 2, with a score of 2 showing the most assertive behavior. Lower scores represented either aggressive or nonassertive behavior. Baseline, post-training and generalization probes were scored using the Assertiveness Checklist. Scoring started as soon as the primary researcher began the role play with a verbal prompt and ended at the completion of the role play; this was consistent across all phases and sessions.

Interobserver agreement (IOA) was collected by an independent observer to ensure reliability of the data collection for 30% of sessions (range across phases and participants, 20% to 33%). The independent observer was introduced to the operational definitions for the 10 assertive behaviors, and was trained to use the Assertiveness Checklist before the start of the study. The three videos demonstrating assertive, nonassertive, and aggressive behaviors mentioned previously were used to train the independent observer. The independent observer and primary researcher each viewed and scored the video model's behaviors until the independent observer achieved at minimum 80% reliability with the primary researcher. Videos were viewed jointly and scored independently. IOA was calculated by dividing the behaviors in agreement by the total number of agreements and disagreements and multiplying by 100. If at any point during the study IOA fell below 80%, the primary researcher and independent observer reviewed the assertiveness definitions and discussed any disagreements on scoring as part of a

booster training session. The booster training session consisted of a review of the assertiveness definitions, a review of the video, and a discussion of the specific disagreements. IOA was scored by viewing a video of the role-play recorded during the session; the independent observer was not present during any sessions. During sessions IOA was calculated for each scenario presented during that session. IOA averaged 89% across all phases and participants (range of 67% to 100%).

A secondary measure evaluating social validity was also included. Social validity was evaluated using a survey created by the primary researcher (see Appendix E). The social validity survey was used to investigate if the participant experienced a positive change following training and if they had the opportunity to use the assertiveness skills in their own lives. Each survey question was scored on a five-point scale with a score of 5 indicating a positive evaluation.

Experimental Design

This study used a multiple baseline design across participants. Lacey and Ashley were run concurrently while Jason was run nonconcurrently. This single subject design is utilized when one behavior is being measured for two or more participants (Cooper et al., 2007). Jason entered the baseline phase of the study prior to participants Lacey and Ashley. Lacey and Ashley both began the baseline phase of the study at the same point in time, concurrent with session three for Jason. Jason began training after three baseline sessions showed stable responding. Following training, Jason entered into the post-training phase. Lacey stayed in baseline until her data was stable and then began training. Following training, Lacey began post-training, and when criterion was met during the

post-training assessment, Ashley began training. Following the completion of training, Ashley entered into the post-training phase of the study.

This design rules out threats to internal validity by showing that there is no change in behavior for any of the participants prior to the implementation of the intervention (Kazdin, 1982). The multiple baseline design across participants uses time series and replication logic to demonstrate a functional relationship between the intervention and the change in behavior. This design logic requires the use of prediction, replication, and verification. Once stable responding has been achieved during baseline, a prediction can be made that the behavior will continue at that same level if no intervention is put in place. After the intervention is introduced for the first participant, verification occurs when there are no changes in the level of baseline responding for the remaining participants (Cooper et al., 2007). Replication is observed when the intervention is introduced for the second participant, and a change in behavior is observed similar to that seen in the first participant. A functional relationship is shown in this design when change in behavior is seen only for the participant who has received the intervention and there is no change in the remaining participants' behavior (Cooper et al., 2007). Because Jason was run nonconcurrently there are some limitations that weaken the functional relationship in regards to his data. The nonconcurrent design, while weaker, is still acceptable when the more controlled concurrent design is not an option (Carr, 2005), as was the case with this study due to participant attrition. The nonconcurrent design is weak in the area of verification, however still controls for replication and prediction. The multiple baseline design controls for historical threats to validity, changes that will affect

all of the participants such as a change in the environment or a change with a researcher. Because the participants in this study had no direct interaction with each other a historical threat which cannot be controlled for with a nonconcurrent design was not a concern. The nonconcurrent design does control for threats from exposure, in this case exposure to the scenarios (Carr, 2005).

Procedure

Pre-Experimental Procedures

Prior to the first baseline session, the primary researcher met individually with each participant. Participants were informed that sessions would be videotaped to allow for the data to be scored by an independent observer at a later time. Informed consent was obtained during the initial session, and the schedule of the study was discussed with each participant. When informed consent was given, each participant immediately began the first baseline session.

Baseline

Each baseline session began with the primary researcher reading one of the three predetermined baseline assertiveness scenarios. The participant was directed to respond to the situation as naturally as possible. The primary researcher read the scenario then engaged the participant in a role-play scenario. The participant engaged with the primary researcher in the context of the role-play. Participants responded to two assertiveness scenarios during each baseline session. The first was a scenario that was identified for use during training, and the second was a scenario designated to assess generalization. No feedback on performance during the role-plays was provided during baseline. Baseline

data were collected for a minimum of three sessions or until stable responding was observed. Stability was determined via visual inspection of the graphical data. If a participant scored 60% or higher on both baseline role-plays during the first session, he or she was excluded from the study. One potential participant was excluded, and a new participant was selected from the waiting list.

Behavioral Skills Training

Training consisted of instruction, modeling, rehearsal, and feedback. During the first training session the benefits of assertiveness skills were briefly discussed with the participant. The participant was presented with written definitions of assertive, nonassertive, and aggressive behaviors. These definitions are identical to those used by the primary researcher to score assertive behaviors. Any questions the participant had regarding the definitions were addressed to ensure he or she had a solid understanding of the differences between assertive, nonassertive, and aggressive behaviors.

Following the instructions, the primary researcher read one of the training scenarios to the participant, and then played the video corresponding to that scenario. The video showed examples of non-assertive and aggressive behaviors followed by modeling of appropriate assertive behavior. The primary researcher paused the video after the demonstration of each type of behavior to explain why that behavior was assertive, nonassertive, or aggressive. Following the video model, the primary researcher again read the scenario aloud and asked the participant to practice responding in an assertive manner. The rehearsal component was an interaction between the primary researcher and participant. Following rehearsal, the primary researcher immediately provided praise and

identified the positive aspects of the participant's performance. If necessary, the primary researcher provided corrective feedback for any nonassertive or aggressive behaviors. As needed, the primary researcher modeled any behaviors that required correction, and the participant rehearsed the behaviors again. This process was repeated until the participant achieved a score of at least 80% on the Assertiveness Checklist for that role-play.

Following mastery of the first training scenario, a second scenario was presented in a similar fashion in the next training session. During the training session for the second and third scenarios, the session began with the primary researcher reading each scenario aloud. The participant and primary researcher role-played each scenario, and if the participant responded below the 80% criterion on the Assertiveness Checklist, behavioral skills training commenced for that scenario. Following BST, the scenario was presented and scored to determine if the participant met the 80% criterion. The video model, instructions, rehearsal, and feedback were provided as described above for the first scenario. The participant needed to meet the 80% criterion on the Assertiveness Checklist for all three training scenarios before proceeding to post-training.

Post-Training Assessment

Post-training assessments were conducted in a manner similar to baseline assessments. The participant was presented with one of the scenarios that was directly trained. The primary researcher then asked the participant to respond as naturally as possible during a role-play, and the participant's responses were scored using the Assertiveness Checklist. Each of the three trained scenarios was evaluated in a post-training session. If responding in one post-training assessment fell below 80%, the

primary researcher presented that scenario again during the next session. If responding fell below the 80% criterion for two sessions, the participant then received a brief booster training session that followed the behavioral skills training procedure described above. Following booster training, performance was reassessed under post-training assessment conditions.

Generalization

Generalization of assertive behaviors was evaluated using three untrained scenarios. Generalization probes were conducted in a manner similar to baseline assessment. The primary researcher read a scenario to the participant, and then commenced a role-play interaction. The participant's response was scored using the Assertiveness Checklist.

Social Validity Survey

In applied behavior analysis social validity is measured by asking the participant questions regarding their satisfaction with the intervention (Cooper et al., 2007). Questions should address relevance of the intervention, acceptability of the procedure, and value of any behavior change that occurred (Cooper et al., 2007). Therefore following completion of the last generalization probe, a survey evaluating the social validity of the study was given to each participant (see Appendix E). The survey contained seven questions on a five-point scale and addressed the social relevance of the training along with intended future use of the skills developed during the study. The survey also addressed if the participant was currently utilizing the skills and if they had felt any change in their level of assertiveness in a variety of social interactions.

Treatment Integrity

The independent observer also collected procedural reliability data for 29% of sessions in order to determine the fidelity with which the primary investigator implemented the procedures as specified. A treatment integrity checklist was used to determine treatment integrity (see Appendix F). Treatment integrity was assessed from the video recordings of the sessions. Treatment integrity was 100% and equally represented baseline, training and post-training sessions.

Data Analysis

Data from the Assertiveness Checklist was graphed for each participant, and visual inspection was used to evaluate the presence of a functional relationship. Single-subject experiments are evaluated using visual inspection, specifically an analysis of the trend, level, variability and immediacy of change observed in an individuals' data set. The stability of the behavior was determined by whether or not there was a trend in the data (Kazdin, 1982). For stable behavior there should be a consistent trend for a minimum of three data points. Trend refers to the slope of the line, and can be increasing, decreasing or steady. Variability in the data was also determined using visual analysis. Higher variability suggests a lack of experimental control (Cooper et al., 2007). Level was also assessed for each phase based on the mean of each participant's data. The greater the change in level between the baseline and intervention phases, the stronger the experimental control. The immediacy of change refers to how quickly the behavior changes once intervention is put into place. The more immediate the change, the stronger the experimental control. All of these components were a part of the visual analysis of the

collected and graphed data for each participant in order to determine efficacy of the intervention.

CHAPTER IV

RESULTS

Figure 1 shows the percentage of assertive behaviors demonstrated by each participant in baseline and post-training phases. Training and generalization scenarios were presented to each participant during each session and data was collected for each individual scenario. During baseline, each participant scored below the 60% exclusion criteria for both training and generalization scenarios.

Jason had mean scores of 20% of assertive behaviors for training scenarios and 16% for generalization scenarios during baseline sessions. Visual analysis showed a slight increase in scores during the second baseline session, but behavior stabilized prior to implementation of the intervention. Following BST, Jason had mean scores of 98% for both training and generalization scenarios during post-training sessions. Stable responding was observed in both baseline and post-training sessions and the change in level of responding occurred immediately following the implementation of BST (see Figure 1).

Lacey had mean scores of 36% of assertive behaviors for training scenarios and 42% for generalization scenarios during baseline sessions. Visual analysis showed an increase in scores between session one and two, however responding stabilized prior to the implementation of BST. Following BST, Lacey had mean scores of 94% for training scenarios and 87% for generalization scenarios during post-training sessions. A steady trend was present for the post-training sessions. During session six, the second post-training session, Lacey scored a 78% on the generalization scenario. No booster training

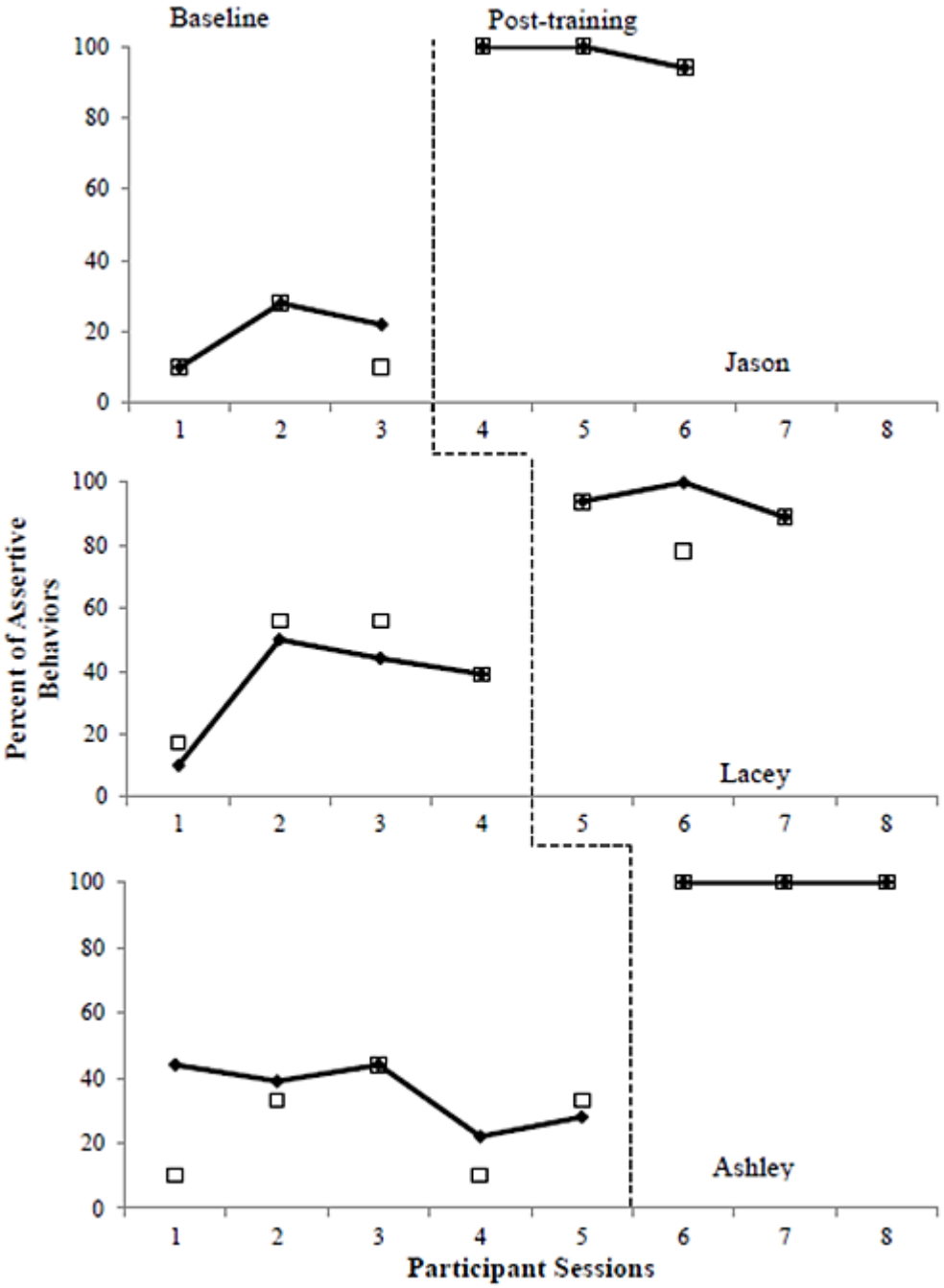

Figure 1. Participant data for baseline and post-training sessions. Closed data points are scenarios that were directly trained during training sessions. Open data points represent generalization probes.

was implemented since this was a generalization scenario and not a trained scenario. It should be noted that this score was still higher than when the same scenario was presented in baseline during session two. Stable responding occurred in both baseline and post-training sessions and the change in level of responding occurred immediately following the implementation of BST (see Figure 1).

Ashley had mean scores of 35% of assertive behaviors for training scenarios and 26% for generalization scenarios during baseline sessions. Visual analysis showed a decreasing trend was present during baseline sessions prior to the implementation of BST. Following BST, Lacey had mean scores of 100% for both training and generalization scenarios during post-training sessions. A steady trend was present for post-training sessions. Stable responding occurred in both baseline and post-training sessions and the change in level of responding occurred immediately following the implementation of BST (see Figure 1).

Scenarios presented during baseline sessions were as follows: session one, training Scenario 1 and generalization Scenario 1; session two, training Scenario 2 and generalization Scenario 2; session three, training Scenario 3 and generalization Scenario 3. This order was repeated from the beginning for baseline sessions four and five. Three post-training sessions occurred for each participant and those sessions used the same scenarios as the matching baseline session number.

Table 1 shows the assertiveness scores that were recorded during each training session. Baseline performance was used to determine the need for BST which is why Scenario 1 was not assessed during the first training session prior to BST. Each

participant scored 100% on Scenario 1 following the implementation of BST in the first training session.

Table 1

Assertiveness Scores During Training

Training Scenario	Prior to BST %	Post BST %
Jason		
1	-	100
2	94	-
3	100	-
Lacey		
1	-	100
2	50	100
3	56	94
Ashley		
1	-	100
2	100	-
3	56	100

During the second training session participants were presented with Scenarios 2 and 3 and scored with the Assertiveness Checklist prior to implementation of BST. Jason scored a 94% on Scenario 2 and 100% on Scenario 3. Because he scored above the 80% criterion BST was not implemented. Lacey scored a 50% on Scenario 2 and 56% on

Scenario 3 prior to the implementation of BST. Because Lacey scored below the 80% criterion BST was implemented. Following the implementation of BST Lacey scored a 100% on Scenario 2 and 94% on Scenario 3. Ashley scored 100% on Scenario 2 and 56% on Scenario 3. Ashely met the 80% criterion for Scenario 2 negating the need for BST. BST was only implemented for Scenario 3. Following BST on Scenario 3 Ashley scored 100%, surpassing the 80% criterion.

Table 2

Social Validity Results

Questions	Jason	Lacey	Ashley
I feel this training was helpful in learning to be assertive.	4	4	5
I have had the opportunity to use the skills from training in my everyday life.	Yes	Yes	Yes
I have become more assertive in social interactions with friends and family since starting this training	3	4	4
I have become more assertive in interactions with my professors, boss, or other individuals of authority.	4	3	4
I have become more assertive in interactions with strangers since starting this training.	4	4	4
I am more likely than prior to this study to stand up for my rights and opinions since starting this training.	3	4	4

Results of the social validity survey shown in Table 2 showed that all participants were in agreement with finding the training to be helpful in learning to be assertive. All three participants reported that they had the opportunity to utilize the skills from training in their everyday life. Table 2 illustrates the individual results of the social

validity survey. Other than question 2, which was a yes or no response, all questions used a five-point Likert scale: 1-strongly disagree, 2-disagree, 3-somewhat agree, 4-agree, 5-strongly agree. Overall results of the social validity survey show that the BST intervention was not only applicable to the lives of the participants, but that it also helped them to become more assertive in a variety of social situations.

CHAPTER V

DISCUSSION

The aim of this study was to teach several overt behaviors that comprise a repertoire of assertive behaviors. The results of this study support the hypothesis that BST can increase assertiveness skills in both college undergraduate and graduate students and that those skills generalize to novel scenarios. Results further support the hypothesis that students would evaluate the BST intervention positively. While most previous research on this topic used skills training and techniques similar to BST, those studies measured assertiveness as a covert behavior and utilized assertiveness scales to measure assertiveness as opposed to directly observing and measuring assertive behavior (Hammen et al., 1980; Lin et al., 2008). Results of Hammen et al. (1980), comparing a skills approach to a cognitive behavioral approach, showed that there was no need to directly address the cognitive aspects of assertiveness. The current research supports this assertion as demonstrated by the clear increase in overt assertive behaviors following BST, as well as the results of the social validity survey supporting that each participant had become more assertive since beginning training.

As described previously there is limited behavior analytic research regarding assertiveness training. Frederiksen et al. (1976) used social skills training, made up of the same components as BST, to effectively increase socially appropriate responses. Included in those responses were overt behaviors directly related to the overt behaviors used in the current study to measure assertiveness. Hersen and Bellack (1967) assessed the use of social skills training using the same set of components as BST to teach social skills to

individuals with schizophrenia. Included in those results was an increase in overall assertiveness. The current study fills this gap and shows that BST is an appropriate intervention for teaching assertiveness skills. As previously stated, there is a need for assertiveness skills within social situations (Alberti & Emmons, 2009). The current research provides a starting point for developing interventions to teach assertiveness skills.

Generalization

Generalization is when a behavior occurs in the absence of direct reinforcement and is comprised of three general areas: response maintenance, setting/situation generalization, and response generalization (Cooper et al., 2007). Setting/situation generalization is said to occur when the trained behavior occurs in a setting or stimulus situation that was not directly trained (Cooper et al., 2007). In the current study setting/situation generalization was addressed because each change in scenario presented a change in the stimulus situation. Response generalization occurs when the participant emits responses that are functionally equivalent to the original response but that were not directly trained (Cooper et al., 2007). In the current study the topography of the behavior changed with each different scenario that was presented. For example the verbal response given by the participant was not same for each scenario, but when it remained assertive then the response was functionally equivalent and showed response generalization. Response maintenance is the extent to which the participant is able to use the learned skills once the intervention has stopped (Cooper et al., 2007). For the current study this would have been measured using a follow-up procedure; presenting each participant with

a training scenario and a generalization scenario four-six weeks after the final probe. Because no follow-up was conducted, response maintenance was not evaluated.

All three participants responded well to training and met the 80% mastery criterion in two training sessions. Novel scenarios were presented to directly measure setting/situation generalization. These generalization scenarios were presented during baseline as well as post-training, but never during direct training sessions. Response generalization was also observed for two out of three participants during the second training session. Response generalization with training Scenarios 2 and 3 occurred for Jason following the initial training session. Jason scored at the appropriate assertive level with Scenarios 2 and 3 by providing responses functionally equivalent to those trained in the first training session. Assertive responses with training Scenario 2 were observed for Ashley during the second training session. Assertive responses did not generalize to training Scenario 3, which resulted in the implementation of BST during the second training session with Ashley. Lacey required direct training on all three training scenarios. Generalization to novel scenarios was observed following training for Lacey and Ashley in all three post-training sessions.

Following the presentation of the assertiveness definitions, Jason verbally stated that he commonly displayed nonassertive behaviors. This ability to self-evaluate may have played a role in how effectively Jason was able to demonstrate assertive behaviors. Jason was able to observe his own behavior and compare it directly to the assertiveness definitions and as such was able to evaluate his performance and make the necessary changes. Since Jason already had this skill in his repertoire he was able to quickly and

effectively make the changes to display assertive behavior once he was aware of the definitions.

On generalization Scenario 2, presented during post-training, Lacey scored a 78% on the Assertiveness checklist, which was slightly below the 80% mastery criterion. Due to the fact that this lower score was on a generalization scenario, no booster training was provided. Lacey was fidgeting, playing with her hair and was overly explanatory in her reasoning for not going home for a visit resulting in nonassertive scores on posture and conversation content. Generalization was not observed for posture and conversation content. This may be because for Lacey the scenario involving parents was too different from the scenarios used in training and did not evoke the full assertive responses. Generalization scenarios included scenarios with an adviser, a parent, and a friend while training scenarios all involved interactions with peers. This may have played a role in the lower score for generalization Scenario 2 with Lacey. During baseline Lacey scored a 56% on generalization Scenario 2. Even though the post-training score was lower than other scenarios it was still higher than during baseline. This showed that Lacey was able to generalize some assertive behaviors to the scenario. Training Scenario 2 was also presented during the same session and Lacey scored 100%. This shows that most likely the low score was attributed to the scenario itself and not to an external variable.

A different stimulus situation was presented with each novel scenario used. However scenarios were always presented in the same setting and involved the primary researcher, a female graduate student. It is unknown how well the assertiveness skills generalized to situations beyond what was presented as a part of this study. To promote

generalization multiple researchers could have been used to present different genders, and ages. Also utilizing different environments would help to promote generalization. This would have increased the setting/situation generalization. According to the social validity survey, all participants agreed that they had become more assertive in social interactions. This indicates that the participants themselves were able to self-monitor and observe themselves utilizing the assertiveness skills in different situations presented in their natural environment. Without the inclusion of in-situ training the level of assertiveness is unknown.

Previous research on BST has often included in-situ training to develop skills, promote generalization, or as a way of assessing the generalization of skills during follow up procedures (e.g., Johnson et al., 2005; Jostad, Miltenberger, Kelso & Knudson, 2008; Miltenberger et al., 1999; Miltenberger et al., 2005; Miltenberger et al., 2004; Vanselow & Hanley, 2014). In-situ training involves assessment of a skill in the natural environment (Miltenberger, 2012). Independent adults volunteered for the current study and there was no way for the researcher to set up training or assessments in the natural environment of each participant, which is why in-situ training was not included in the current study. While results showed that generalization of the skills to novel scenarios did occur, the environment in which the novel scenarios were presented did not change. As previously mentioned, response maintenance is unknown because no follow-up assessments were completed, so it is not known if the use of assertiveness skills was continued beyond the completion of the current study. The use of in-situ training paired with BST has been shown to increase scores for follow-up assessments at three months

when compared to individuals who only received BST (Johnson et al., 2006). This previous research involving abduction prevention for young children, showed that at the one week assessment BST was slightly higher than in-situ but at the three month assessment a significant difference was noted between BST alone and BST with in-situ training (Johnson et al., 2006). Future research should not only include a follow-up to determine response maintenance but a direct comparison to BST with in-situ training should also be conducted to determine if in-situ training should be included when teaching assertiveness skills.

Social Validity

Results of the social validity survey showed that all participants found BST to be helpful in learning to be assertive. Results also showed that each participant was able to utilize the skills outside of the study and that they found themselves to be more assertive during various social interactions. The scenarios used for the study were developed by the primary researcher, a graduate student, and were based on similar scenarios presented by Alberti and Emmons (2009). The scenarios were created to represent a variety of social interactions where a college student would find the need to be assertive. It was observed, over the course of the study, that some of the scenarios were interpreted differently than intended by the undergraduate participants. For example with training scenario 2, Lacey and Ashley, both interpreted this scenario to mean that the group member had not finished an assigned portion of work. The primary researcher intended this scenario to be interpreted as a group member not contributing as much effort as other members. This did not have any effect on the study nor the rating of assertive behaviors. For this study

the specific position taken by the participants in response to the scenario presented was irrelevant. As long as the participant chose and voiced a position the interaction was considered assertive for the behavior of statement of purpose. As mentioned previously, the scenarios used for training were situations involving a peer: a roommate, significant other, or fellow student. While all of these involved a peer, the relationships are all very different, which strengthens the social validity of the study. Having training on scenarios that incorporate a variety of relationships increases the relevance of the training by providing participants with training on relationships that they are likely to have as a college student. Both female undergraduate students verbally identified the need for training on training Scenario 3 (a boyfriend/girlfriend who drinks too much) during the second training session, and stated that the situation was one they were currently experiencing and would like help with. This speaks to the social validity of the study showing that the intervention was relevant and needed in the personal lives of the participants.

Limitations and Future Research

The observation system used for the current study was difficult to train which may be a potential limitation. IOA was collected across all participants and during baseline and post-training phases of the study. On two different occasions IOA dropped below the 80% criterion and booster training was implemented. While IOA did increase following each of the booster training sessions the need for two booster training sessions is a possible limitation of the study. The low IOA may be the result of ambiguity in the assertiveness definitions and the fact that nine behaviors were being observed during each

scenario. Disagreements tended to occur when the behavior was given a rating of 1, and the behavior occurred for only a portion of the role-play. For example, during baseline sessions Jason hesitated before speaking following a response provided by the primary researcher. The primary researcher scored the behavior a 1 because, even though Jason hesitated, he still spoke and interacted. The independent observer scored the behavior as a 0 because the hesitation was longer than just a moment of hesitation. Both observers agreed that the behavior was nonassertive, but the degree to which the behavior was nonassertive became a disagreement. Trial-by-trial IOA was used and perhaps if total IOA was used there would not have been a need for booster training. Clarity of the assertiveness definitions should be addressed in future research. Also a consideration for future research would be to train only three behaviors at one time. Limiting the amount of behaviors observed will reduce threats to accuracy that come with observing several behaviors at one time (Cooper et al., 2007).

Another potential limitation to the current study was that participants displayed nonassertive behaviors during baseline sessions with one exception. During generalization Scenario 3, Lacey displayed aggressive behavior for statement of purpose. The lack of aggressive behaviors demonstrated during baseline make it impossible to determine if BST is effective in teaching assertiveness skills in social situations to a person demonstrating aggressive behavior. McCulley (2014) used BST to teach assertiveness skills to college students during condom negotiation. That study included one aggressive participant who was able to lean and apply assertiveness skills following BST (McCulley 2014). While further research is needed, those results indicate that BST

is successful in teaching assertiveness skills to individuals displaying aggressive behavior.

Attrition was a difficulty faced in the current study and may be a concern for future use of the intervention. Two participants that began the study cancelled their second sessions and did not contact the primary researcher right away to withdrawal from the study. One participant actually went multiple weeks without contacting the primary investigator and then did not respond to attempts to reschedule. This may be due to the nonassertive nature of the participants. Perhaps the one participant was not assertive enough to let the primary researcher know that she did not want to continue the study. This individual was also an undergraduate student and attrition is not uncommon within this population. This was a limitation because it resulted in the need to recruit more participants and a nonconcurrent baseline design. Using independent adults as the population of the study may have played a role in attrition. Perhaps the individuals who dropped out of the study were not assertive enough to attend sessions and interact with the primary research. Various factors are often responsible for attrition and the length of this study did require a large time commitment and that should not be ruled out as a contributing factor.

The lack of training scenarios involving parents and persons of authority may also be a limitation to the study. For these participants it only seemed to have affected the generalization for Lacey. With different participants, however, the lack of training scenarios involving parents, and authority figures may have a greater effect. Future research should address this by making sure that training scenarios include family

members and persons of authority. Another option for future research would be to tailor the training to the individual. Participants could identify a specific area that they would like to receive training, and this would also strengthen the social validity of the intervention. Another potential limitation could be found in the scenarios themselves. As previously mentioned, at times the participants interpreted the scenarios differently than the primary researcher intended. Leaving the scenarios open for interpretation could result in uncertainty on the part of the participant. Uncertainty could manifest in the form of nonassertive behavior and affect the baseline levels for participants. Future research could account for this by using more specific scenarios.

Future research should replicate and extend the current study in an attempt to strengthen external validity. Also other populations should be included as participants, particularly individuals who display aggressive behaviors. As the need for assertiveness has been established, future research could evaluate BST in small group settings in an attempt to determine if BST could be used as a training program for teaching assertiveness skills. Himle, Miltenberger, Gatheridge and Flessner (2004) found that BST was effective with a small group of 2-5 children when used to teach gun safety skills. Shayne and Miltenberger (2013) used BST to teach foster parents how to perform a functional assessment. The BST technique that was used was implemented in a group setting, groups were kept small with three parents in one group and six parents in another group the intervention was found to be successful in teaching foster parents the skill of performing a functional assessment (Shayne & Miltenberger, 2013). The use of BST in a group setting would be beneficial because it would provide more individuals in which to

interact during the rehearsal portion of the BST. This would also help with generalization because the skill would be developed with a variety of individuals. Having the opportunity to role-play with various individuals will provide each individual with training involving multiple people. This will provide multiple stimulus situations and will enhance generalization following the completion of training. Using a group setting would also be more economical and cost effective. If significant results are found using a group setting then there would be the potential to use BST as a training program for assertiveness in the workplace, or a school setting.

The current study was able to determine that BST was effective in teaching assertiveness skills to college students in a variety of social interactions. Generalization occurred to novel scenarios that were presented to participants. Participants also reported that not only was the intervention helpful but they also found themselves more assertive in social interactions. This study shows that when assertiveness is defined as a set of skills it is possible to teach those skills to individuals who display nonassertive behaviors. Both male and female participants were equally responsive to BST and all participants scored above the 80% criterion during all post-training sessions for trained scenarios. Not only was the study successful but the need for assertiveness demonstrates that a socially significant intervention was identified.

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APPENDIXES

Appendix A

Scenarios

Baseline/Training Scenarios

1. Your roommate asks you to go to a party but you don't want to go.
2. You are working on a group project and another member is not doing his/her part while sitting at a work table you address your concerns.
3. Your boyfriend/girlfriend gets drunk every weekend and it is starting to take a toll on your relationship. You approach your boyfriend/girlfriend while they are sitting at the kitchen table.

Generalization Scenarios

1. Your academic advisor recommends that you take a class that you would rather not take.
2. Your parents ask you to come home for the weekend but you would rather stay in Ellensburg.
3. You drive to a party with a friend who gets bored and wants to leave, but you aren't ready to go.

Appendix B

Video Model Scripts

1. *Your roommate asks you to go to a party but you don't want to go*. Model was a female interacting with another female (roommate)

Nonassertive:

Roommate: Hey you're coming to the party with me tonight right?

Model: Do you really need me to go with you?

Roommate: Yeah that the guy I really like is going to be there so I need you with me.

Model: I don't know…

Roommate: Come on you owe me.

Model: Well if it's that important to you I guess I can change my plans.

Roommate: Thanks! Be ready at 9.

Model: Ok

Aggressive:

Roommate: You're coming to the party with me tonight right?

Model: No

Roommate: But that guy I really like is gonna be there and I really need you with me?

Model: (cuts off, drops notebook) I already said no (stands up) Your friends are stupid I'm not going with you. (walks away)

Assertive:

Roommate: Hey my friends throwing this party tonight do you want to come with me?

Model: I don't think I would know anybody there so I would rather not go.

Roommate: But it will be really fun

Model: I don't think I'm going to go tonight, but maybe we could do something fun next weekend.

Roommate: Alright I guess I'll go by myself but let's definitely do something fun next weekend.

Model: Okay sounds good.

2. *You are working on a group project and another member is not doing his/her part (sitting at a table)* Model was a male interacting with a female group member.

Nonassertive:

Model: Hey umm Katie I was wondering if we could talk about our responsibilities for this project.

Group member: What's up?

Model: Well I'm just wondering do you think that you are doing your part?

Group member: Yeah I'm working on the part that I was given

Model: Oh okay then I guess that's fine.

Group member: Okay I'll see you at our next meeting.

Model: Yeah see ya.

Aggressive:

Model: (Sitting on table) Katie you're not doing your part on this project.

Group member: Yes I am, I'm just a little behind.

Model: (cuts off) No, you know, you said you were gonna get it done yesterday and you didn't get it done! If you don't get it together then we are gonna have to kick you out of this group.

Group member: Ok I'll try to get it done by then.

Model: I knew this was going to be a problem when you show up late for class every day. It just says what type of person you are.

Assertive:

Model: Hey Katie I wanted to talk about our responsibilities for this project.

Group member: What's up?

Model: Well we decided the other day that we were gonna have the first section done and it doesn't seem like you are as far on it as you said you would be.

Group member: Well I've been really busy.

Model: Yeah definitely I get really busy too but if you need some help do you think you can ask someone else in the group and we can help you get it done?

Group member: No, I'm sorry I should have had it done I'll get it done soon.

Model: Ok do you think you can get it done by noon?

Group member: Yeah I can do that.

Model: Alright, awesome thanks. If you need any help just ask.

3. *Your boyfriend/girlfriend gets drunk every weekend and it is starting to take a toll on your relationship you approach your boyfriend/girlfriend while they are sitting at the kitchen table*. Model was female interacting with a male (boyfriend)

Nonassertive:

Model: So are you drinking tonight?

Boyfriend: Well yeah it's Saturday.

Model: Yeah well but don't you think you have been drinking a lot lately?

Boyfriend: No we're in college this is what we are supposed to do.

Model: Okay, yeah I guess you're right.

Aggressive:

Model: (walks up to table and grabs bottle) I see you're drinking already.

Boyfriend: What's that supposed to mean?

Model: It means you drink all the time and never want to spend time with me.

Boyfriend: That's not true we spend time together.

Model: (Start talking while J is still talking) No you're a drunken asshole an you never want to spend time with me, I think you need to stop drinking or we need to break up.

Boyfriend: Fine

Assertive:

Model: Can I talk to you about something?

Boyfriend: Yeah sure

Model: It seems like you have been drinking a lot lately

Boyfriend: I don't think so I just drink on the weekends.

Model: Well yeah but you are drinking a lot and it's taking a toll on our relationship.

Boyfriend: Don't be ridiculous

Model: I'm not; I'm just telling you how I feel, and I just think you should drink less so we can spend more time together on weekends.

Boyfriend: Well I guess I can drink less and we can spend more time together.

Model: Thanks, that means a lot.

Appendix C

Assertiveness Definitions

1. **Eye Contact**
   - 0 Does not look at person while speaking; looks down or away
   - 1 Most of the time a relaxed steady gaze, looks down or away more than at other person
   - 2 Relaxed, steady gaze occasionally looking away
   - 1 Most of the time relaxed steady gaze, occasionally glares or stares into space
   - 0 Glares at other person during interaction or stares into space showing lack of interest in interaction, stares directly at the other person throughout entire interaction

2. **Facial Expression**
   - 0 Constant smiling or laughing, biting or wetting lips, swallowing or clearing throat excessively, or tensing and wrinkling face
   - 1 Open and relaxed during most of interaction, occasionally emits behaviors as noted above
   - 2 Remains relaxed, appears comfortable and attentive matches what the messages says
   - 1 Open and relaxed during most of interaction, occasionally emits behaviors as noted below
   - 0 Clenching teeth, flaring nostrils, jutting jaws, or pursed, tight-lipped mouth

3. **Posture**
   - 0 Covers mouth or face with hand, excessive head nodding, fidgets with objects or self, constant shifting of weight, shoulders not symmetrical with body, or rubbing hands
   - 1 Erect and relaxed during most of interaction, occasionally emits behaviors as noted above
   - 2 Body erect and relaxed, appears well-balanced
   - 1 Erect and relaxed during most of interaction, occasionally emits behaviors as noted below
   - 0 Pounding fists, stiff and rigid, finger or hand waving or pointing, shaking head to express disapproval, or hands on hips

4. **Voice**
   - 0 Overly soft, slow, or says nothing
   - 1 Firm and audible most of interaction, occasionally overly soft, slow or says nothing
   - 2 Firm and audible
   - 1 Firm and audible most of interaction, occasionally overly loud or rapid

0 Overly loud and rapid

5. **Speech**
   0 Whiny, monotonous affect, mumbles or is hesitant
   1 Clear and expressive during most of interaction, occasionally emits behaviors as noted above
   2 Expressive, clear, emphasizes key words
   1 Clear and expressive during most of interaction, occasionally emits behaviors as noted below
   0 Sarcastic or condescending

6. **Calm**
   0 Does not take control of situation, reacts excessively calmly
   1 Attempts to take control of situation, but eventually lets other person control the interaction
   2 Firm and in control of the situation/interaction
   1 Intermittently out of control, but eventually acts rationally
   0 Yells, argues, becomes hostile or out of control during interaction

7. **Respectful**
   2 Listens intently to other person during interaction
   1 Belittles or cuts off other person, but eventually apologizes or attempts to make amends
   0 Belittles other person or cuts person off during interaction

8. **Statement of Purpose**
   0 Does not take a position
   1 Expresses position, but not explicitly stated, may give in to others position without a compromise
   2 Position direct and to the point, explicitly stated maintains position throughout but may come to a compromise
   1 Expresses position yet attempts to push position on other individual
   0 Pushes position on others, expects others involved to conform to their position.

9. **Conversation Content**
   0 Ambiguous, interacts evasively thus avoiding conflict
   1 Clear content but overly explanatory during interactions, makes justifications
   2 Firm and to the point not evasive nor overly explanatory
   1 Clear content but brings up unrelated issues/feelings
   0 Veers off track and brings in outside unrelated emotions or examples

Appendix D

Assertiveness Checklist

Participant # _____ **Observer:** _____

Date _____ _____

Phase BL TX PT GEN

Scenario _____

Behaviors	Non Assertive		Assertive		Aggressive
1. **Eye Contact** - Comfortably direct throughout conversation, occasionally looks away	0	1	2	1	0
2. **Facial Expression** - Open and relaxed	0	1	2	1	0
3. **Posture** - Body erect and relaxed	0	1	2	1	0
4. **Voice** - Audible, firm	0	1	2	1	0
5. **Speech** -Clear, emphasizing key words, expressive	0	1	2	1	0
6. **Calm** - Remains in control during conversation, firm in position	0	1	2	1	0
7. **Respectful** - Doesn't belittle or cut off other during conversation			2	1	0
8. **Purpose Stated** - Position direct and to the point	0	1	2	1	0
9. **Conversation Content** - To point, not evasive or over explanatory	0	1	2	1	0
TOTAL	_____	_____	_____	_____	_____

Source: Project 12-Ways, (2007), *Assertiveness. Carbondale, IL: Project 12-Ways.*

Appendix E

Social Validity Survey

Participant # _____

Please read the following statements and indicate the extent to which you agree or disagree. Please circle one of the corresponding numbers that best fits with your feelings.

1. I feel this training was helpful in learning to be assertive.

Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

2. I have had the opportunity to use the skills from training in my everyday life. (Continue only if answer is yes)

Yes	No

3. I have become more assertive in social interactions with friends and family since starting this training.

Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

4. I have become more assertive in interactions with my professors, boss or other individuals of authority.

Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

5. I have become more assertive in interactions with strangers since starting this training.

Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

6. I am more likely than prior to this study to stand up for my rights and opinions since starting this training.

Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5

Appendix F

Treatment Integrity Checklist: Baseline/Post Training

Session:				
Training scenario is read				
Primary researcher engages in role-play				
No feedback is given				
Probe scenario is read				
Primary researcher engages in second role-play				
No feedback is given				
During post training if the response is less than 80% the scenario is read a second time.				
If response is still less than 80% a booster training is implemented.				
Total:				
Percentage:				

Percentage is calculated by dividing the total + by the total of + and -.

Treatment Integrity Checklist: Training

Session:				
In the first training session benefits of assertiveness are discussed.				
The participant is presented with the assertiveness definitions and given time to read them				
The participant is given the opportunity to ask questions and receive clarification				
A training scenario is read each session a new scenario should be read				
The corresponding video is played				
The video is paused after each type of behavior is modeled				
The PI explains why the behavior is assertive, nonassertive, or aggressive				
The scenario is again read aloud and the participant is asked to practice responding in an assertive manner				
The PI interacts with the participant at this point for the rehearsal portion				
Following rehearsal immediate praise is delivered and positive aspects of the participants behavior are identified				
If necessary corrective feedback is provided				
Additional modeling, rehearsal and feedback are provided as needed until 80% mastery is achieved				
Total:				
Percentage:				

Percentage is calculated by dividing the total + by the total of + and -.