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THE EFFECTS OF A SUPPORTIVE COMMUNICATION TRAINING WORKSHOP ON THE VERBAL BEHAVIOR OF BEHAVIOR ANALYSTS

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ABSTRACT: This study evaluated the effectiveness of a workshop designed to train behavior analysts to use supportive verbal behavior during distressing situations. Participants were trained to provide descriptive, empathetic and hopeful statements using instructions, rationales, modeling, roleplay, feedback, and rehearsal. A pre-post design was used to analyze the effects of the training on verbal and non-verbal behaviors of four females during simulation scenarios. Results indicate all four participants provided maximum support statements above pre-training levels during post-training simulation and written assessments. The importance of behavior analysts engaging in supportive behavior, as well as the difficulties involved in measuring constructs such as intent and timing of verbal responses, is discussed.
KEYWORDS: supportive communication, comforting communication, person-centered communication, communication training

Behavior analysts frequently work with populations that experience aversive stimulation, such as parents of children with autism, parents involved in the court system, and parents of children with behavior problems. These populations seek

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the services of behavior analysts to provide alleviation from aversive situations and access to positive stimulation. In most cases, the sources of distress are outside of the direct influence of the behavior analyst and there is no immediate solution, such as when one learns of the loss of a loved one, the diagnosis of a child with a developmental disability, the diagnosis of a loved one with a terminal illness, the infidelity of a marital partner, the loss of a significant other, the loss of one's employment, or when one is going through a divorce, a change of employment, or a break-up with a significant other. These are not situations that require the behavior analyst to begin conflict resolution, but rather to provide support. In situations like these clients may exhibit behaviors associated with emotional distress that could hinder their involvement in the intervention process. The behavior analyst's ability to provide support to the client and presumably lessen these behaviors would be beneficial for both parties as it may facilitate the process of client participation as well as strengthen the relationship between the client and the behavior analyst (Burleson, 1994b; Burleson & MacGeorge, 2002; Burleson & Samter, 1996; Burleson, Samter, Jones, Kunkel, Holmstrom, Mortenson, & MacGeorge, 2005; Miller, Benefield, Tonigan, 1993; Schwarzer & Leppin, 1992).

In general, supportive communication refers to verbal behaviors such as describing the discomfort an individual is experiencing (e.g., "It must be heartbreaking to hear your child has been diagnosed with autism"), or empathizing with the individual (e.g., "I know how hard it is to accept your child has been diagnosed with autism; I still remember how crushed I felt when I learned my son's diagnosis"), and non-verbal behaviors such as maintaining eye contact with the distressed individual and maintaining a close proximity to the distressed individual. The goal of supportive verbal behavior is to alleviate or lessen the emotional upset of a distressed individual (Burleson & MacGeorge, 2002; IFRC, 2009). Supportive communication skills could presumably help the behavior analyst reduce client behaviors associated with emotional distress, such as crying, trembling, screaming, wailing, etc., so that they may fully participate in the process of developing the treatment goals and implementing the intervention as studies have shown that receiving effective support can enhance task performance under stressful conditions (Burleson & MacGeorge, 2002; Pierce, Sarason, & Sarason, 1996; Tardy, 1994), reduce client resistance (Miller, Benefield, Tonigan, 1993), and has been found to be predictive of therapist effectiveness with alcoholics (Miller, Benefield, Tonigan, 1993).

The positive effects of supportive interactions and supportive relationships on the health and well being of humans has been documented through correlational studies suggesting high levels of support and improved coping with unpleasant

events (e.g., Burleson, 2003; Burleson & MacGeorge, 2002; Burleson et. al., 2005), improved resistance to and recovery from diseases (e.g., Burleson & MacGeorge, 2002; Burleson et. al., 2005; Cohen, 2001) reduced mortality rates (e.g., Berkman, 1995; Burleson & MacGeorge, 2002; Burleson et. al., 2005), enhanced alleviation from emotional stress (e.g., Burleson, 2003; Burleson & MacGeorge, 2002; SM Jones & Guerrero, 2001), increased psychological adjustment (e.g., Burleson & MacGeorge, 2002; Burleson et. al., 2005; Krause, Liang & Yatomi, 1989), and enhanced task performance under stressful conditions (e.g., Burleson & MacGeorge, 2002; Tardy, 1994; Pierce, Sarason, & Sarason, 1996). In contrast, low levels of support are correlated with an increased risk of depression, suicide, and other mental health problems (e.g., Burleson & MacGeorge, 2002; Biegel, McCardle, & Mendelson, 1985; Leppin & Schwarzer, 1990; Schwarzer & Leppin, 1992), as well as decreased resistance to and recovery from infectious diseases, heart attacks, strokes, and cancers (e.g., Berkman, 1995; Berkman & Syme, 1979; Burleson & MacGeorge, 2002; Cohen, 2001; Cohen, Gottlieb, & Underwood, 2000).

Previous researchers have categorized supportive messages into a hierarchy of three types of strategies: maximum support strategies, minimum support strategies and no support strategies (Applegate, 1978, 1980a, 1980b; Applegate & Delia, 1980; Burleson, 1982, 1994a). Maximum support strategies include *descriptive* statements, *empathetic* statements, and *hopeful* statements. Minimal supportive statements include *diversion* statements, *absolving* statements, and *sympathetic* statements. Non-supportive statements include *blaming* statements, *skeptical* statements, and *commanding* statements.

The validity of this hierarchal approach to the analysis of comforting strategies has been established in numerous investigations designed to assess recipient preferences for emotional support messages (e.g., Burleson & MacGeorge, 2002; Burleson & Samter, 1985a, Study 1; Burleson et. al., 2005; Caplan & Samter, 1999; Cutrona, & Suhr, 1994). These investigations utilized various methods to present comforting messages to participants for their evaluation, such as actual comforting episodes (e.g., Burleson & MacGeorge, 2002; Burleson et. al., 2005; SM Jones & Guerrero, 2001; Tardy, 1994), videotapes of semi-natural comforting interactions between pairs of participants (e.g., Burleson & MacGeorge, 2002; Burleson & Samter, 1985a, Study 1; Burleson et. al., 2005), constructed conversations (e.g., Burleson & MacGeorge, 2002; Burleson et. al., 2005; Caplan & Samter, 1999), interviews and questionnaires (e.g., Burleson & MacGeorge, 2002; Burleson et. al., 2005; Dakof & Taylor, 1990). Further studies have assessed the effects of supportive strategies

on the emotional arousal of participants using multi-method assessments involving self-report and physiological indices (Shenk & Fruzztti, 2007).

Across these studies participants consistently reported that maximum support messages provided the most alleviation of emotional distress (e.g., Burleson & Samter, 1985a; Burleson et al., 2005; SM Jones & Burleson, 2003; SM Jones & Guerrero, 2001), assistance with management of acute grief (e.g., Angell, 1998; Burleson et. al., 2005), assistance in adjustment to the loss of loved ones (e.g., Burleson et. al., 2005; Kunkel & Dennis, 2003), enhanced interpersonal liking of and attraction to their support providers (e.g., Burleson et. al., 2005; Holstrom & Burleson, 2004), promoted positive relationships with support providers (e.g., Burleson et. al., 2005; SM Jones, 2004; Xu & Burleson, 2001), and enhanced relationship satisfaction with support providers (e.g., Burleson, 1994b; Burleson & Samter, 1996; Burleson et. al., 2005). Further studies have shown participants receiving supportive communication report significantly less negative affect, heart rate and skin conductance when compared to participants receiving non-supportive communication (Shenk & Fruzzetti, 2007). These findings have been extended to diverse samples, including men and women (e.g., Burleson et. al., 2005; SM Jones & Burleson, 1997; Kunkel & Burleson, 1999) and individuals from multiple ethnic groups in the United States (e.g., Burleson & Mortenson, 2003; Burleson et. al., 2005; Samter, Whaley, Mortenson & Burleson, 1997), and other countries, such as China (e.g., Burleson & Mortenson, 2003; Burleson et. al., 2005).

Research has addressed various methods to increase communication between adults (e.g., Carlson, 1974; Frankel, 1971; FH Jones & Miller, 1971, 1974; Levine & Tilker, 1974). Numerous studies have shown the superiority of multi-component treatment packages, packages that combine multiple training methods, in producing reliable improvements in trainee skills (e.g., Isaacs, Embry, & Baer, 1982; Iwata, Wong, Riordan, Dorsey, & Lau, 1982; Kohr, Parrish, Neef, Driessen, & Hallinan, 1988). Typical multi-component training packages have included verbal instruction, providing rationale, modeling, role-play, feedback, and rehearsal. For example, Isaacs, Embry and Baer (1982) evaluated a training program utilizing a written manual, videotaped models, rehearsals, role-plays, and performance feedback to teach five subjects training skills for effective family therapy. This study demonstrated increases in all target skills for all therapists, parents and children involved. Iwata, Wong, Riordan, Dorsey and Lau (1982) implemented and assessed a training program utilizing instruction, modeling, role-play, feedback and rehearsal to train clinical interviewing skills to university students. The results of this study showed improvements in the number of interviews completed and a high level of maintenance at a four-month follow-up

check. Kohr, Parrish, Neef, Driessen, & Hallinan (1988) evaluated a similar training program employing instructions, rationales, modeling, role-play, feedback, and rehearsal to train communication skills to parents. This study targeted specific communication skills required for communicating with medical professionals. The results of this study showed that each parent acquired the targeted skills during simulated conferences and that the skills generalized to actual conferences. The results of these studies suggest that these training procedures are effective to promote acquisition and generalization of targeted communication skills.

The present study was designed to assess the effectiveness of a workshop utilizing verbal instruction, rationale, modeling, role-play, feedback, and rehearsal to train behavior analysts to provide maximum support statements in situations where an individual is experiencing emotional distress that is neither under the control of, nor caused by, the behavior analyst. This study attempted to extend the literature by modifying previous observation codes (e.g., Applegate, 1978, 1980a, 1980b; Applegate & Delia, 1980) to employ more generally observable behaviors and by extending procedures described by previous researchers (e.g., Isaacs Embry and Baer, 1982; Iwata et. al., 1982; Kohr et. al., 1988) to distressing situations with autism intervention professionals in training. The training in this study is part of a larger series of training experiences for behavioral clinicians and for that reason entry-level role-plays focused on scenarios that were likely to include authentic empathy responses, such as encountering a distressed relative, friend, or significant other. The role plays utilized in this study were designed in keeping with the literature recommending the use of highly emotional role-plays for the assessment of communication skills training workshops' effectiveness (Razavi, Delvaux, Marchal, De Cock, Farvacques, & Slachmuylder, 2000).

Method

Participants

Four female graduate students between the ages of 20 and 33 volunteered to participate. All participants were employed working with parents of children with special needs, and all were currently enrolled in the same master's degree program in the department of behavior analysis.

Participant one had received her bachelor's degree in psychology, and her previous work experience included working in a mental health insurance company, a day care and a grocery store. During her employment with the mental health company she was in contact with and involved in referrals for people in

distress. At the time of the study she was working with children with autism and their parents.

Participant two had received her bachelor's degree in behavior analysis, and her previous work experience included information design and service positions. She had some professional experience comforting others through her work with families of children with special needs; however she had no specific experience with being comforted. She received role-playing and simulation training during her undergraduate classes, graduate classes, and her thesis project, which was comprised of multiple role-plays related to communication skills between parents of children with special needs and school professionals.

Participant three had received her bachelor's degree in psychology, and her previous work experience included working in a university visitor's center where she dealt with various students and their families. At the time of the study she was working with children with autism and their parents where she gained experience comforting others, as well as conducting simulation training in the form of role-plays.

Participant four had received her bachelor's degree in psychology with a minor in family studies, human development and sociology. Her previous work experience included working with children with autism and their families, as well as training parents who had been referred by the court system. Through her work with parent training she gained experience comforting others as well as extensive experience conducting simulation training in the form of role-plays. She received specific experience being comforted through her participation in family and individual therapy sessions.

Setting

The training workshops were conducted in a conference room located on the university campus. The room included a large conference table, multiple chairs and three large windows. The workshops were conducted in a one-on-one manner involving only the trainer and trainee.

Assessments were conducted in the same conference room with two observers present, each located in front of the participant, one to the left and the other to the right.

Materials

Workshop materials included a paper training guide as well as picture and video examples displayed on a laptop computer. Paper questionnaires were

completed by each participant before and after the workshop to collect data for further analysis.

Measures

Verbal behaviors. The measurement system used to assess the type of supportive communication strategy verbalized by the participants was a modified version of Applegate's nine-point coding system (Applegate, 1978). Three major types of statements: non-supportive statements, minimal supportive statements, and maximum supportive statements were scored. Maximum supportive statements include *descriptive* statements, *empathetic* statements, and *hopeful* statements. Minimal supportive statements include *diversion* statements, *absolving* statements, and *sympathetic* statements. Non-supportive statements include *blaming* statements, *skeptical* statements, and *commanding* statements. The present study coded only the three major types of statements: no support, minimum support, and maximum support.

Non-verbal behaviors. Non-verbal behaviors were limited to eye contact, touch, close proximity, body orientation and forward lean. These behaviors were chosen from those specified as enhancing the support process in the literature (Anderson, 1985; 1998; Angell, 1998; IFRC, 2009).

Observers were individually trained using mock video role-plays to practice scoring. Training was conducted over two consecutive hours and ended after the observer correctly coded three consecutive role-plays without rewinding, stopping, or pausing, the videos. Measurements of verbal and non-verbal behaviors were conducted in-vivo by two independent observers. For each role-play observers used a 10-s whole interval recording procedure to record the occurrence of verbal and non-verbal behaviors made by the participant. These data were used to calculate the frequency of intervals in which each non-verbal and verbal behavior occurred.

Written verbal behaviors. Using the same modified version of Applegate's coding system a single observer coded each statement written by participants as either no support, minimal support, or maximum support.

Written questionnaires were scored by a single observer for frequency of each written verbal behavior. Every statement written by the participant was coded. Each statement was counted regardless of similarity to others, given that it did not exactly duplicate the content of another statement. Every simple sentence (i.e., independent clause) written by the participant was counted as one statement. A statement ended when it was followed by a period or another simple sentence. Compound sentences were broken into their independent clauses and scored as

separate statements. Complex sentences (independent clause joined to a subordinate clause) were scored as single statements. A single statement could not be coded as more than one type. Every statement written by the participant was coded; if a statement did not fit into any category it was coded as "other."

Interobserver Agreement. Two human observers observed all responses under all conditions. For each participant and role-play the interval agreement method was used to calculate interobserver agreement for each individual verbal and non-verbal behavior; each interval was scored as an agreement or a disagreement, and the number of disagreements was subtracted from the number of agreements and divided by the total number of intervals scored. Percentage of agreements was calculated for each behavior individually. Total IOA ranged from 95%-100% for each behavior, scenario, and participant. The majority of the disagreements (80%-88%) were scored within the minimum support statements.

Procedures

Pre-training Assessments. As a pre-training measure of the subjects written verbal comforting skills each participant was asked to fill out a questionnaire including three hypothetical situations in which one of their close friends, siblings or significant other was experiencing some kind of emotional distress. The participants were asked to read each scenario and write down all of the things they would normally say to comfort the distressed individual. No feedback was provided for the answers.

As a pre-training measure of the participants' spoken verbal comforting skills each participant was asked to participate in three role-plays with the trainer involving hypothetical situations in which one of their friends, relatives, or significant other was experiencing some kind of emotional distress. The participants were given a role-play instruction sheet to look over for five minutes which included brief instructions for the role-plays as well as a description of each scenario. The pre-training role-play instructions have been included in Table 1. Participants then role-played each scenario in which the trainer acted as the distressed individual and the participant was instructed to comfort her as she normally would; no feedback was given. Each scenario began with the participant asking the trainer what was wrong and ended once five seconds elapsed without a verbal response from the participant.

Training Workshop. Subjects were trained individually during a three hour period within a single day. Participants were given a training guide identical to one used by the trainer and instructed to read along silently while the trainer read aloud. The trainer then provided an overview of the training objectives and the

Table 1. *Pre-Training Role-Play Instruction Sheet.*

Pre-Training Role-Play Scenarios	
You will now be asked to role-play three scenarios with your trainer. The following scenarios involve situations in which a person very close to you is emotionally distressed and seeking comfort from you. The trainer's role will be the distressed individual and yours is the role of comforting them; please attempt to comfort them as you would normally do in these situations. Please read over the following scenarios and tell your trainer when you are ready to begin.	
Scenario 1:	Suppose you and your best friend are watching TV one day when he/she gets a phone call from an old high school friend informing him/her that a mutual friend of theirs has just passed away. They hang up the phone and stare off into space and you can tell they are emotionally upset. You ask them if they want to talk about it and they reply yes, while describing how upset they are that they did not get to say goodbye to their friend and hadn't seen them in years although they were very close friends in high school.
Scenario 2:	Suppose you get home from class to find your significant other slumped over on the couch emotionally upset. When you ask if they want to talk about what's bothering them they tell you they failed an exam in their math class and they don't know if they will pass the class. They describe how they studied all week for the test, made note-cards and took tutoring lessons yet still failed it and they are extremely distressed they may have to retake the class.
Scenario 3:	Suppose your best friend comes home from class one day in tears, when you ask them if they want to talk about what's wrong they begin to cry and explain that earlier they received a message from their long-time significant other saying it was over between them and that they were leaving them for someone else. Your friend tells you they've been trying to contact their significant other so that they can talk about it but they won't return any of their phone calls, emails, or texts.

hierarchy of supportive communication statements were then delineated one level at a time. A description of each component level and strategies was presented along with a rationale for the importance of the skill. Training then focused on identifying when to use supportive communication strategies and an overview of the steps involved in providing maximum support strategies to a distressed individual. An overview of the training workshop sequence has been included in Table 2.

Post-training Assessments. Post-training procedures were identical to those in pre-training with two exceptions; different but similar scenarios were used and correct responses were described and praised. All role-plays and written assessments involved hypothetical situations in which one of their friends, relatives, or significant other was experiencing some kind of emotional distress.

Social Validity Assessment. As a measure of the workshop's social validity participants were asked to fill out brief satisfaction surveys.

Experimental Design. A pre-post treatment design was used to assess the effects of the workshop on verbal, written, and non-verbal target behaviors.

Results

Figure 1 illustrates the number of maximum support statements provided by each participant before and after training on written responses, as well as the number of intervals each participant spent providing maximum support statements during role-play performances before and after training. The number of maximum supportive statements and the number of intervals spent providing such statements were higher following training for each participant. During pre-training role-plays the number of intervals participants spent providing maximum supportive statements ranged from 0 to 6. During pre-training role-plays Participants 1 and 2 spent less than 6 intervals each providing maximum supportive statements, whereas Participants 3 and 4 spent none. During pre-training written assessments the number of intervals participants spent providing maximum supportive statements ranged from 0 to 4. During pre-training written assessments Participants 1, 2, and 4 provided less than 5 maximum supportive statements each, whereas Participant 3 provided none. During post-training written assessments all four participants provided maximum support statements above pre-training levels, ranging from 10 to 23. During post-training role-play assessments all four participants showed an increase above pre-training levels in the number of intervals providing maximum support statements, ranging from 5 to 17. Participant 3 showed the highest training gains in both role-play performances and written responses, whereas Participant 4 showed the lowest training gains in both role-play performances and written responses.

Table 2. *Training Workshop Sequence*

Training Workshop	
Step 1: Pre-requisite behaviors	Identifying common emotional distress cues. Overview of common distress cues described & illustrated. Participants used picture examples to practice identifying cues. Pairing certain cues with their generally correlated emotion was described and praised. Incorrect answers discussed and correct pairing was described and praised.
Step 2: Assessing the situation	Brief lecture on guidelines for assessing situations using clarifying & open-ended questions. Participants given examples of how to ask & proceed if the individual wanted to talk about the incident or not. Examples were given & rationales described.
Step 3: Description statements	Brief lecture on definition, guidelines, rationale, & examples. Skill involved verbalizing the distressing incident & individual's feelings. Participants practiced generating description statements with trainer after viewing video clips of distressed individuals. Correct answers were described and praised, incorrect answers were corrected.
Step 4: Empathy statements	Brief lecture on definition, guidelines, rationale, & examples. Participants practiced generating empathy statements with trainer after reading scenarios involving an individual in a distressing situation. Correct answers were described and praised, incorrect answers were corrected.
Step 5: Hopeful statements	Brief lecture on definition, guidelines, rationale, & examples. After reading scenarios of individuals in distressing situations, participants practiced generating hopeful statements with trainer by thinking and describing similar personal experiences and their benefits. Correct answers were described and praised, incorrect answers were corrected.
Step 6: Non-verbal behaviors	Definitions, guidelines, rationale and examples given for eye contact, close proximity, body orientation, forward lean, and touch. Rationales were adapted from IFRC training manual.
Step 7: What to expect	Overview of behaviors one may receive from distressed persons when using target behaviors. Instructed not to expect anything specific from any distressed individual.

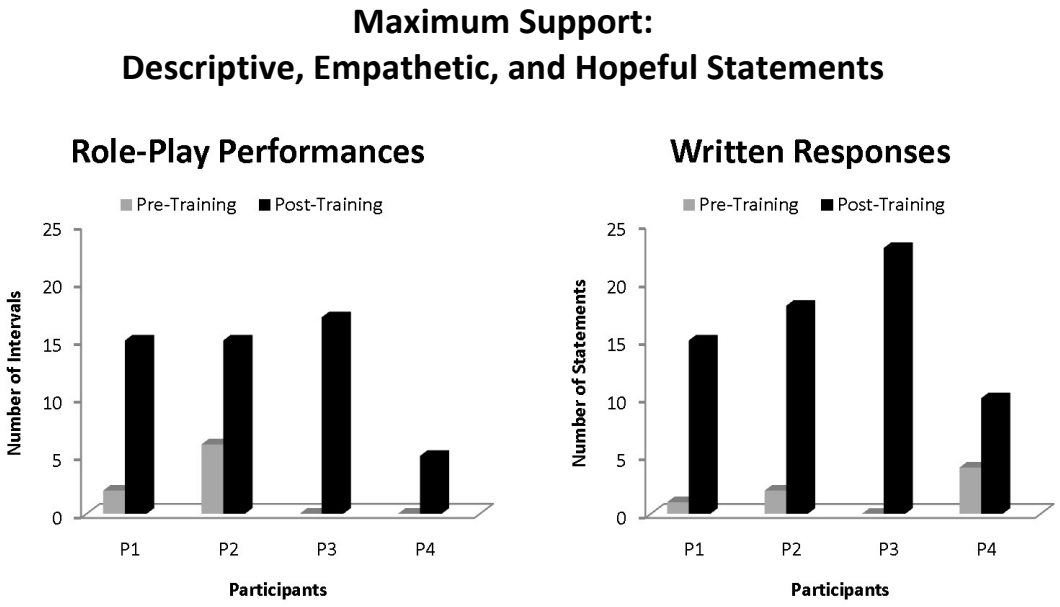

Figure 1. Effects of training on participants' maximum supportive statements during role-play performances and written responses.

Figure 2 displays the number of intervals each participant spent providing non-supportive, minimum supportive and maximum supportive statements during pre-training and post-training role play performances. During pre-training all four participants spent more intervals providing minimum supportive statements than maximum and non-supportive statements. Participant 2 spent the greatest number of intervals providing minimum supportive statements, whereas Participant 4 spent the least. Participant 2 spent the greatest number of intervals providing non-supportive statements, whereas Participant 1 spent the least. During post-training the number of intervals all four participants spent providing maximum supportive statements increased above pre-training levels. The number of intervals Participants 1, 2, and 3 spent providing minimum supportive statements decreased below pre-training levels, and increased above pre-training levels for Participant 4. The number of intervals all four participants spent providing non-supportive statements decreased below pre-training levels, Participant 4 spent the greatest number of intervals providing non-supportive statements whereas Participant 3 spent the least.

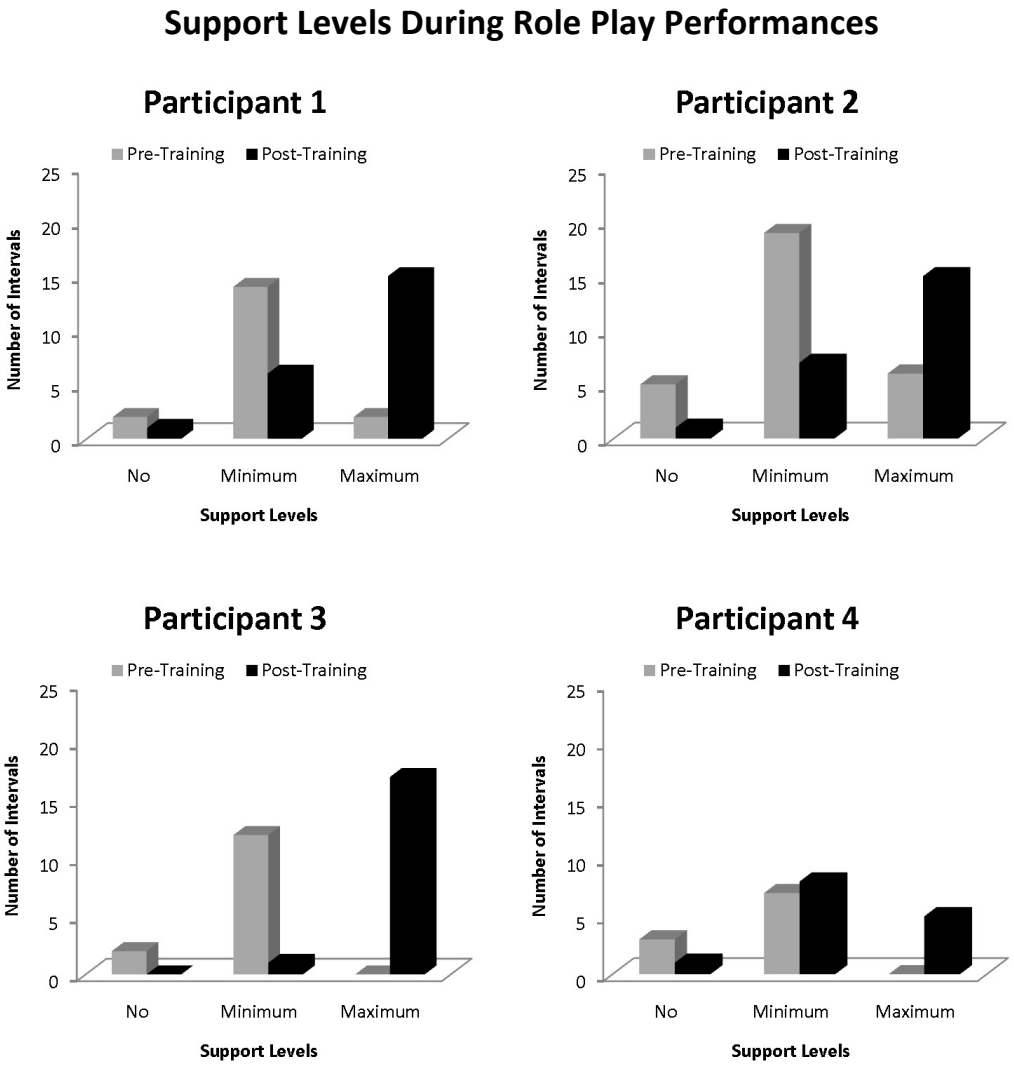

Figure 2. Effects of training on participants' role-play performances.

Figure 3 displays the number of non-supportive, minimum supportive, and maximum supportive statements made by each participant during pre-training and post-training written assessments. During pre-training all four participants provided more minimum supportive statements than maximum and non-supportive statements. Participant 3 provided the greatest number of minimum supportive statements, whereas Participant 2 provided the least. None of the parti-

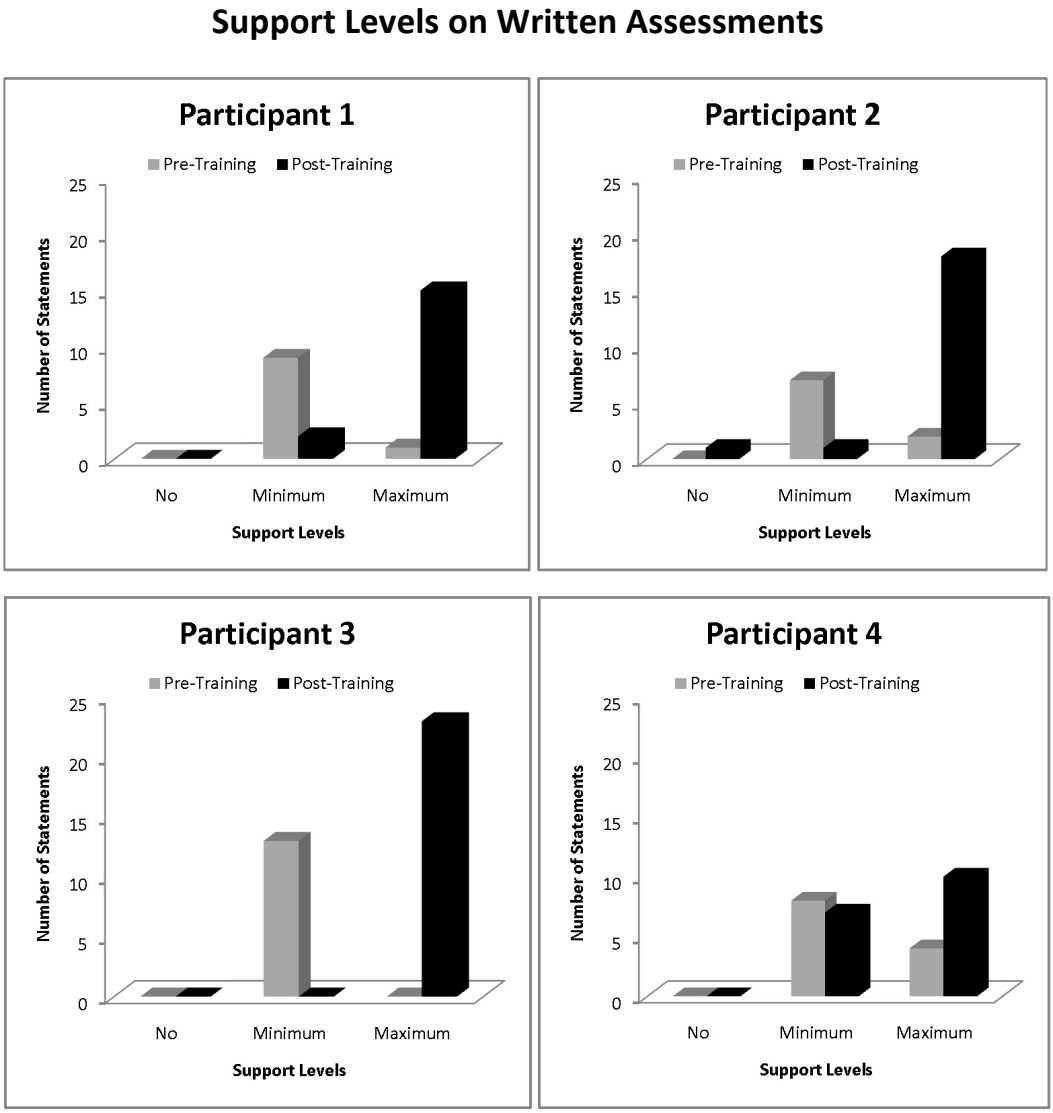

Figure 3. Effects of training on participants' written responses

cipants provided non-supportive statements during pre-training. During post-training all four participants provided maximum supportive statements above pre-training levels, and minimum supportive statements below pre-training levels. Participant 4 showed an increase in the number of non-supportive statements provided, whereas Participants 1, 2, and 3 remained stable at zero.

Discussion

All four participants in this study increased their use of the maximum support strategies above pre-training levels on both the role-play and written assessments following a relatively brief communication skills training, lasting approximately 3 hours. These results suggest that verbal instruction, rationale, modeling, role-play, feedback, and rehearsal can be utilized to train behavior analysts to produce maximum support strategies in response to situations where an individual is experiencing emotional distress that is neither under the control of, nor caused by, the behavior analyst. These results confirm and extend the generality of previous research using training packages consisting of instruction, rationale, modeling, role-play, feedback, and rehearsal to teach various communication skills to adults (Bates, 1980; Hall, et al., 1980; Isaacs, et al., 1982; Iwata, et al.,1982; FH Jones & Eimers, 1975; Kohr, et al., 1988).

This extension of the literature is important for several reasons. First, the training is likely to help behavior analysts reduce client behaviors associated with emotional distress so that clients may fully participate in the intervention process. Second, this training may strengthen the relationship between the client and the behavior analyst by enhancing satisfaction, comfort, and rapport. And third, this training may enhance client health and well being by assisting them with their management of acute grief, improving their coping with unpleasant events, and alleviating their emotional distress.

Previous research has shown that workshops designed to train communication skills can be made more effective through the utilization of highly emotional role-plays (Razavi, et. al., 2000). All four participants commented on the reality of the role-plays in the current study, as the trainer was able to produce highly emotional behaviors such as trembling, crying, and wavered speech during the role-plays. However, these intervention components were not directly measured within the present study.

Training was conducted individually, and thus it is possible that the procedures varied somewhat from participant to participant (e.g., personal examples, elaborations, and wording used by the trainer may have varied). Future directions may include developing a standard training manual so that procedural variability can be controlled, as well as assessing the effectiveness of training participants in groups, which may provide a more economical means of implementing the workshop.

The verbal behaviors were explicitly trained during the workshop by means of verbal instruction, rationale, modeling, role-play, feedback, and rehearsal. Non-verbal behaviors were not explicitly trained during the workshop, and presumably for this reason remained somewhat stable for each participant from pre-training to

post-training. Participants received a brief lecture on the overview of each non-verbal behavior, the rationales for each, and the guidelines for using them; however none of these behaviors were practiced, modeled or explicitly trained during the workshop. The duration of role-play performances also remained stable from pre-training to post-training for all participants. Future research may include explicit training of non-verbal behaviors and assessing post-training effects.

During post-training role-play performances all but one participant decreased their usage of minimum support statements below pre-training levels. This could have been due to various factors such as the different but similar scenarios utilized during pre-and post-training role-plays, the different personal histories of each participant, and the training instructions themselves, as participants were instructed not to provide empathy and hopeful statements unless they had been in a similar situation as the one described in the scenario. Consequently, if a participant had not been in a similar situation they were instructed to provide description and sympathy statements. Sympathy statements are categorized as a minimum supportive strategy; however, in situations where the individual has been instructed not to empathize, "minimum support statements" may be more appropriately considered maximum support statements as it is the maximum level of support that particular individual can provide while adhering to the training instructions. Participant 4 reported she had not been in a majority of the scenarios used during the role-play assessments. Therefore, she may not have had the pre-requisite experiences to correctly provide empathetic and hopeful statements in these situations, which may have also affected the duration of time Participant 4 spent in the post-training role plays. However, this could have been due to many factors, for example participants may have dedicated more time providing maximum support statements and less time providing other types of supportive statements, thereby decreasing the duration of post-training role-plays. Future studies should incorporate a wider variety of scenarios aimed at situations more common to the population of study so that there are more opportunities for practicing empathy and hopeful statements.

It is interesting to note that during the pre-training role-play assessments all four participants provided a minimum of two non-supportive statements, whereas during the pre-training written assessments none of the participants provided non-supportive statements. These results are inconsistent with previous research analyzing the differences in responding during role-plays and written questionnaires. Previous research has shown that participants tend to provide less polite responses on written questionnaires than during interactive role plays, possibly due to the lack of social consequences for impolite responses on written questionnaires (Beebe, & Cummings, 2006; Kasper, 2004).

Variables such as timing and sincerity of supportive communication strategies are difficult to address and were not explicitly measured in the current study; however, these issues were briefly addressed during the workshop by means of modeling and rehearsal. By altering the topography of a supportive communication statement, one can subsequently alter the function as well as the effect on the distressed individual (e.g., using a sarcastic tone of voice, or placing emphasis on certain words or phrases) potentially decreasing or increasing the effectiveness of maximum support statements. This issue was also addressed during the workshop by instructing participants not to provide supportive communication statements that were untrue or insincere. Participants were instructed to adjust the timing of their supportive communication statements to the perceived needs of the distressed individual. Obviously, this is difficult to measure but seemingly important. Along the same lines, participants were instructed to wait until the individual had finished talking about the distressing incident to provide empathy and hopeful statements, so that the conversation stayed focused on the individual and their distressing incident. Future directions should include modifications to the coding system so that timing and sincerity can be assessed.

The issue of intent is another important variable to consider and was especially relevant when assessing participant's hopeful statements of a truly beneficial outcome of the distressing incident for the distressed individual. If the participant had been in a similar situation as that described in the scenario she was instructed to verbalize any beneficial outcome they had experienced as a means of communicating a potential source of positive reinforcement. Beneficial outcomes were described to participants as things learned from the experience that they believed had made them wiser, stronger, better as a person, better prepared to succeed in future experiences, and/or better prepared to cope with future experiences.

In the scenarios involving the loss of a loved one, some participants provided statements that referred to religious ideas, such as, "I'd tell her that her cousin is in a better place now". The present study categorized statements of this type, referring to religious ideas, as hopeful statements providing maximum support. However, depending on the participant's belief system statements such as these could be categorized as descriptive (they believe in afterlife and are describing the distressing situation), hopeful (they believe in an afterlife and consider it to be a beneficial outcome of the distressing situation), or diversional (they don't believe in an afterlife and statements regarding one distract their attention away from the distressing situation). Future research may include modifications to the coding

system so that the issues of speaker intent and receiver perspective of specific religious messages can be assessed.

The pre-and post training assessments were conducted directly before and after training, thus the maintenance and generalization of these behaviors was not directly measured. It is possible that training effects diminished shortly after training or that these effects did not generalize to new or different situations from those used in the workshop. However, previous research utilizing similar training packages has shown to be successful in maintaining and generalizing treatment gains to natural situations (Iwata, et. al., 1982; Kohr, et. al., 1988). Future studies may focus on assessing the workshop's effects on the maintenance and generalization of targeted skills, possibly with the addition of follow-up components, probes, or the utilization of a different experimental design.

The present study utilized in vivo observations of role-play performances as well as an interval recording procedure to measure the verbal and non-verbal responses of each participant. The use of interval recording for verbal responses limited the data so that an analysis of the frequency of each strategy within each type used could not be conducted. For example if a participant spent 3 intervals providing maximum support statements it is unclear whether they provided a single maximum supportive statement or many. Utilizing an in vivo observation procedure may have limited the reliability and validity of the coding system, as there was no opportunity review the participants' performances and correct recording errors. Future research may utilize a different mode of observation—possibly video recording—so that frequency measures of each strategy can be conducted.

It should be noted participants were familiar with the trainer and both observers before participating in the present study, as all were fellow peers enrolled in the same graduate degree program. This relationship could have confounded the outcomes of this study, as well as the interpretation of the results. Participants had also received extensive instruction in behavior analytic programs and behavior change procedures, which could have enhanced the effects of training in some ways and limited it in others. Future directions might include new populations including unfamiliar participants, males, and adolescents.

Overall, participants rated the workshop as completely effective and rated their confidence in using the target skills as somewhat to completely effective. When asked what would have made the workshop more effective, participants suggested utilizing more examples of diversion statements, more personal examples of distressing incidents, and their own scenarios. Three of the participants reported their favorite parts of the workshop were watching and discussing the videos, reviewing hopeful statements, and generating empathy

statements. Two participants reported the most effective part of the workshop to be going over the scenarios and applying personal experiences, talking through the scenarios, watching and discussing the videos, and hearing the trainer's personal examples. Participants' additional comments included suggestions for adding a final practice exercise where participants demonstrate all the techniques together. Future studies may consider and incorporate these suggestions.

The results of this study also coincide with previous research on the effects of age and gender on supportive communication strategies. Research suggests that an individual's provision of maximum support strategies increases significantly with age and is more likely to occur in females (Burleson, 1982). Research has also shown that females value the ability to comfort others more than their male counterparts (Burleson, Kunkel, Samter & Werking, 1996). What variables account for these differences was not addressed in the present study and would be of interest in future investigations.

The use of supportive communication strategies has shown to be beneficial in many contexts (Biegel, McCardle, & Mendelson, 1985; Burleson & MacGeorge, 2002; Leppin & Schwarzer, 1990; Miller, Benefield, Tonigan, 1993; Pierce, Sarason, & Sarason, 1996; Tardy, 1994; Schwarzer & Leppin, 1992). The results of this study add new and useful information to the supportive communication literature, as well as the communication skills simulation training literature. Improving one's ability to provide others with comfort can increase the overall well being of service recipients and the relationship satisfaction between support providers and recipients. This study illustrates an effective means of training behavior analysts to respond more supportively in situations where an individual is experiencing emotional distress that is neither under the control of, nor caused by, the behavior analyst.

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