THE EFFICACY OF AN EMOTIONAL ROLE-PLAY INTERVENTION VERSUS A PROBLEM-SOLVING APPROACH ON STRESS LEVELS AND AFFECT EXPERIENCED BY COLLEGE FRESHMAN

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ABSTRACT

Many people experience negative feelings associated with life transition but choose not to seek therapy to alleviate stress-related symptoms. The purpose of this study was to examine if role-play techniques, shown to be effective for clinical issues, could also reduce college students' stress and negative affect associated with the adjustment to their first year in college. The study also investigated if differences in emotional processing style moderated the effectiveness of the role-play intervention. Participants were randomly assigned to a role-play intervention, problem-solving intervention, or control group condition. Perceived stress, positive affect, and negative affect were measured before and after the intervention and two weeks following the intervention. The results indicated the role-play intervention was not effective in reducing stress or negative affect. The results also signified that individual differences in emotional processing ability may be a key ingredient in developing intervention strategies that are successful.

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CHAPTER I

Effective therapeutic experiences often allow for role-playing which creates an opportunity to suspend the concreteness of our reality for a time and instead construct new alternatives for our interactions. In essence, experiential role-play consists of playing out new scenarios which can generate new insight to promote personal growth, essentially providing a new ending which decouples an individual from his/her expected outcome. By role-playing methods of communication we are able to explore the meaning and emotions we attribute to situations and construct alternatives to troubling or stressful events. Practicing in a role-play situation allows individuals to examine their stressful interactions through a different framework, thus offering new perspectives that may change both affective and behavioral responses to personal stressors.

Although role-play techniques are often used in a variety of therapeutic settings, role-play drama became the centerpiece of a specific therapy known as psychodrama. It was developed by Jacob Moreno and found immense popularity in the 1960s and 1970s. Psychodrama refers to a therapeutic enactment that revolves around a specific personal emotional problem. The drama consists of working through the protagonist's problem and may include enacting issues from the past, present, and the person's future (Blatner, 1988). Effectively, a client takes on a particular role and becomes the protagonist in a psychodrama intervention. The enactment of the chosen role with another individual or a group allows for an emotional outlet where the actor can re-experience interactions in a different manner

and incorporate or assimilate new information regarding his/her experience. Each session begins with a group warm-up, proceeds to the enactment portion, and closes with a sharing and processing of the experience as a large group (Kipper, 1992).

Over the past few decades researchers and practitioners have questioned the empirical validity of psychodrama and have been torn between a favorable clinical impression of the method and the lack of empirical evidence to support its efficacy. Recently, Kipper and Ritchie (2003) conducted a meta-analysis investigating the efficacy of psychodrama intervention and discovered that the overall treatment effect size for the 25 studies they reviewed was 0.95, with a standard deviation of 0.69, which is well above the cut-off of 0.80 that would indicate a large effect size (Cohen, 1992). In fact, Kipper and Ritchie specifically investigated individual psychodrama techniques and have indicated that each technique of the psychodrama intervention plays an important role by itself. Essentially, both the overall process and the individual techniques have been shown to be effective in reducing self-reported negative affect associated with clinical problems.

Research has shown psychodrama to be an effective treatment with clinical populations. Role-play techniques are helpful for clients who attend therapy attempting to resolve long-standing emotional trauma and intense interpersonal difficulties. However, many people experience stress and negative feelings associated with life stressors and life transition but choose not to seek therapy to alleviate stress related symptoms. For example, freshmen transitioning from high school to college often experience stress related to a new social and academic

environment and may benefit from a role-play exercise targeting this stressful transition and their feelings associated with the changes they experience. This study investigated if role-play interventions could effectively resolve or reduce stress and negative affect associated with less significant problems or daily issues that individuals may not always seek therapy to treat. One of the primary purposes for use of role-play techniques is that role-play interactions create an opportunity for clients to communicate and understand emotions that they may not be aware of or unable to articulate or describe on their own. Brackett, Rivers, Shiffman, Lerner, and Salovey (2006) have asserted that the accurate processing of emotions is a critical skill needed to solve problems and interact appropriately in social situations.

The purpose of this study was to examine if role-play techniques, proven effective for clinical issues, could also make everyday interpersonal difficulties or life transitions easier and less stressful. Research has indicated that perceived stress is often linked to somatic distress, negative affect, and psychological disorders such as anxiety and depression (Hewitt, Flett, & Mosher, 1992). Many health researchers believe that the impact of stressful events is heavily linked with individuals' perception of the stress. Often individuals will perceive events as being stressful if they believe the situation will impact them significantly and if they believe they may not have the cognitive or emotional resources needed to effectively cope with the stressor. Presumably, role-play therapy may promote awareness of emotions associated with life change, and by communicating clearly identified emotions through a unique role-play interaction, individuals will have the opportunity to

practice using their personal resources to reduce the negative impact of stressful situations.

The study also investigated if this emotionally-based experiential approach was more effective in reducing stress levels than a cognitively-based problem-solving style. Both strategies focused on creating healthy resolutions for a stressful situation, but the emotionally-based approach centered on understanding, managing, clarifying, and acting-out certain emotions through psychodrama therapy techniques. In contrast, the problem-solving approach focused on brainstorming effective solutions to the problem through rational thought processes without communicating emotions that are associated with identified stressful situations. The study specifically investigated whether an emotionally-based approach grounded in role-play technique was more effective than a problem-solving intervention or no intervention in improving reported stress levels and decreasing negative affect in freshmen dealing with the stressor of transitioning to college.

It was hypothesized that participants in the emotionally-based intervention would experience a reduction in stress level more than participants engaged in the problem-solving intervention. Furthermore, it was expected that the role-play and the problem-solving intervention would affect participants' mood and stress level more than a control group receiving no intervention. Essentially, emotional role-play exercises were expected to elevate mood and reduce stress associated with transition that first-year college students typically face more effectively than the problem-solving intervention or a control group who did not receive an intervention.

Research has also indicated that an individual's ability to attend, clarify, and recognize felt emotions can often impact the efficacy of interventions. A study by Baker and Berenbaum (2007) revealed that individuals who lack mood awareness and are less emotionally open often benefit more from emotionally-based interventions. The current study also explored if the effectiveness of an experiential role-play intervention was moderated by participants' emotional processing styles, in particular their ability to attend to and identify clearly emotions associated with transition. Individuals who have less awareness of their emotions and lack the ability to clearly identify and describe their emotions may benefit more from a role-play intervention than those who already have experience communicating their feelings.

Finally, this study also examined if a participant's present ability to attend to his/her affect impacted the efficacy of a role-play approach compared with a more rational problem-solving intervention. In essence, research has shown that role-play exercises are effective in treating clinical issues associated with chronic psychopathology. This study investigated if similar emotionally-based role-play techniques could also reduce anxiety from life stressors most people face without therapy more effectively than a rational approach. Furthermore, the study investigated if the efficacy of the role-play approach was moderated by an individual's emotional processing style.

It was predicted that participants with less emotional awareness/attentiveness initially would experience greater effects, reduced stress and elevated mood, because of the role-play emotional intervention. The reduced stress levels and shift to more

positive mood states were thought to be more observable in the participants who typically did a poor job of attending to their emotions. It was hypothesized that the role-play exercises would allow participants with low emotional attenuation to gain new clarity of their emotions, which would allow for marked mood change and reduced stress regarding their college transition. It was also predicted that the intervention would have a lasting effect, and mood change and decreased stress would be experienced both following the intervention and two weeks after the invention.

Rickinson and Rutherford (1996) have indicated that successful adjustment to college, especially during the first academic year, is predictive of lower dropout rates and academic achievement. It appears that students' perceptions of interpersonal stress during their freshman year are often indicative of how well they will be able to adjust both academically and socially (Kerr, Johnson, Gans, & Krumrine, 2004). Lazarus and Folkman (1984) have also asserted that not all individuals experience stress in the same way, and Kerr and colleagues have noted that those students who experience more perceived stress in their first year will have a difficult time adjusting to the transition.

Transition to college can be a stressful time for students. The current study investigated the efficacy of an emotionally-based approach versus a problem-solving approach on college students' stress levels and mood. Specifically, this study measured if role-play techniques, designed as an emotionally-based approach, impacted experienced stress and overall affect. Research has indicated that role-play

can be very effective in therapeutic setting, and the proposed study examined if emotional role-play techniques can also decrease stress levels and reduce negative affect in college freshmen dealing with the transition to college.

The proposed study predicted that role-play techniques would indeed improve stress level and decrease negative affect associated with college transition. Furthermore, students who previously had little ability to perceive emotion or attend properly to their feelings were predicted to benefit the most from this emotional approach designed to enhance coping skills. By utilizing these techniques in freshman seminar, the researcher hoped to equip freshman with improved coping skills, so they could effectively deal with the important and difficult transition attending college for the first time often creates.

One of the main objectives for Freshman Seminar is to help beginning college students transition to college, so they can successfully graduate in a timely manner. If role-play interventions were found to be effective, then instructors of Freshman Seminar could incorporate these techniques into the class requirements to increase their students' ability to transition effectively. Instructors could use role-play interventions with students to help them explore how different types of interaction with roommates, professors, or even parents may be more effective at reducing conflict and stress. By using role-play, students can have opportunity to "try out" new ways of interacting and can explore their own feelings associated with these interactions, while receiving social support from peers. Psychodrama techniques have been shown to be effective with clinical populations in reducing negative affect

and stress. The current study investigated if role-play techniques based in psychodrama theory could also be effective in reducing stress and negative mood in college students transitioning in their first year of college.

Hypotheses

Hypothesis 1: Role-play techniques will be more effective in improving mood and decreasing participants' stress than the problem-solving intervention and control group receiving no intervention.

Hypothesis 2: Role-play and the problem-solving intervention would affect participants' mood and stress level more than a control group receiving no intervention.

Hypothesis 3: Both interventions would have a lasting effect, and mood change and decreased stress would be experienced both following the intervention and two weeks after the invention.

Hypothesis 4: Students' prior ability to clarify and attend to their own emotions would moderate the effect of the role-play intervention. Specifically, participants with less emotional awareness/attentiveness would experience greater effects, reduced stress and elevated mood, because of the role-play emotional intervention.

Summary

The role-play intervention was designed to help students explore their emotions related to stress in a group setting. The intervention encouraged students to conceptualize their stress differently by their describing stress and feelings in the present moment. It was predicted that talking and thinking about stress in a different

way using role-play techniques will help students decrease their stress level. Reduced stress may increase students' ability to transition in their first year of college more effectively than peers who use a more rational approach when dealing with stress or those who do not use a strategy to cope with situational stress often present during students' first year in a university setting.

The negative impacts of stress are often mediated by an individual's perception of the stress. Psychodrama techniques allow a person to discuss stress in a group format, which can provide support and empathy that may lessen the negative effects of stress. Important transitions, such as the adjustment to the first year at a major university, bring different academic and social demands, which undoubtedly increase an individual's perceived stress. The current study investigated if role-play techniques, which utilized the use of emotional language in a group setting, could reduce students' perceived stress associated with the significant life transition of adjusting to college life.

CHAPTER II

Literature Review

This chapter will focus on a review of the literature highlighting the history and implementation of role-play therapeutic interventions with clinical populations. In addition, the chapter will review literature which outlines how positive and negative mood states impact the stress response and the emergence of psychopathology, while also discussing how a person's emotional processing ability can impact his/her affective experience. Information on emotion-focused coping interventions and their efficacy with individuals who traditionally do not seek therapy for minor stressful events is also discussed. Interventions based on emotional clarification and role-play have been designed and utilized by practitioners to help clients in the therapeutic context. The chapter will explore outcomes of role-play interventions used with clients reporting a significant amount psychopathology and will also summarize research investigating emotionally-based coping strategies that have been implemented in research studies with participants reporting relatively minor life transitions and stressors.

Theatre in clinical psychotherapeutic practice

There are many parallels between theatre and therapy. Often role-play techniques that actors use on stage can also be utilized in therapy sessions to help clients explore their difficulties in a different way. Psychodrama is a particular form of group therapy that uses role-play to explore clients' struggles and enhance personal growth. MacCormack (1997) asserts that the theatrical metaphor is a part of the daily

practice of psychotherapy. Fundamentally, therapy becomes a type of theatre, as it expands a client's behavioral repertoire through alternative ways of acting, by role-playing, or by rehearsing new behaviors within the therapeutic encounter. MacCormack argues, "clients are asked to imagine or play out scenarios in which they are encouraged to act out or direct the action, sometimes becoming the playwrights, actors, and directors for their own dramas"(p. 155). Like actors who role-play behaviors and create characters, clients are also asked to play out, enact, and perform their emotions and cognitions for the therapist, creating scenarios that are open for interpretation and change.

By using role-play and narrative technique therapists help clients to change their problematic stories through a process of reconstructing dialogue and mentally transforming endings for particularly stressful situations. The therapeutic elements that are present in psychodrama role-play techniques include enactment, catharsis, and retraining in a group format (Kipper, 1992). Unlike most of the contemporary group therapies, psychodrama therapy was not developed from an individual psychotherapy theory; instead it was conceived as a specific type of group therapy from the beginning. Naturally Moreno (1946) needed theory to underlie his drama techniques and role-play procedures, and he synthesized concepts from role theory, enactment (playing out these roles), and sociometry, which includes the idea of personal choice and action, to shape the foundation of psychodrama theory and application (Kipper, 1992). The theory also places emphasis on spontaneity and creativity, and the overall goal of the therapy is to teach clients to become more

spontaneous, more awareness and attentive, and less rigid in their interactions (Kipper & Hundal, 1993).

Psychodrama treatment has become a therapeutic method that is fundamentally based on dramatization of human experiences through role-playing in a variety of simulated situations. This experiential therapy offers clients a "safe stage" to examine what they have accepted as true about a situation or themselves (Dayton, 1994). The model of a typical psychodrama session is based on role-playing enactment and is focused on one protagonist during the single session. Psychodrama may often look like an individual treatment in the context of a larger group, since individuals engage in specific and personal role-plays within the group context.

Techniques used in role-plays often aim to clarify the protagonist's feelings, increase awareness of personal behavior, identify goals and values, and gain social support from peers. Any other person than the protagonist who participates in the psychodrama is referred to as the auxiliary ego, and the auxiliary ego helps the protagonists express his/her inner feelings more clearly. Frequently the auxiliary ego helps the protagonist explore stressful situations by acting toward him/her in the assigned role of the person they are in conflict with. When the auxiliary ego speaks to the protagonist using "here and now" language, the protagonist is pulled into the interaction and is able to express feelings and create desirable endings they can use during stressful situations (Blatner, 1988).

The protagonist is asked to bring up stressful events in a spontaneous manner and is encouraged to freely express his/her emotions through an interaction with the

auxiliary egos (Greenberg, 1976). Role-reversal is one of the most effective techniques in psychodrama which utilizes the auxiliary ego. Here the protagonist and auxiliary ego play each other's role, so the auxiliary plays the role of the protagonist while the protagonist plays the role of the auxiliary. Through this powerful exercise the protagonist is presumably able to see himself/herself through another's eyes and gain a more objective view of potential maladaptive behavior.

Interestingly, Kipper and Ritchie (2003) reviewed studies where researchers made no distinction between the primary actor and the other participants in the study. Thus, it can be hypothesized that using a psychodrama technique, like enactment, activates psychological processes in all the participants, not just the primary actor. The effects of technique can be seen for each of the clients who become a part of the enactment and are relatively the same regardless of who is the primary actor in the role-play scenario. Moreover, the researchers also found relatively no difference between therapy provided in a single session or in multiple session format. Thus, it can be assumed that psychodrama techniques rendered in a single session can be relatively effective for inducing client change (Kipper & Ritchie, 2003).

How can role-playing or replaying personal experiences lead to new growth and symptom relief for clients? Dayton (1994) offers that often it is the emotional content of a given event (or therapy experience) that determines the impact of a particular learning experience. She indicated that many of our experiences, which shape our personality structure and interaction style, occur before we have ever learned to express ourselves verbally. Because experiences that impact our

development often occur at a pre-verbal level, it can be difficult to reach these experiences, even in therapy, and relatively impossible to adequately articulate or reflect on these experiences using language. Psychodrama allows a problem to surface and to be reconstructed using language, movement, and non-verbal body behavior. It can become a powerful tool that has proven to be effective in reducing trauma, releasing internal painful feelings that have gone unaddressed, and enhancing the learning of new strategies for interacting in interpersonal relationships.

Psychodrama has been shown to be effective in reducing stress and negative mood associated with psychopathology in clinical populations. Role-play techniques give clients the opportunity to "act out" their stress and associated feelings in a group format where others can give appropriate feedback and develop empathy. Therapeutic gains that clients see may occur because they have the opportunity to explore their emotions more deeply in a group setting. Clients experiencing some type of psychopathology have experienced benefits from a psychodrama experience, but there has been little research investigating if role-play techniques can also work to reduce everyday stress associated with life transition.

Positive and Negative Mood States Relationship with Perceived Stress

Life transitions or significant life changes often lead to feelings of stress in an individual, and the level of stress a person experiences can heavily impact that person's overall mood and associated affect. Stress is frequently linked with negative mood states, and stress can impact a person's ability to cope with life events. Often an individual's perception of his/her ability to cope with negative life events can

impact how much stress that person experiences. When a person perceives that demands are exceeding his/her ability to cope, a psychological stress response, leading to negative mood and affect, is likely to occur.

Clients often seek therapy for long standing emotional issues but may also need professional assistance when dealing with life transition and life stressors which can easily become overwhelming. Often effective therapy interventions involve learning to self regulate affect, developing coping skills that can reduce negative mood states, and gaining insight about the circumstances associated with negative mood and experienced stress. In recent studies of affect, positive and negative affect states have consistently been identified as the two dominant and independent dimensions of mood. Positive affect reflects how much a person feels enthusiastic, alert, and active. A positive mood state usually is associated with high energy, full concentration, and the ability to engage with others. Instead, negative affect usually involves feeling sad, tired, and lethargic. The dimension of negative affect includes feelings of anger, sadness, disgust, guilt, fear, and nervousness (Watson, et al., 1988). Evidence suggests these two affective registers process emotional information separately, which allows for a complex processing approach for emotional information that can lead to comprehensive and adaptive responses (Reich, Zautra, & Potter, 2001).

Reich, Zautra, and Potter (2001) propose that positive and negative mood states are usually inversely related, and the relationship between negative and positive mood seems to vary among individuals depending on certain personality

characteristics and the degree of stressful events at the given time. Thus, experienced stress may be a product of present environmental stressors and also a person's dispositional factors. Moreover, Reich and colleagues also propose that the information processing system is normally composed of two different emotional subsystems. These two affect registers process positive and negative events separately, allowing for more comprehensive processing that precipitates adaptive responding.

Most people may have independent systems for the processing of negative and positive affect which allow for more complex emotional processing. However, because of stressful circumstances or personality characteristics, others are more prone to have a one-dimensional relationship between their experienced positive and negative affect. In effect, stressful situations may cause the two-dimensional emotional processing system that processes negative and positive emotions separately to function as only one system for processing both negative and positive affect.

When stressful events occur, individuals need to focus all of their resources to adapt accordingly. Stress usually refers to any social, environmental, or personal demand which requires a person to readjust his/her normal behavior patterns (Holmes & Rahe, 1967). Stressful events increase pressures on individuals to make quick and adaptive decisions with limited resources. Stressful situations also lead to reduced cognitive functioning and often overly simplified emotional processing. Stress is often associated with a reduced emotional-processing system, which is essentially a collapse of the separate affect registers into a single dimension that includes both

positive and negative mood states. In stressful situations the two subsystems may not act independently to process negative and positive affect in a separate manner.

Convergence of the affects into one system helps to decrease uncertainty and helps to increase rapid response to the stressor. The reduced system allows for quick response, but these responses may not always be the best responses because there is less information available to make adaptive decisions. With this compromised affective system, often brought on by stress, individuals are frequently forced to make decisions with limited cognitive processing and simplified emotional clarification and understanding. Reich, Zauthra, and Potter (2001) have indicated that cognitive simplification is significantly related to stress, and this may be mediated some by individual differences in personality. Arousal due to stress seems to contribute to the collapse of emotional-processing levels to one dimension with negative affect on one polar end and positive affect on the opposite end. Thus, stress can lead a compromised ability to process emotions effectively.

Stress has also been linked with a variety of mood and psychological disorders such as depression and anxiety (Hewitt, et al., 1992). In fact, events that were negative and significantly disruptive in an individual's life by increasing psychological distress were found to be linked with mood disturbance such as anxiety and depression. Moreover, positive life events that significantly altered lifestyle appeared to be only weakly related to psychological disorders (Thoits, 1983). Brown, Bifulco, and Harris (1987) have indicated that negative events which are a constant source of stress can actually produce an onset of experienced psychological

symptoms. It appears that stress associated with significant negative life events can impact an individual's mental health.

Additionally, research has indicated that everyday psychological stressors can affect individuals' mood states and even their physiological health, often impacting cardiovascular activity and immune system response (Cohen, et al., 1983). As stressful responses accumulate, individuals' capacity to cope with stressors and adapt their behavior accordingly is negatively affected. With a limited ability to cope and adapt, the probability that an individual will experience illness, disease, or psychological distress significantly increases (Lazarus & Folkman, 1984). For instance, Cohen, Tyrell, and Smith (1993) assert that stress responses lead to negative cognitive and emotional states that alter immune functioning. Specifically, Cohen et al. found a significant relationship between stressful life events and increased susceptibility to the common cold. The study indicated that negative life circumstances were related to increased rates of reported sickness.

Kanner, Coyne, Schafer, and Lazarus (1981) compared the effect of major stressful events and daily hassles on psychological health. Their research results supported the hypothesis that daily hassles were predictive of negative psychological symptoms. It also appears that an accumulation of daily hassles is predictive of physical symptoms in addition to psychological concerns. DeLongis, Coyne, Dakof, Folkman, and Lazarus (1982) have pointed out that daily hassles tend to be significant predictors of level of physical health. Moreover, Delongis and colleagues have

indicated that hassles are in fact better predictors of health than major life events in some circumstances.

Eckenrode (1984) has suggested that major life events can also impact psychological and physical well-being. Often life crisis can affect an individual's health because it produces significant changes in individual's established patterns of day-to-day living, similar to daily hassles that can lead to an increase in experienced stress. In effect, major life events lead to decreased psychological well-being because they alter the patterns associated with daily living. In fact, Eckenrode (1984) noted that the effect of chronic stress and previous significant life events are mediated by daily events and changes in mood associated with these events. Eckenrode's results also mirror the findings of other studies (Pearlin & Schooler, 1978) that suggest that experienced chronic stress is related with decreased levels of psychological health. Eckenrode conceptualizes chronic stress as "an accumulation of such daily stressors" (p. 916).

When daily demands finally exceed an individual's ability to cope, a psychological stress response occurs. The psychological term "stress reaction" refers to the actual state of physiological and emotional arousal that is the result from an individual's perception of stress or demand. According to Lazarus and Folkman (1984), the stressful response is composed of both negative emotional and cognitive states. Lazarus and Cohen (1977) have asserted that life stressors can take on several forms such as interpersonal or physical in nature and can vary in duration, occurring in a chronic or more acute fashion.

Stress literature often divides the types of stressors into three major categories: life events, chronic strains, and daily hassles (Thoits, 1995). Life events constitute significant changes that require behavioral readjustments within a short period of time like divorce or loss of a job. Major negative life events experienced during a six to twelve month period predict symptoms of psychological distress. Chronic strains are more persistent and constant demands that require behavioral adjustments over a longer period of time like marital problems or injury that affects work performance. Daily hassles are events that require small behavioral adjustments during the course of the day like sitting in traffic or planning dinner.

Many health researchers believe that the impact of stressful events is heavily linked with individuals' perception of the stress. The impact of certain life stressors seems to vary among individuals, and researchers believe that these individual differences in experienced stress are likely due to individuals' personal perception of these stressful events. Not every stressful event appears to affect an individual in the same way, as some people experience an event more intensely than others who encounter a similar stressor. Why do some people experience more stress than others? Evidence has indicated that the impact of stressful events may be due to an individual's appraisal of the event and not the objective nature of the event itself.

According to the transactional stress theory proposed by Lazarus and Folkman (1984), the nature of an individuals' appraisal or perception the stressful event often mediates the impact of the event. Lazarus and Folkman assert that "in order to understand variations among individuals under comparable conditions, we must take

into account the cognitive processes that intervene" (p. 23). Cognitive appraisal is essentially the process of categorizing an encounter. Appraisal is defined as the cognitive process wherein the individual evaluates a situation's significance on his/her well-being (a primary appraisal) and on his/her coping strategies to effectively deal with the stress (a secondary appraisal).

Lazarus and Folkman (1984) describe how individuals attribute meaning to stressful events. Individuals often appraise events as under their control or not and usually evaluate how a situation may affect their current state of well-being. These researchers have identified three different types of primary appraisal which include irrelevant, benign-positive, and stressful. When an event appears to have no impact on a person's well-being it would be appraised as irrelevant. Benign-positive appraisals occur when an outcome of an event is considered positive and preserves or enhances the individual's state of well-being. Lastly, stress appraisals include events that could potentially cause damage to the individual, may threaten to cause harm or loss, or challenge the individual. A secondary appraisal, which occurs after a primary cognitive appraisal of an event, is basically a judgment of what courses of action can be taken in the current circumstance.

The appraisal of the event, based on personal impact and capability to deal with the stress, helps to determine if the stressful event will likely lead to experienced stressful symptoms. Folkins, Lawson, Opton, and Lazarus (1968) found that influencing appraisal by providing provocative or benign statements and soundtracks before watching a film clip did affect subjective stress response levels and actual

physiological stress responses. Lazarus and Folkman (1984) have indicated that cognitive appraisal processes do mediate stress responses. It appears it not only the event itself but the cognitive appraisal of how harmful or damaging it may be that determines the magnitude of stress response. Appraisal of perceived threat and lack of control for an event usually contribute to stressful reactions for many individuals (Eck, Nicolson, & Berkhof, 1998).

Social support is an essential variable for reducing perceived stress. Several models have been created to explain the role social support seems to play in decreasing physical symptoms and negative affect associated with experienced stress. The buffering model posits that whether a stress reaction occurs may be a product of the interaction between a source of stress and some factor in coping. Stress-buffering is demonstrated when experienced stress decreased when coping resources are controlled (Wheaton, 1985). The buffering model explains that social support can act as a buffer for the negative effects of stress.

When an individual is faced with a stressful situation, the support they receive from others in a group setting can often buffer the full impact of the situation and lessen the perceived stress regarding the event. Researchers have also used another framework to explain the impact of social support on experienced stress referred to as the direct effects model. The direct effects model indicates there is a direct, rather than a buffering, relationship between the amount of social support and experienced stress. According to the direct effects model, behaviors of group members serve to elevate an individual's mood and lessen stress. Through verbalizing negative feelings

to others, the stressed individual can receive validation and empathy that reduces the negative mood associated with stressors (Wright, 1999). Social interaction, and the support it provides, appears to be an important variable in reducing perceived stress.

The amount of stress an individual experiences appears to be heavily linked to a person's perception of how able he/she will be at coping with stress. When daily demands associated with life transition and change exceed what an individual believes is his/her ability to cope, a psychological stress response occurs. Stress responses are a direct result of an individual's appraisal of how much emotional support he/she has to deal with a stressful situation. If a person believes that he/she has emotional support, then he/she will be less likely to experience stress and negative mood. Discussing the stressful event with others appears to mediate the impact of stress because the individual is able to receive emotional support from others regarding feelings associated with stress.

Emotional Intelligence and Alexithymia

There are some individuals who appear to have the ability to conceptualize and use emotional information to enhance their actions and thoughts. Individuals with higher emotional intelligence are better able to recognize and reason about the emotional consequences of stressful events in their lives. Emotional intelligence is thought to increase an individual's attention to and accuracy regarding his or her feelings in a variety of conditions, which can impact a person's capacity to cope with stress and minimize stress related symptoms (Mayer, Salovey, & Caruso, 2008). In contrast to emotional intelligence, alexithymia describes a condition where an

individual is unable to describe, clarify, or attend to important emotional information that may help them to cope with life demands.

The concept of emotional intelligence has been defined by psychologists and researchers in several different ways. Mayer, Salovey, and Caruso (2008) have referred to the ability that allows a person to engage in adaptive processing of his/her own emotions while also attending to the emotions of others as emotional intelligence. Individuals with high emotional intelligence are able to pay attention, use, manage, and understand emotions, so they may better adapt to their environment and cope with stress more effectively. Emotional intelligence has also been defined as the capability or individual competency to effectively cope with environmental demands and pressures (Mayer, Salovey, & Caruso, 2008).

Mayer, Salovey, and Caruso (2008) have asserted that individuals with emotional intelligence can perceive emotions in themselves and others accurately, understand emotions and emotional language, and use emotions and signals conveyed by emotions to facilitate thinking and action toward specific goals. Lazarus asserts that experienced emotions contain important information about an individual's relationship with his/her external environment. Emotions are often triggered when this relationship shifts (Lazarus, 1991). Peoples' ability to perceive this relationship change and their resulting emotions helps them to function appropriately in a social environment. By learning to perceive and understand one's own emotions, that person develops necessary skills that allows them to devote attention accordingly,

make important decisions, and predict behavioral responses (Brackett, Rivers, Lerner, Salovey, & Shiffman, 2006).

Alexithymia describes an inability to describe, clarify, or accurately perceive one's own emotions. A main feature of alexithymia is a problem with naming or interpreting emotions (Reif, Heuser, & Fichter, 1996). Honkalampi, Hintikka, Tanskanen, Lentonen, and Vinamaki (2000) have indicated that alexithymia is associated with an emptiness of feelings, a lack of imagination and poor ability to fantasize, and a lack of positive emotions with an increased presence of negative emotions. Consequently, these individuals may not have the language to express their emotions to others and lack the ability to decipher between different emotions and manage their own internal mood states.

Research has also shown that alexithymia is highly associated with self-reported depression (Honkalampi, et al., 2000). Additionally, researchers have indicated that as many as 7 to 16% of college students experience significant psychological problems that involve anxiety and depression (Ostrow, Paul, Dark, & Behrman, 1986). Honkalampi and colleagues (2000) found that the prevalence of alexithymia was about 4.3% in self reported nondepressed subjects, while depressed subjects were eight times more likely to endorse alexithymia characteristics. Researchers have argued whether alexithymia is a symptom of depression or a separate personality construct. Some researchers have indicated that alexithymia and depression are separate conditions, and alexithymia is a stable personality trait highly associated with depressive disorders (Parker, Bagby, & Taylor, 1991). However,

others have argued alexthymia may be secondary to depression acting a coping or defense mechanism when threat is perceived (Reif, et al., 1996). Regardless, alexithymia continues to be a prevalent concern and has been identified in about 13-19% of the population.

Kauhanen, Julkunen, and Salonen (1991) have indicated there are strong associations between alexithymia and somatic complaints. The presence of alexithymia may predispose individuals to psychosomatic difficulties presumably because they don't have the words to express their distress and instead communicate their negative feelings physically. Additionally, particular emotions and reactions often go unrecognized by alexithymic individuals, so they can easily be internalized into somatic concerns. There may be a tendency for these individuals to experience the somatic symptoms linked with depression, such as fatigue or pain, because physical complaints can be better communicated and verbalized than emotions these people have trouble perceiving and understanding. Thus, alexithymia has been identified as a risk factor for both somatic and mental disorders (Reif et al., 1996).

When individuals have the ability to attend to feelings properly and are able to manage emotions associated with life events, researchers have identified them as being emotional intelligent. Mayer and Salovey's (1997) model of emotional intelligence outlines four crucial and interrelated emotional abilities that emotionally intelligent individuals possess that includes the ability to perceive, use, understand and manage emotional information. Specifically, emotional intelligence involves the ability to accurately perceive emotions, so they may be included in reasoning

involved in problem-solving. Perceiving emotions involves identifying emotions in oneself and others, while using emotions involves incorporating feelings into cognitive strategies involved in decision-making. Mayer and Salovey (1997) have defined understanding emotion as the ability to use language and propositional thought to reflect and analyze the content of emotions. Lastly, the ability to manage emotions involves reducing, enhancing, and modifying emotional responses based on the environment and specific situation. When individuals are able to demonstrate these skills they are more equipped to deal with stressful situations. Some individuals have a greater capacity than others to attend to and use emotional information to better guide behavior and mediate stress. Individuals' ability to cope with stressful situations and mange their stress related reactions is likely impacted by several factors including the individual's perception of stressful situation and also dispositional factors such as the person's emotional intelligence defined as skills and capabilities that influence a person's ability to succeed in coping with environmental pressures and demands (Mayer, Salovey, & Caruso 2008).

Emotion-focused coping strategies

Although an individual's emotional intelligence is comprised of some dispositional factors, emotionally focused coping strategies can also impact and increase a person's ability to utilize his/her emotional intelligence. Therapy often involves developing insight into maladaptive behavior patterns and focuses on interventions like role play in psychodrama to explore emotions involved. Along with encouraging clients toward new insight, therapy also centers on developing

emotional coping skills like managing and understanding emotions to fend off future stress and conflict clients are likely to encounter.

Lazarus and Folkman (1984) have defined coping as a response to environmental and psychological demands in particular stressful situations. Moreover, emotionally-focused coping has been defined by Lazarus and Folkman as an effort by an individual to alleviate negative emotions surrounding a particular situation or event. Baker and Berenbaum (2008) have described emotional approach coping as "actively identifying, processing, and expressing one's emotions". According to Baker and Berenbaum emotions can and do play an adaptive role in the coping process. Alternatively, problem-solving coping takes a slightly different approach and involves making efforts to generate options to solve a problem and implementing these strategies to effectively to resolve stressful issues. Problem-solving approaches encourage individuals to use their rational thought and reason to identify and evaluate appropriate and organized solutions to problems.

Researchers have indicated that individuals often vary in their ability to be clear when describing their emotions and differ in their innate ability to focus or attend to their experienced emotions (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). A recent study by Baker and Berenbaum (2007) actually indicated that individuals who were less attentive and less clear about their emotions had higher self-reported positive affect, as measured by the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), if they engaged in an emotionally-based approach for developing coping skills. Individuals who lack mood awareness and are

less emotionally available may benefit more from emotionally-expressive approaches (Baker & Berebaum, 2007). Thus, those individuals who are not as able to capitalize on their emotional intelligence may actually benefit from interventions that focus on and teach them to use and mange emotions related to stress more effectively.

Efficacy of emotional interventions with college populations

Recently, researchers have investigated whether individual differences in emotional processing style can impact the effectiveness of an emotionally-based approach versus a problem-solving intervention on college students dealing with stress (Baker & Berenbaum, 2008). Invention strategies focused on emotionally-based coping did appear to be mediated by an individual's emotional processing ability.

Research has indicated that psychodrama is indeed effective in inducing client change, regardless if the client is the primary actor in the role-play scenario, in a single session format because individuals are able to discuss and process emotional information. Clearly, clients are able to work through challenging life scenarios in this therapeutic format to gain emotional relief and clarity. Can these experiential role-play techniques also be effective in improving stress, depending on emotional awareness and processing capability, related to life transitions individuals may not normally seek treatment for? The transition from high school to college is often difficult for many incoming freshman students. The new lifestyle and sense of freedom it brings is also filled with the stress of beginning the separation from parents, the pressure to find supportive friendships, often learning share a small living

space with a new roommate. Freshmen are faced with pressing academic demands which far exceed those in high school and are frequently coping with interpersonal stress associated with life transition. As educators, we often ask what can we do to make the transition easier for these students?

A recent study by Baker and Berenbaum (2008) investigated whether individual differences in emotional processing style impacted the effectiveness of an emotionally-based approach versus a problem-solving intervention on freshman adjusting to their transition to college. The participants in the study were undergoing the same stressful event, the transition to college, and volunteered for a workshop to improve coping skills. Investigators provided a brief two hour problem-solving or emotionally-based coping intervention in the form of a small group lead by an intervention leader. Participants were required to provide information regarding their current stressor by giving a written description of their stressful situation and were asked to rate the level of severity of their stressor. Typical responses included interpersonal stressors which consisted of either problems with roommates, difficulty separating from family to attend college, or problems in romantic relationships.

Participants then completed baseline measures of mood and adjustment which included the Positive and Negative Affect Schedule and the Mood and Anxiety Symptom Questionnaire. Participants also completed the Trait-Meta Mood Scale and Toronto Alexithymia Scale- 20 item version questionnaire to assess their emotional processing style. Participants were randomly assigned to one of two interventions,

either an “emotional-approach intervention” or a “problem-focused intervention”. Both interventions with students were run by a “workshop leader”.

In the problem-solving intervention, participants were asked to discuss and explore potential solutions for their problem and generate lists of options for solving the issue with other participants. The participants were asked to examine the pros and cons of each option and decided on concrete steps to make the stressful situation less stressful. These participants were told that they could solve their problem by talking to others and exploring options. The emotionally-based intervention asked participants to talk about, explore, and clarify their feelings regarding their stressful transition. Participants were asked to share the stressful situation with others and others were encouraged to provide emotional support. Participants in the emotional approach intervention were also ask to identify specific emotions associated with the stressor and communicate those emotions with other participants. Participants in this condition were told that they could accomplish the goal of communicating feelings through talking with others.

The study revealed that both interventions were mediated by participants’ difference in emotional processing style, specifically their ability to pay specific attention to their emotions. Baker and Berenbaum (2008) found that individuals who were not attentive to their emotions had lowered negative affect if they engaged in the emotionally-based intervention. The researchers concluded that people with deficits in their emotional processing style benefit more from expressing and exploring their emotions with others than those who are already more attentive to their emotions. In

addition, participants in the emotionally-based intervention were able to acknowledge each others' feelings and provide appropriate empathy, which may have increased social support and affected participants' level of stress and associated mood states.

Research (Baker & Berenbaum, 2008) has indicated that emotionally-based interventions can be effective in reducing negative affect. However, emotionally-based interventions seem to be moderated by a participants' pre-existing ability to recognize, describe, and clarify their emotions associated with stress. It seems likely that participants who do not previously have these emotional skills are able to learn them through an emotional intervention.

Summary

This chapter reviewed literature which supported psychodrama therapy, a particular form of group therapy which relies on role-play techniques to explore clients' feelings, thoughts and behaviors, as an effective therapeutic intervention that reduces negative mood. Traditionally, psychodrama has been used with clinical populations reporting a significant amount of emotional distress. Emotion-focused coping interventions which promote processing of feelings associated with stress have also been suggested by researchers to be efficacious in improving mood and reducing stress, even with individuals reporting relatively minor stressors.

The overall impact of emotion-focused coping interventions appears to be impacted by a person's prior emotional processing ability. Mayer, Salovey, and Caruso (2008) have asserted that individuals with well-developed emotional processing ability can perceive emotions in themselves and others accurately,

understand emotions and emotional language, and use feelings to facilitate thinking and action toward specific goals. Interventions based on emotional clarification and role-play have been designed and utilized by practitioners to enhance clients' emotional intelligence in the therapeutic context. Presumably, role-play therapy promotes awareness of emotions associated with life change, presenting individuals with the opportunity to practice using their personal resources in a group context to reduce the negative impact of stressful situations. Role-play techniques have not been used with individuals dealing with mild to moderate stressors. The present study investigated if an emotionally-based approach, based on reviewed psychodrama techniques, could impact experienced stress and affect with a nonclinical population, specifically college freshmen dealing with emotions related to their transition to college.

CHAPTER III

Methods

College freshmen were asked to identify and write about an interpersonal difficulty they were facing related to their transition to college. Participants then engaged in either a problem-solving intervention, an emotionally-based role-play approach, or received no intervention if assigned to the control group condition. It was hypothesized that participants in the emotionally-based intervention would experience a reduction in stress level, as shown in by a decreased score on the PSS (Cohen, Kamarck, & Mermelstein, 1983) and an increased score on the negative affect scale on the PANAS (Watson, Clark, & Tellegen, 1988), more than participants engaged in the problem-solving intervention or control group condition. Additionally, it was predicted that participants with less emotional awareness/attentiveness initially would experience greater effects, reduced stress and elevated mood, because of the role-play emotional intervention. It was also predicted the intervention would have a lasting effect, so participants who experienced decreased stress and elevated mood following the role-play intervention were expected to also indicate lower stress levels and better mood two weeks after the intervention.

Essentially, emotional role-play exercises were expected to elevate mood and reduce stress and anxiety associated with a life stressor that college students typically face and often choose not to seek therapy in order to reconcile. The reduced stress levels and shift to more positive mood states were predicted to be more observable in

the participants who typically did a poor job of processing their emotions. The role-play exercises were predicted to allow participants with low emotional attenuation to gain new clarity of their emotions, creating a lasting and marked mood change and reduced stress regarding their college transition.

Stress levels resulting from the transition to college and the interpersonal difficulties this life change often creates were measured by the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983), which assessed the degree to which situations in participants' lives were perceived as stressful, and the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), designed to measure positive and negative affect associated with overall mood. Participants' ability to attend and appropriately assign meaning to their experienced emotions was measured by the Trait-Meta Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) and the Toronto Alexithymia Scale- 20 item version (TAS-20; Bagby, Taylor, & Parker, 1994).

Participants

Participants were students enrolled in the Freshman Orientation Seminar at a Midwestern University. Students from the Freshman Orientation Seminar were chosen to participate in the study because they were newly admitted students dealing with the same transition, entrance into college. Goals of the Freshman Orientation Seminar course include providing an introduction to the university community and exploring strategies for successful transition to and participation in the academic community. The course is designed to help new students become independent and

responsible adults by developing a set of personal skills. The proposed interventions provided students with an opportunity to add to their skill set and learn strategies to appropriately manage stress and anxiety associated with this transition.

There were 62 students participating in the problem-solving intervention, 65 students participating in the emotionally-based intervention, and 37 students in the control conditions. Instructors who were currently teaching two sections of Freshman Seminar had one section assigned to the emotionally-based intervention and one section assigned to the problem-solving intervention. The researcher received approval from the Human Subjects Committee for permission to use this student population. Students were asked to participate for the proposed study as a part of a class assignment.

Measures

Demographic Form. The demographic form (see Appendix A) was developed for this study to gather information about participants' gender, age, and race. In addition, the questions assessed students' academic load and current work schedule, which may have impacted stress levels. Participants indicated their academic class level, major area, the number of hours they were currently enrolled in, and the number of hours they were currently working.

Perceived Stress Scale (PSS). The PSS (Cohen, Kamarack, & Mermelstein, 1983) was chosen as a measure for this study (see Appendix B) because it indicates the impact of current stress on an individual's life and also measures how much control a person believes they have to cope with the perceived stress. The PSS has

been used specifically with college populations to measure experienced stress and level of adjustment (Cohen et al., 1983). Both the emotional role-play intervention and problem-solving intervention were designed to reduce stress levels in college freshman, and the PSS measured the degree to which participants felt stressful following the designed intervention. The PSS is 14-item measure designed to assess the degree to which situations in one's life are appraised as stressful. PSS items are designed to measure the degree to which respondents found their lives to be unpredictable, uncontrollable, and overloading. Responses are made on a five point scale indicating the amount of agreement (0 = never, 1= almost never, 2= sometimes, 3= fairly often, 4 = very often). Cronbach's alpha for the Perceived Stress Scale for in the current study was .70.

Cohen and his colleagues (1983) investigated PSS reliability with two college student samples and one smoking-cessation group, and reported the coefficient alpha reliability for the PSS was .84, .85, .86, respectively, for three samples. Test-retest (2 days) correlation coefficient for the college sample was .85, whereas the correlation was .55 for the subjects in the smoking study who were retested after six weeks. The PSS also correlates highly with depressive symptomology ($\underline{r}$ = .76 and .65) in college student samples. Hewitt, Flett, and Mosher (1992) have also indicated that the PSS is correlated significantly to Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961scores ($\underline{r}$ = .57). In addition, the PSS correlates highly with the CES-D depressive symptom scale (Radloff, 1977) indicating that the PSS is correlated with depressive symptomology. The PSS is also closely related to a

participant's life-event impact score ratings, which is based on a respondent's appraisal stress associated with major life-events (Cohen et al., 1983).

Positive and Negative Affect Schedule (PANAS). The PANAS (Watson, Clark, & Tellegen, 1988) was chosen as a dependent measure because it is sensitive to both positive and negative mood states associated with life transition (see Appendix C). The PANAS measures two distinct dimensions of mood, Positive Affect and Negative Affect. The PANAS consists of a 10-item PA scale, and a 10-item NA scale. Positive Affect (PA) reflects the extent to which a person feels enthusiastic, active, and alert, while Negative Affect (NA) is a measure of subjective distress and a variety of aversive mood states. The extent to which each emotion is felt is rated using a 5-point scale for the 20-item measure. Subjects can be asked to rate how they felt (a) "right now (that is in the present moment)" (b) "today" (c) "during the past few days" (d) "during the past week" (e) "during the past few weeks" (f) "during the past year" (g) "in general, that is, on the average".

For those six time frames the internal consistency reliability estimates (Cronbach coefficient alpha) range from .90 on the PA scale and .84 to .87 on the NA scale. The Cronbach alpha coefficient for the current study was .64. The reliability of the scales is reported to be unaffected by the time instructions used (Watson et al., 1988). In addition, the PANAS shows high validity, as it is substantially correlated with the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) ($\underline{r}$ = .74), Beck Depression Inventory (BDI, Beck, Ward,

Mendelson, Mock, & Erbaugh, 1961) (PANAS PA r = -.36 and PANAS NA r = .58), and State Anxiety Scale (A-state; Speilberger, Gorsuch, & Lushene, 1970) (r = .51).

Trait Meta-Mood Scale (TMMS). The TMMS (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) was included in the study to provide important information about how much a participant pays attention to feelings, understanding one's feelings, and is able to manage those feelings (see Appendix D). The TMMS was developed to provide an index of individual mood regulation process that involves regulating, monitoring, and evaluating emotions. The TMMS is reported to measure three important constructs: attention to feelings (how much attention individuals pay to emotional states), clarity of feelings (ability to understand feelings), and repair (ability to regulate negative moods). The TMMS scale consists of 30 total items. Responses are scored on a five point scale indicating the amount of agreement (1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree or disagree, 4 = somewhat agree, 5 = strongly agree). Higher scores represent a better ability for understanding and managing one's mood. The overall score can be broken down into three specific subscales. The attention subscale comprises 13 items, the clarity subscale consists of 11 items, and the repair scale consists of 6 items. The TMMS is a reliable scale with internal consistency reliability coefficients ranging from .82 to .86 and provides a valid index of what it purports to measure (Salovey et al., 1995). Cronbach alpha for the TMMS in the current study was .69.

Toronto Alexithymia Scale. The TAS-20 (Bagby, Taylor, & Parker, 1994) was included to measure participants' ability to describe, identify, and communicate

clearly feelings associated with life transition (see Appendix E). The TAS-20 is a self report instrument that measures three different constructs which include difficulty describing feelings, difficulty identifying feelings, and externally oriented thinking. The 20-item scale is rated on a 5-point Likert scale (1 = strongly disagree, 2 = moderately disagree, 3 = neither agree or disagree, 4 = moderately agree, 5 = strongly agree). Higher scores indicate the presence of more symptoms associated with alexthymia such as an inability to attend to or adequately clarify emotions.

The TAS-20 shows strong discriminant validity with measures that assess a person's ability to reflect feelings. The TAS-20 is negatively correlated with the Psychological Mindedness Scale (Conte, Plutchik, Jung, Picard, Karasu, Lotterman, 1990) ($\underline{r}$ = -0.68) and the Need for Cognition Scale (Cacioppo, Petty, 1990) ($\underline{r}$ = -0.55). Discriminant validity has also demonstrated by nonsignificant correlations with the traits of conscientiousness ($\underline{r}$ = -0.21) and agreeableness ($\underline{r}$ = 0.09) as measured by the NEO Personality Inventory (Costa, McCrae, 1985). These traits are predicted to be unrelated to alexthymia and do not correlate significantly with the TAS-20 (Bagby et al., 2004b) Concurrent validity has been established between the TAS-20 and the Beth Israel Hospital Psychsomatic Questionnaire (Sifneos, 1973) which has been widely used in alexthymia research indicating a strong relationship ($\underline{r}$ = 0.53). Cronbach's alpha for the TAS-20 in the current study was .74. The TAS has been shown to have good internal consistency with alpha coefficients ranging from 0.73 to 0.84 (Bagby et al., 2004a).

Group Design

Participants were assigned to one of three groups based upon their class section enrollment: the role-play emotional intervention, the problem-solving intervention, or the control group receiving no intervention. Entire class sections of approximately twenty students were randomly assigned to one of the three groups. One class section from an instructor was assigned to the role-play intervention, while the other section was assigned to the problem-solving intervention. Class instructors teaching only one section were assigned to the control condition. All student participants enrolled in a class section were assigned to the same intervention group.

Procedures

In the week prior to the study, the researcher visited classes and asked for student volunteers. Students choosing not to participate were offered an alternative option of completing an outside assignment, taking the place of classroom time required to complete the intervention. Participants who agreed attended two class periods (instead of completing the alternative assignment) which involved either a problem solving intervention or role play intervention designed to improve coping skills for their college transition. Students in the control condition also attended two consecutive class sessions to complete baseline measures. Because the researcher visited the class a week prior to the study, participants were able to make a decision about their participation without undue pressure from the researcher or from peers. The researcher completed the informed consent procedure with the participants the week before the study and indicated that participants were expected to attend both

class sessions. The role-play or problem-solving interventions were given to the participants during the twelfth and thirteenth weeks of the fall semester to ensure that students felt comfortable enough with peers to share information focused on their current stress. The interventions were given during the last third of the semester, so there would be a greater possibility of group cohesion needed for a successful intervention.

Instructors for the Freshman Orientation Seminar gave the researcher permission to conduct the intervention during two consecutive class periods during the fall semester. Class sections of about twenty students were randomly assigned to the role play intervention, problem-solving intervention, or control group condition. One-half of the intervention class sections were assigned to the problem-solving intervention and the other half of the participating intervention sections participated in the emotionally-based role play intervention.

The study was composed of two sessions of interventions. During the first class session, all participants were asked to provide information concerning a current stressful issue that related to their transition to college. Participants completed measures of emotional processing style and completed baseline measures of mood and stress level. The order of the measures given to participants was randomized for each participant for internal validity purposes.

During the beginning of the first session, students were encouraged to choose an issue that involved interpersonal conflict like separation from parents, difficulty adjusting to a new roommate, or problems with a certain professor. Furthermore,

students were instructed to choose a situation that was stressful at the current moment and had the potential to be stressful for a least one week in the future. Participants were given five minutes to briefly write a description of the stressful event, how it occurred, and what their current concerns seemed to be. Instructions for this activity were adapted from Baker and Berenbaum (2008) to read as follows:

Take a few moments to think about a current stressful issue that relates to the transition to college. By "stressful" I mean a situation that is difficult or troubling to you, either because it upsets you or because it takes considerable effort to deal with it. By "current" I mean a situation that is stressful at this moment and has the potential of being stressful one week from now. It may be a problem with a roommate, difficulty with a professor, a separation from someone you care about, living in a new environment, or making new friends. With this situation in mind please answer the following questions: "What happened?" and "When did it happen?".

After taking five minutes to write about the current stressor, each participant was then asked to complete the Perceived Stress Scale (PSS) (Cohen, Kamarck, & Mermelstein, 1983, the Positive and Negative Affect Scale (PANAS) (Watson, Clark, & Tellegen, 1988), the Trait-Meta Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) and the Toronto Alexithymia Scale (TAS-20) (Bagby, Taylor, & Parker, 1994) as pre-test measures. The control group wrote about a stressful situation and completed pre-test measures but did not receive an intervention. For the two intervention groups, the remainder of the first class period and next class period was devoted to the selected intervention. Students were asked

to complete the PSS and PANAS at the end of second class period as post-test measures designed to assess the effectiveness of the intervention. Students in the control group also completed measures at the end of the second class period. Students in the role-play intervention and problem-solving intervention were also asked to complete the PSS and PANAS outcome measure two weeks after the intervention to assess for lasting impact of the intervention on participants' mood and experienced stress level.

Role play intervention. An intervention moderator, the researcher, instructed and guided participants through the proposed role-play intervention. After completing pre-test questionnaires, students were introduced to the role-play intervention. Students were informed that they would be learning a stress reduction technique which involved helping each other through role-play exercises to explore stress. The moderator asked for two student volunteers to demonstrate the role-play exercise in front of the class. One student volunteer was asked to be the "protagonist", while the other student acted as an "auxiliary" role-playing the protagonist's stress. The moderator played the director of the role-play demonstration between the protagonist and the auxiliary and asked specific questions designed to guide the role-play exercise. The protagonist sat in a chair facing the participant playing the auxiliary, and the director was seated just behind the pair, so the director could guide the action of the scene.

First, the director asked the protagonist to talk to their stress directly and answer the following questions/concepts while talking to their stress throughout the

role-play: "What are things that capture the essence of you?", "What do you look like?", "What feelings do I associate with you?" "What's your reason for being here and trying to stay?", "Where do you live in my body?" What would it be like if you were gone?", "How would I feel if you were gone?". The protagonist was asked to answer these questions about stress by talking to the auxiliary who was role-playing stress itself. The auxiliary responded to the protagonist's comments as the protagonist's stress. During the role-play, the director asked the participants to switch roles, known as a role-reversal in psychodrama, where the protagonist then played their stress and the auxiliary acted as the protagonist in response to stress. By switching roles throughout the role-play, the protagonist was directly speaking to and confronting stress and also playing/identifying with stress. The director asked questions and guided the interaction, asking the protagonist to switch roles when appropriate or explain responses further.

After the role-play demonstration, students were asked to break into groups of five. One student was asked to play the director, one student played the protagonist, one played the auxiliary role, and two students observed the action. Groups were asked to role-play a particular "protagonist's" stress for ten minutes. Students then switched roles, so each student had the chance to direct, play the protagonist, play the auxiliary, and observe the action. Students were also provided a list of questions to ask as director to guide the action. Additionally, the researcher walked from group to group monitoring action, helping groups which were having trouble, and answered questions for clarification. Groups performed role-plays during the first and second

sessions of the intervention until each member had the opportunity to perform all roles.

Each participant in the group had the opportunity to become the primary actor, so they could complete a role-play with their stress regarding the worrying event, have an opportunity to play their stress to understand it more fully, and finally create an ending scenario for the stressful event. At the end of the intervention, students processed their experience during the role-play, what feelings they felt they were able to express, and how using role-play changed their outlook or attitude about the stressful event.

Problem-focused intervention. The researcher also served as the moderator in the problem-focused intervention and instructed and guided participants through the intervention. After completing pre-test questionnaires, students were introduced to the problem-solving invention. Students were informed that they would be learning a stress reduction technique which involved helping each other by exploring ways to solve their problem.

The moderator instructed participants to break into groups of five students. Participants took turns in the group sharing the nature of their specific stressful issue. Group members were asked to work together to generate a list of potential options that could reduce stress for each stressful problem. Members also were instructed to brainstorm and generate a list of options that could be a potential solution for each person's stressful event. After composing a list of solutions for each participant's stressful situation, group members also explored the pros and cons to each of their

proposed solutions and spent group time discussing the implications for the proposed solutions. Groups rated how effective they believe each solution they generated would prove to be on a 1-10 scale and discussed the implication for their ratings.

Students' groups were then asked to construct a concrete plan which implemented one of the proposed solutions. The group outlined the series of steps (in order) the participant could take in order to solve his/her stressful issue. The group composed a written plan of action that included the proposed steps to reach a solution including potential complications that could arise with each step and how to deal with those complications. At the end of the intervention, students processed with the moderator how they were able to generate these solutions, which solution plans appeared most helpful, and why they believed them to be effective.

CHAPTER IV

Results

The current study was designed to test the effectiveness of a role-play intervention and a problem-solving intervention intended to reduce stress and negative affect in college freshman dealing with the initial transition to university life. This chapter will report the results illustrating the effectiveness of the role-play intervention, problem-solving intervention, and the results of control group which did not receive an intervention.

Data Transformation

Prior to the main analyses, the data were examined to identify any missing data. Participants who did not complete both a pre-test and post-test measure were removed from the data set. A total of 13 cases from the pre-test control group, seven cases from the pre-test problem-solving group, and nine cases from the pre-test role-play group were removed because post-tests were not completed by these participants. In addition, a total of seven post-test cases from the control group, seven post-test cases from the problem-solving group, and five post-test cases from the role-play group were omitted because corresponding pre-test measures were not completed.

Sample Characteristics

All participants in all of the assigned groups agreed to participate in the study, and no participants elected the option to complete an alternative assignment. A total of 164 cases, with completed pre and post measures, were identified for data analysis.

Table 1 displays the descriptive properties of the participants used for the study. The mean age of participants in the study was 18.33 (SD = .532). 42.7% of the participants were male (n = 70), while 67.3% of the participants were female (n = 94). Approximately 93% of the participants in this study were Caucasian, with 7% identifying other ethnicities. In addition, a significant portion of the participants (n = 131; 79.9%) identified having an intended major area of study, while approximately 20% of the participants indicated they were undecided in their major choice. The majority of the participants were enrolled in 12-15 (n = 121; 73.8%) hours of academic coursework, which is a fairly typical load for a college freshman. Lastly, approximately 15% of the participants reported being currently employed, and 85% indicated they were not currently employed during the academic year.

There were 65 total participants in the role-play group, and 47 of those participants were female, while 18 of the role-play participants were male. The mean age of participants in the role-play group was 18.28 (SD = .451). Fifty-five participants in this group were Caucasian, and 10 participants in the role-play identified with a different ethnic background other than Caucasian. A total of 62 participants were in the problem-focused intervention group, and 50% (n = 31) of those participants were female, while 50% (n = 31) of problem-solving participants were male. The average age of participants in the problem-solving group was 18.37 (SD = .550). All participants in the problem-solving group were Caucasian. There were 37 total participants in the control group. Twenty-one (56.8%) of the control group participants were male, and 16 (43.2%) of the control participants were female.

The average age of control group participants was 18.35 (SD = .633). Thirty-five of the control group participants identified their race as Caucasian, while two participants in the control group identified their race as African-American.

Evaluation of Intervention Effects

It was predicted that participants in the emotionally-based intervention would experience a significantly greater reduction in stress than participants engaged in the problem-solving intervention. It was also predicted that participants who received the role-play intervention would experience a significant decrease in negative affect greater than participants receiving the problem-solving intervention. Moreover, it was expected the role-play and the problem-solving intervention would impact participants' mood and reduce their stress level more than participants in the control group receiving no intervention.

To determine the effect of the role-play intervention and problem-solving intervention on stress, measured by the Perceived Stress Scale (PSS), and affect assessed with the Positive and Negative Affect Schedule (PANAS), a series of repeated analysis of variance were conducted. The mean scores and standard deviations for the role-play group, problem-solving group, and control group on the Perceived Stress Scale before the intervention and immediately following the intervention are presented in Table 2. Mean scores and standard deviations for the role-play group, problem-solving group, and control group on the Positive and Negative Affect Schedule (PANAS)- Positive Scale before the intervention and immediately following the intervention are presented in Table 3, and mean scores

with standard deviations for the three groups on the Positive and Negative Affect Schedule (PANAS)- Negative Scale before the intervention and immediately following the intervention are displayed in Table 4.

First, a one-way repeated measures analysis of variance was performed for each intervention group to determine if the intervention had a significant effect on participant's stress and affect following the intervention. Table 5 displays the findings indicating the role-play intervention did not significantly impact participants' perceived stress, negative affect, or positive affect directly following the intervention. As Table 5 indicates, the role-play intervention did not significantly impact participants' perceived stress directly following the intervention $F(1,63) = .67$, $p = .42$, $\eta^2 = .01$. Moreover, the role-play intervention did not significantly lower levels of negative affect $F(1,62) = .02$, $p = .88$, $\eta^2 < .01$, or increase positive affect $F(1,63) = .03$, $p = .86$, $\eta^2 < .01$, directly following the intervention.

Participants in the role-play group and problem-solving group also completed the Perceived Stress Scale and the Positive and Negative Affect Schedule two weeks following the intervention. It was predicted the role-play intervention would have a lasting effect, and mood change and decreased stress would be significantly greater for participants in the role-play group both following the intervention and two weeks after the invention. A repeated measures analysis of variance was conducted to assess the effectiveness of the role-play intervention two weeks following the intervention. Twenty-one cases in the role-play group were removed for the analysis,

as these participants did not complete the delayed post measures two weeks after the intervention.

The mean scores and standard deviations for the role-play group on the Perceived Stress Scale before the intervention, immediately following the intervention, and two weeks after the intervention are presented in Table 6. Mean scores and standard deviations for the role-play group before the intervention, immediately following the intervention, and two weeks after the intervention on the Positive and Negative Affect Schedule (PANAS)- Positive Scale are displayed in Table 7, and mean scores with standard deviations for the role-play group for the three time periods on the Positive and Negative Affect Schedule (PANAS)- Negative Scale are presented in Table 8.

Participants in the role-play intervention did not experience a significant change in perceived stress two weeks following the intervention $F(2, 42) = .64$, $p = .54$, $\eta^2 = .03$. Moreover, participants in the role-play condition did not experience a significant decrease in reported negative affect $F(2, 41) = .51$, $p = .61$, $\eta^2 = .03$, two weeks after the intervention when compared with pre-test and post-test scores.

It was hypothesized that participants in the problem-solving intervention would experience a significant reduction in stress level and change in mood. As Table 9 indicates, the problem-solving intervention did not significantly reduce participants' perceived stress $F(1, 61) = 1.23$, $p = .27$, $\eta^2 = .02$, when compared with participant pre-test scores. Participants also did not experience a significant

reduction in negative affect $F(1,61) = 2.45$, $p = .12$, $\eta^2 = .04$, or increase in positive affect $F(1,61) = .05$, $p = .82$, $\eta^2 < .01$, following the problem-solving intervention.

It was predicted that the problem-solving intervention's effects would be present two weeks following the intervention. Participants in the problem-solving intervention did not experience a significant change in perceived stress $F(2,33) = 1.05$, $p = .36$ $\eta^2 = .06$, or decrease in negative affect $F(2,33) = .30$, $p = .75$, $\eta^2 = .02$, from the post-test directly after the intervention to the two-week follow-up after the intervention.

Similarly, participant scores in the control group remained relatively constant from Time 1 (pre-test) to Time 2 (post-test), as they did not receive an intervention between pre and post measures. There was not a significant difference in perceived stress for control group participants $F(1,35) = .02$, $p = .90$, $\eta^2 < .01$, from the pre-test measure to the post-test measurement period. Also, there was not a significant decrease in negative affect from the pre-test to post-test measures for control group participants $F(1, 36) = 1.31$, $p = .26$, $\eta^2 = .04$. Control group participant scores did not change significantly from the pre-test to the post-test measurement as expected.

Evaluation of Interaction Effects

It was hypothesized that participants in the role-play intervention would experience a greater reduction in stress level and change in mood than participants in the problem-solving group, and participants in the problem-solving group would experience a greater reduction in stress and negative affect than control group participants from Time 1 (before the intervention) to Time 2 (immediately following

the intervention). To determine the effect of the role-play intervention and problem-solving intervention on the stress and affect measures completed by participants, a series of 3 (intervention group: role-play, problem-solving, or control) x 2 (time: pre-intervention versus post-intervention) repeated measures analyses of variance were conducted. The repeated measures analyses examined interaction effects of Group x Time interactions for the three dependent measures: perceived stress, positive affect, and negative affect.

Sixty-four participant pre-test and post-test scores in the role-play group were compared with 62 participant pre-test and post-test scores from the problem-solving group and 36 control group participant pre-test and post-test scores. The analyses revealed there was not a significant interaction for the intervention group and time period: before the intervention or after the intervention on the Perceived Stress Scale. Table 10 presents the repeated-measures findings for the interaction between group and time for each of the three dependent measures. Participants in the role-play group did not have a significant difference in perceived stress $F(2, 159) = 1.44$, $p = .24$, $\eta^2 = .01$, following the intervention from the problem-solving group or the control group. Likewise, participants in the problem-solving group did not have a significant difference $F(2, 159) = 1.44$, $p = .24$, $\eta^2 = .01$, in perceived stress from before the intervention to after the intervention from participants in the role-play group and control group. Similarly, participants in the role-play group did not have a significant difference in positive affect $F(2, 160) = 0.20$, $p = .82$, $\eta^2 < .01$, following the intervention from the problem-solving group or the control group. Participants in

the problem-solving group also did not have a significant difference $F(2, 160) = 0.20$, $p = .82$, $\eta^2 < .01$, in positive affect from before the intervention to after the intervention when compared with participants in the role-play group and control group.

A Group x Time interaction effect was also examined for negative affect. The results revealed that participants in the role-play intervention did not have a significant difference from the problem-solving group or control group in negative affect $F(2, 159) = 2.16$, $p = .12$, $\eta^2 = .03$, following the intervention. Likewise, participants in the problem-solving group did not have a significant difference $F(2, 159) = 2.16$, $p = .12$, $\eta^2 = .03$, in negative affect from the role-play group and control group from before the intervention to after the intervention.

To determine whether the role-play or problem-solving intervention had lasting effect, participants in the role-play group and problem-solving group completed post-test measures two weeks after the intervention. A series of 3 (time period: pre-intervention, post-intervention, and delayed-post intervention) x 2 (intervention group) repeated measures analyses of variance were conducted to examine if the interventions had beneficial effects. Participants in the role-play and problem-solving group who had not completed the delayed post measures were removed from the data analysis. Forty-three participants in the role-play group and 35 participants in the problem-solving group completed the pre, post, and delayed-post perceived stress measure and positive affect measure. Forty-three participants in

the role-play group and 34 participants in the problem-solving group completed the negative affect dependent measure at each of the three time periods.

Table 11 displays the results from the repeated measures analysis of variance for the role-play group and problem-solving group before the intervention, directly following the intervention, and two weeks after the role-play intervention. There was not a significant interaction between the intervention group and the three measurement time periods on each of the dependent measures. Participants in the role-play group did not experience a significant increase in perceived stress before the intervention, directly after the intervention, and two weeks following the interaction when compared with problem-solving group participants $F(2, 75) = 1.68$, $p = .19$, $\eta^2 = .04$. Moreover, there was not a significant difference between role-play participants and problem-solving participants across the three time periods for negative affect $F(2, 74) = 0.01$, $p = .99$, $\eta^2 < .01$, or positive affect $F(2, 74) = 0.55$, $p = .58$, $\eta^2 = .02$.

Effects of Participants' Emotional Processing Style on the Interaction between Intervention Group and Time

It was expected that participants' prior ability to clarify and attend to their own emotions would moderate the effect of the role-play intervention designed to explore emotions related to stress. Specifically, it was predicted that participants with less emotional awareness/attentiveness initially would experience greater effects, reduced stress and elevated mood, because of the role-play emotional intervention. A repeated measures analysis of covariance was performed to determine how emotional

processing style impacted the effectiveness of the intervention for participants in the role-play group, problem-solving group, and control group before the intervention and directly following the intervention.

In order to control for a participant's prior ability to attend, clarify, and describe emotions, participant scores on the Toronto Alexithymia Scale (TAS-20) and Trait Meta Mood Scale (TMMS) were used as covariates. Repeated measures ANCOVAs were performed to examine interaction effects of Group x Time interactions for the three dependent measures of perceived stress, positive affect, and negative affect. When controlling for participant scores on the Trait Meta Mood Scale (TMMS), there was not a significant interaction between the intervention group and time point: before the intervention and directly following the intervention, on any of the three dependent mood and stress measures. Table 12 displays the results from the repeated-measures ANCOVA with the Trait Meta Mood Scale as a covariate. Specifically, there was not a significant interaction when controlling for emotional intelligence, as measured by the TMMS, for the perceived stress scale $F(2, 154) = 1.23$, $p = .29$, $\eta^2 = .02$. Moreover, there was not a significant interaction between group and time with the TMMS covariate in the model for positive affect $F(2, 155) = .16$, $p = .85$, $\eta^2 < .01$, or negative affect $F(2, 154) = 2.09$, $p = .13$, $\eta^2 = .03$.

When accounting for participant scores on the Toronto Alexithymia Scale (TAS-20), which measured participants' prior ability to describe, identify, and communicate feelings, there was not a significant interaction between the intervention group and time point: before the intervention and directly following the intervention,

on any of the three dependent mood and stress measures. Table 13 displays the results from the repeated-measures ANCOVA with participant scores on the Toronto Alexithymia Scale as a covariate. In particular, there was not a significant interaction when controlling for alexithymia, essentially an inability to describe and clarify feelings, as measured by the TAS-20, for the perceived stress scale $F(2, 155) = 1.12$, $p = .33$, $\eta^2 = .01$. Furthermore, there was not a significant interaction between group and time with the TAS-20 covariate in the model for positive affect $F(2, 156) = .13$, $p = .88$, $\eta^2 < .01$, or negative affect $F(2, 155) = 2.25$, $p = .11$, $\eta^2 = .03$.

Additionally, a repeated measures analysis of covariance was performed to determine how emotional processing style impacted the effectiveness of the intervention for participants in the role-play group and problem-solving group at three time points, which included a delayed post measure two weeks following the intervention. Repeated measures ANCOVAs were performed to examine interaction effects of Group (role-play, problem-solving) x Time (before, after, and two weeks following the intervention) interactions for the three dependent measures of perceived stress, positive affect, and negative affect. Participant scores on the Trait Meta Mood Scale and the Toronto Alexithymia Scale were used as covariates in the model.

Repeated measures ANCOVAs were performed with perceived stress as the dependent measure. As seen in Table 14, when accounting for emotional processing differences as measured by the Trait Meta Mood Scale (TMMS), there was a significant trend $F(2, 71) = 2.92$, $p = .06$, $\eta^2 = .08$, toward an interaction between group and time (pre, post, delayed post) on the Perceived Stress Scale. Table 15

indicates that when controlling for participant scores solely on the Toronto Alexithymia Scale, there was not a significant interaction between the intervention group and the three time points on the Perceived Stress Scale $F(2, 74) = 1.72$, $p = .19$, $\eta^2 = .04$. However, when both measures of emotional processing ability were included as covariates in the model, participants in the role-play group reported significantly higher levels of perceived stress $F(2, 70) = 3.44$, $p = .04$, $\eta^2 = .09$, than participants in the problem-solving group. Table 16 displays the results from the repeated-measures ANCOVA with both covariates included in the model. Participants in the problem-solving intervention had relatively stable levels of perceived stress across all three time periods, indicating the intervention did not have a significant impact on stress level directly after the intervention or two weeks following the intervention. However, participants in the role-play condition did show a significant increase in stress from problem-solving participants from before the intervention to after the intervention when their prior emotional processing ability was considered.

In a follow-up analysis, change scores were calculated from Pre-Test Perceived Stress Scores (before the intervention) to Post-Test (directly after the intervention) Perceived Stress Scores for participants in the role-play group. Change scores were also derived from Pre Test - Delayed Post scores on the PSS. Post-test or Delayed Post scores on the Perceived Stress Scale were subtracted from Pre-test scores. These change scores were correlated with role-play participants' emotional processing scores on the Trait Meta Mood Scale, revealing a significant correlation of

$\underline{r}$ = -.378, p < .01. This further analysis signifies that individuals who scored lower on the TMMS, indicative of poor emotional processing ability, tended to report more stress after the role-play intervention.

Finally, repeated measures ANCOVAs were also performed to determine if the intervention for specific groups was effective over time measured by significant changes in mood. Specifically, there was not a significant interaction when controlling for emotional processing ability, as measured by the TMMS, for positive affect $F(2, 70) = .69$, $p = .50$, $\eta^2 = .02$, as seen in Table 14. Moreover, Table 15 displays there was not a significant interaction between group and time with the TAS-20 covariate in the model on the positive affect scale of the PANAS $F(2, 73) = .48$, $p = .62$, $\eta^2 = .01$. In addition, there was not a significant interaction when controlling for participant scores on the TMMS, on the negative affect scale on the PANAS at each of the three time points $F(2, 70) = .01$, $p = .99$, $\eta^2 < .01$. There was not a significant interaction between group and time with the TAS-20 covariate in the model on the negative affect scale of the PANAS $F(2, 73) = .01$, $p = .99$, $\eta^2 < .01$.

CHAPTER V

Discussion

The discussion chapter includes a summary of statistical findings as they relate to each of the proposed hypotheses. The chapter includes an interpretation of the statistical findings as well as a discussion of the limitations of the present study. The chapter will highlight results which show the role-play intervention was ineffective and include a discussion indicating there was no relationship between the variables. A discussion of how these findings impact current lines of research in the field of psychology as well as implications for clinical practice is included and ideas for related future directions of research are suggested.

Summary of Findings

The first hypothesis that participants in the emotionally-based intervention would experience a reduction in stress level and decrease in negative affect significantly more than participants engaged in the problem-solving intervention was not supported. Participants in the role-play group did not experience a significant reduction in stress level or negative mood after the intervention when compared with participants in the role-play group. The role-play intervention did not produce a significant change in participants' mood or reported level of stress.

The second hypothesis, that the role-play and the problem-solving intervention would affect participants' mood and stress level more than a control group receiving no intervention, was also unsupported by this sample. Participants in the role-play group and the problem-solving group did not experience significant

changes from before the intervention to after the interventions that were significantly different than participants who received no intervention. Essentially, neither the problem-solving intervention nor the role-play intervention was effective.

It was also predicted that both interventions would have a lasting effect, and that participants' mood changes and decreased stress following the interventions would be experienced both following the intervention and two weeks after the invention. This was not supported by the results, as participants did not show significant changes in mood and affect directly following the intervention or two weeks after the intervention. The role-play intervention and problem-solving intervention were not effective in creating change in mood or stress level both directly following the intervention or two weeks after the intervention.

The results indicate that participants' stress levels did not change significantly directly following the intervention or two weeks after the intervention. However, when participants' prior ability to attend, communicate, and clarify emotions were included as covariates in the model, participants in the role-play group displayed significantly higher reported stress than participants in the problem-solving group across the three time periods. Specifically, if prior emotional processing ability was taken into account and controlled for in the model, the stress level of role-play participants did increase slightly from before the intervention to two weeks following the intervention.

A secondary hypothesis predicted that students' prior ability to clarify and attend to their own emotions would moderate the effect of the role-play intervention

designed to explore emotions related to stress. The results showed some support for this hypothesis. When both measures of emotional processing were included as covariates in the model, participants in the role-play group reported significantly higher stress levels than participants in the problem-solving group from before the intervention to after the intervention. There was not a significant difference between the two intervention groups across the three time points when emotional processing was not controlled for in the statistical model. The results indicate that participants' ability to attend and describe their emotions can, in fact, impact an emotionally-based intervention's effectiveness.

It was hypothesized that participants with less emotional awareness/attentiveness would experience greater effects, reduced stress and elevated mood, because of the role-play emotional intervention, and this hypothesis was not supported. Participants in the role-play group with poor emotional processing ability tended to report more stress following the intervention. The results indicate that level of emotional processing did impact the role-play intervention's effect because participants with little emotional processing ability tended to endorse more stress on post and delayed post measures.

Explanation of Findings

Past research has indicated that emotionally-based interventions, which utilize group support and communication of feelings associated with transition, can reduce negative affect associated with transition stress (Baker & Berebaum, 2007). Additionally, recent research has indicated that individuals who display little ability

to describe and to communicate their feelings tend to experience significant benefits from emotion-based interventions (Baker & Berebaum, 2007; Baker & Berebaum, 2008; Langens & Schuler, 2005). In fact, Baker and Berebaum (2008) have posited an interesting paradox, "those individuals who are apt not to engage in emotional approach coping are the most likely to show the most improvement if they identify and communicate their emotions" (p.79). The results from the current study indicate that an emotionally-centered approach based on role-play techniques does not significantly affect college freshmen's mood or stress level. Moreover, the study suggests that a coping intervention focused on problem-solving does not impact mood or reported stress in college freshman dealing with relatively minor stressors.

Although the current study does not confirm the idea that those with little ability to process emotions benefit from emotional approaches, the results from this study do provide additional confirming evidence that an individual's emotional processing style may moderate the potential outcome of various psychotherapeutic interventions. In the present study, when accounting for individual differences in emotional processing, it was revealed that participants involved in the emotionally-based intervention reported significantly more perceived stress two weeks after the intervention than participants in the problem-solving group, who displayed relatively stable levels of stress from before the intervention to directly after the intervention and the two weeks following the intervention. Following the emotionally-based intervention these participants reported feeling more stress, which suggests that the

role-play intervention may have impacted their awareness of the stress but did not serve to decrease stress levels.

Several research studies (Baker & Berebaum, 2007; Baker & Berebaum, 2008; Gohm & Clore, 2000) have indicated that the outcomes of different therapeutic interventions are frequently moderated by individual differences in emotional processing ability. The results of the present study also indicate that a participant's emotional processing ability seems to impact the effectiveness of interventions based on emotional expression and clarification.

It was predicted in this study that an emotionally-driven intervention based on role-play techniques designed to help participants communicate emotions associated with their transition to college would decrease negative affect and stress. The findings in this study did not support the idea that emotionally-based interventions focused on communicating affect are effective in reducing stress or negative feelings in first-year college students. Furthermore, the results from this study indicated that an emotionally-based intervention based on role-play action as well as a problem-solving intervention which utilized rational problem-focused coping skills were not effective in reducing stress and negative emotions for college freshman. Neither intervention appeared to significantly impact mood or affect (positive or negative affect) in either group directly following the intervention.

The lack of support found in the current study for an emotionally-based intervention and a problem-solving intervention's effectiveness is in contrast to therapeutic literature suggesting that interventions focused on coping skills serve to

reduce negative feelings (Baker & Berenbaum, 2008; Langens & Schuler, 2005). Problem-solving therapies have been found to be very helpful in reducing negative feelings, especially negative emotions in individuals diagnosed with depressive disorders (Nezu & Nezu, 1991). In addition, Greenberg (2002) has indicated that therapeutic interventions which ask clients to identify their emotions and the possible source of these emotions are efficacious in producing positive client change. Specifically, emotionally-based interventions based on psychodrama techniques have been shown to be effective in reducing stress and negative mood associated with psychopathology in clinical populations (Kipper, 1992).

There are several potential explanations for the fact that the current study did not replicate findings in the clinical literature which indicates that interventions focused on coping skills, both problem-solving based and emotionally-focused, can produce successful client change. The majority of research investigating the efficacy of therapeutic interventions has been focused on clinical populations endorsing a significant amount of psychopathology. There have been a few exceptions where participants reporting minor distress have been used. Baker and Berebaum (2008) examined the effectiveness of an emotionally-based intervention with college students who experienced fairly mild stressors, including the transition to university life. Baker and Berebaum did find that college students with a poor ability to attend to emotions benefited from an emotional intervention. However, Baker and Berebaum acknowledged their sample for the study was potentially biased, as they did not recruit from a pool of subjects taking a freshman course, but rather asked for

subjects to volunteer for the study because they reported feeling stressed due to circumstances associated with college transition. One potential reason for the current's study's inability to replicate Baker and Berebaum's findings that emotionally-based interventions are effective for college students reporting mild stressors may lie in recruitment of the sample population.

Research has indicated that there are several important differences between a volunteer and nonvolunteer subject, which can significantly impact an intervention's effectiveness (Rosnow, Rosenthal, McConochie, & Arms, 1969). Rosenthal has indicated that recruitment of volunteer subjects may result in a volunteer bias. Specifically, volunteer subjects are traditionally more responsive than nonvolunteer subjects (Rosenthal & Rosnow, 1975). Volunteer subjects, like those included in the Baker and Berebaum (2008) study, have been found to be more easily influenced, acting in ways which would lead to confirmation of the experimenter's hypotheses. Rosnow and colleagues have posited that previous experimental effects in therapeutic research may be a partial function of a subject's volunteer status. Moreover, Rosenthal (1965) has argued that a volunteer subject is frequently higher in conformity, exhibits higher levels of anxiety, and often shows an increased need for social approval.

Researchers have also commented that volunteers are typically more sociable than nonvolunteer subjects (Rosnow, Rosenthal, McConochie, & Arms, 1969; Rosenthal & Rosnow, 1975). A volunteer's tendency to be more social may impact the effectiveness of an intervention given in a group format. The current study may

have been impacted by using subjects recruited from a class pool who agreed to participate but did not actively volunteer for the intervention because of reported elevated stress levels. Participants may have chosen to participate in the intervention rather than the alternate assignment because the alternate assignment would have taken considerably more time and effort to complete and would have needed to be completed outside of class, instead of attending the intervention classes. The intervention option appeared to be the more attractive option, as all participants elected to participate in the intervention, possibly because participants felt they could put forth less individual effort. The students may have selected the more attractive option (intervention vs. alternate assignment) when asked to make a decision but would not have volunteered to participate in the intervention otherwise. The nonvolunteer status of the current study's participants may have resulted in a sample of participants who were less sociable in the group environment, thus less likely to experience group effects. It is possible that these "nonvolunteer" subjects were less likely than subjects included in previous research to be in the influenced by the intervention's effects.

Participants may have not had major stressors or problems, so the role-play or problem-solving interventions meant to help participants cope with difficulties were virtually ineffective. Although participants were primed to think of current interpersonal stressors for the intervention, it seems likely that students did not have "real" and pressing interpersonal stress, which made the coping interventions for interpersonal stress unsuccessful. In addition, a large number of participants

indicated their majors tended were business or pre-medicine/pre-nursing. There were non participants who were theatre majors, while only two participants were music/film majors. It is possible that students in majors such as business or pre-medicine/pre-nursing may have a personality type that is less open to new and creative experiences that the role-play intervention required. Furthermore, the interventions were given to participants during the latter part of the semester. It is possible that participants had already dealt with the stress of their college transition as a part of the Freshman Orientation Seminar earlier in the semester. Prior course content centered on adjustment to transition may have had a priming effect for participants. The Freshman Orientation Seminar focuses on successful transition, so participants may have already dealt properly with their stress related to transition during the beginning portion of their semester.

Group cohesiveness could certainly have played a role in limiting the intervention's effectiveness. An important part of the role-play required open communication within a small group of peers. Assignment to groups was randomized by the researcher, so students were not allowed to choose who would be in their assigned group. If groups were not cohesive, it may have limited the effectiveness the amount of emotional disclosure and felt support needed for proposed intervention to be efficacious in improving reported mood and stress.

Limitations of the Study

A potential limitation of the current study involves the time lapse between the first class session and the second class session. By introducing a break between the

interventions, it may have allowed participants to be exposed to a number of external variables which could have impacted the effectiveness of the intervention. Namely, participants could be exposed to potential influencing factors that could increase or reduce stress or mood that were unrelated to the treatment intervention. There were several other methodological concerns which may have impacted the successfulness of the intervention. First, there was no random assignment for individual participants. Entire class sections were randomly assigned to treatment groups, but individuals were not randomly assigned, which posed a potential threat to internal validity and limited chances of finding significant results. Additionally, reliability estimates for the Perceived Stress Scale, the Positive and Negative Mood Schedule, the Trait Meta-Mood Scale, and the Toronto Alexithymia Scale in the current study had Cronbach's alpha coefficients which ranged from approximately 0.64 - 0.74. Because the measurement instruments had less than perfect reliability and were below the .80 standard of acceptable reliability, there was a reduced opportunity to find significant results from the intervention.

Another potential threat to validity may have been the willingness of participants to choose real stressful situations. In order for the role-play treatment to be effective, participants needed to choose an event that was indeed causing them stress. If participants chose relatively benign events, which may have occurred because they were not volunteer subjects reporting a problem, the intervention would have had little effect on mood and stress level. In fact, participants most likely had no

known psychopathology and may have not had any potential problem or stressor needed for the intervention to be successful.

The study also lacked a "true" control group for all three time points. The control group completed pre-test measures and post-test measures without receiving an intervention. Both intervention groups were compared with the control group's post-test scores to assess the effectiveness of the interventions directly following the specific intervention. However, instructors of Freshman Seminar for the assigned control groups did not permit the researcher permission to complete two week follow-up measures. Therefore, the problem-solving and role-play groups were not able to be compared with a control comparison group for the two week follow-up. Future studies may involve a control group for delayed-post comparison.

Another possible limitation of the current study includes the ability to generalize results to a general college student population. Because Freshman Seminar is an elective class, there may be a certain type of student who tends to enroll in the course. Students in Freshman Seminar may not be reflective of the general student population at the university. Students enrolled in the course are generally looking for an opportunity to improve study skills and "learn the ropes" of college life; these proactive student characteristics may not be reflective of a typical college student. Additionally, this study was designed to investigate if role-play techniques are more effective than a problem solving approach for reducing stress involved in the college transition. The results may not be appropriate to generalize to a non-college student population. The results indicated the treatment interventions were not

effective for college transition issues. Researchers should use caution when generalizing these results to other life transitions or crises young adults are likely to face. The intervention for the current study was brief, indicating that a short-term role-play intervention for college students may not be appropriate, both because their problems may not warrant an intervention and because the intervention may have been too time-limited to be effective in changing mood or perceived stress.

Conclusions and Implications

Stress undoubtedly plays a critical role in an individual's daily life, influencing a person's affect related to specific events, while also impacting overall mood. Stress has been reliably linked to both psychological and physiological outcomes such as anxiety and depression or poor physical health. Lazarus and Folkman (1984) asserted that coping plays a decisive role in mediating the stress experience, as coping can prevent a stress response or reduce the amount of perceived stress an individual reports. Stress and coping researchers have suggested that individuals may employ emotion-focused coping methods, problem-solving focused coping strategies, or a combination of these coping processes when faced with stressful situations. Moreover, Gohm and Clore (2000) have suggested that certain personality variables like emotional processing style may affect how successful certain coping approaches are for individuals.

Baker and Berebaum (2008) asserted that the efficacy of emotionally-based coping approaches is often moderated by individual differences in emotional processing, specifically an ability to attend to and clarify emotions related to stressful

events. The results from the current study also suggest that individual differences in emotional processing style can impact how effective a role-play intervention may be for individuals experiencing a mild stressor. In the present study, after controlling for individual differences in emotional processing style, participants in the role-play intervention reported significantly more stress than the problem-solving group following the intervention. One interpretation of the findings may be that individuals who receive a therapeutic intervention sometimes tend to "get worse" before they "get better". The role-play may have brought previously unattended stress to the forefront for certain participants increasing experienced stress.

Although the role-play intervention in the current study ultimately proved to be ineffective in reducing stress and negative affect in college freshman facing the transition to university life, research has indicated that equipping individuals with coping skills can reduce the negative impacts of stress. Role-play techniques designed for the present study did not produce a significant positive effect (a reduction in stress or negative affect) for study participants. Therefore, it could be argued that psychodrama techniques may be better suited for individuals with more severe forms of psychopathology or more appropriate for those individuals who report distress and are actively seeking services to improve stress and health. Strategies in role-play interventions encourage emotional expression, require a certain amount of openness, and carry potential risk of vulnerability with emotional disclosure. Individuals who actively volunteer for this type of assistance may be more likely to experience greater benefits.

It is also important to note that when developing intervention strategies, the present results indicate practitioners and researchers should consider an individual's ability to describe, notice, and communicate their feelings. It appears that individual differences in emotional intelligence processing style may be a key ingredient in developing intervention strategies that are successful. The coping process is most certainly complex; it involves an interaction between an individual's personality characteristics, of which emotional processing style is a critical factor, the stress encounter itself, and the coping strategies employed. In order to better understand the coping process, it will be critical to study both the range and effectiveness of coping strategies used by a person as well as specific emotional processing personality dimensions.

Future Research Directions

The field of stress and coping research is moving toward a multidimensional explanation of the coping process, which considers what types of coping strategies a person uses, the environment in which coping skills are employed, while also accounting for individual differences in personality variables such as emotional processing ability. It would be valuable to examine how the length of an emotionally-based intervention would affect its outcome. Specifically, it seems important to examine how an intervention which lasts over several weeks (or several consecutive therapy sessions) differs from a focused and time-limited discreet intervention. It may be that emotional processing coping skills take time to develop, and are strengthened with opportunities to practice within a group setting, with

feedback and reinforcement over time. In addition, research investigating the efficacy of emotionally-based coping strategies that utilizes a true control group throughout the design at various time points will be useful in evaluating specific intervention effects.

Social support is undoubtedly an important and sometimes misunderstood variable in the coping process, as studies have shown mixed results regarding the effects of social support on the stress experience. Traditionally, individuals utilize social support during stressful encounters, but social support has been found to be both beneficial and detrimental to an individual's stress response process. Coping interventions given in a group context can be used to examine the effects of social support, and group focused coping interventions may be compared in future research with interventions focused specifically on the individual and his/her coping behaviors. Moreover, it would be important to examine how volunteer status may impact a coping intervention's success, and how personality traits linked to volunteer behavior like sociability may affect group interventions. Researchers should consider participants' level of motivation in future research centered on emotion-focused coping interventions, as interventions are likely to be more effective for individuals with a salient stressor and a high level of motivation for change.

Future research may investigate the efficacy of role-play procedures with different groups like graduate students or adults dealing with transition such as job loss or interpersonal concerns. It may be important to examine how participants' developmental level impacts the effectiveness of coping interventions. By examining

how role-play techniques can be used with different groups of individuals, the psychological field will better equipped to develop alternative coping therapies that could be used for a wide variety of client concerns.

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APPENDIX A:

Items on Demographic Questionnaire

Demographic Questionnaire

1. What is your gender? ____ Male ____Female
2. What is your age? _____
3. What is your race? (Mark an X in the appropriate boxes)

___White

___American Indian or Alaskan Native

___Black or African American

___Spanish/Hispanic/Latino

___Asian/ Asian American

___Other race

Specify other_____

4.What is your academic class level?

___Freshman ___Sophomore

5.What is your intended major area of study?

_____

6. How many hours are you enrolled in currently? _____

7. Are you currently employed? Yes____ No_____

What is the average number of hours you work per week? _____

APPENDIX B:

Items and Instructions for Perceived Stress Scale

The Questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate *how often* you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate. For each question choose from the following alternatives:

0. Never
1. Almost Never
2. Sometimes
3. Fairly Often
4. Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control important things in your life?
3. In the last month, how often have you felt nervous and stressed?
4. *In the last month, how often have you dealt successfully with irritating life hassles?

5. *In the last month, how often have you felt that you were effectively coping with important changes that were occurring in the last month?
6. *In the last month, how often have you felt confident about your ability to handle your personal problems?
7. * In the last month, how often have you felt that things were not going your way?
8. In the last month, how often have you felt you could not cope with all the things that you had to do?
9. * In the last month, how often have you been able to control irritations in your life?
10. * In the last month, how often have you felt that you were on top of things?
11. In the last month, how often have you been angered because of things that happened that were outside of your control?
12. In the last month, how often have you found yourself thinking about things you have to accomplish?
13. *In the last month, how often have you been able to control the way you spend your time?
14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

* Scored in reverse direction.

APPENDIX C:

Items and Instructions for The Positive and Negative Affect Schedule

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past week. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

____interested	____irritable
____distressed	____alert
____excited	____ashamed
____upset	____inspired
____strong	____nervous
____guilty	____determined
____scared	____attentive
____hostile	____jittery
____enthusiastic	____active
____proud	____afraid

APPENDIX D:

Items and Instructions for Trait Meta-Mood Scale

Please read each statement and decide whether or not you agree with it. Place a number in the blank line next to each statement using the following scale:

5 = strongly agree

4 = somewhat agree

3 = neither agree or disagree

2 = somewhat disagree

1 = strongly disagree

1. The variety of human feelings makes life more interesting.
2. I try to think good thoughts no matter how badly I feel.
3. I don't have much energy when I am happy.*
4. People would be better off if they felt less and thought more.
5. I usually don't have much energy when I am sad.
6. When I am angry, I usually don't let myself feel that way.
7. I don't think it's worth paying attention to your emotions or moods.*
8. I don't usually care much about what I'm feeling.*
9. Sometimes I can't tell what my feelings are.*
10. If I find myself getting mad, I try to calm myself down.
11. I have lots of energy when I feel sad.
12. I am rarely confused about how I feel.
13. I think about my mood constantly.

14. I don’t let my feelings interfere with what I am thinking.

15. Feelings give direction to life.

16. Although I am sometimes sad, I have a mostly optimistic outlook.

17. When I am upset I realize that the “good things in life” are illusions.*

18. I believe in acting from the heart.

19. I can never tell how I feel.*

20. When I am happy I realize how foolish most of my worries are.

21. I believe it’s healthy to feel whatever emotion you feel.

22. The best way to handle my feelings is to experience them to the fullest.

23. When I become upset I remind myself of all the pleasures in life.

24. My belief and options always seem to change depending on how I feel.*

25. I usually have lots of energy when I am happy.

26. I am often aware of my feelings on a matter.

27. When I’m depressed, I can’t help but think bad thoughts.

28. I am usually confused about how I feel.*

29. One should never be guided by emotions.*

30. If I’m in too good a mood, I remind myself of reality to bring myself down.

31. I never give in to my emotions.*

32. Although I am sometimes happy, I have a mostly pessimistic outlook.*

33. I feel at ease about my emotions.

34. It’s important to block out some feelings in order to preserve your sanity.

35. I pay a lot of attention to how I feel.

36. When I’m in a good mood, I’m optimistic about the future.

37. I can’t make sense out of my feelings.*

38. I don’t pay much attention to my feelings.*

39. Whenever I’m in a bad mood, I’m pessimistic about the future.

40. I never worry about being in too good a mood.

41. I often think about my feelings.

42. I am usually very clear about my feelings.

43. No matter how badly I feel, I try to think about pleasant things.

44. Feelings are a weakness humans have.*

45. I usually know my feelings about a matter.

46. It is usually a waste of time to think about your emotions.*

47. When I am happy I sometimes remind myself of everything that could go wrong.

48. I almost always know exactly how I am feeling.

APPENDIX E:

Instructions and Items for the Toronto Alexithymia Scale- 20 item version

TAS - 20

INSTRUCTIONS: Using the scale provided as a guide, indicate how much you agree or disagree with each of the following statements by circling the corresponding number. Give only one answer for each statement:

Circle 1 if you STRONGLY DISAGREE

Circle 2 if you MODERATELY DISAGREE

Circle 3 if you NEITHER DISAGREE NOR AGREE

Circle 4 if you MODERATELY AGREE

Circle 5 if you STRONGLY AGREE

1. I am often confused about what emotion I am feeling.
2. It is difficult from me to find the right words for my feelings.
3. I have physical sensations that even doctors don't understand.
4. I am able to describe my feelings easily.
5. I prefer to analyze problems rather than just describe them.
6. When I am upset, I don't know if I am sad, frightened, or angry.
7. I am often puzzled by sensations in my body.
8. I prefer to just let things happen rather than to understand why they turned out that way.
9. I have feelings that I can't quite identify.

10. Being in touch with emotions is essential.
11. I find it hard to describe how I feel about people.
12. People tell me to describe my feelings.
13. I don’t know what going on inside me.
14. I often why I am angry.
15. I prefer talking to people about their daily activities rather than their feelings.
16. I prefer to watch “light” entertainment shows rather than psychological dramas.
17. It is difficult for me to reveal my innermost feelings, even to my close friends.
18. I can feel close to someone, even in moments of silence.
19. I find examination of my feelings useful in solving personal problems.
20. Looking for hidden meanings in movies or plays distracts from their enjoyment.

APPENDIX F:

Table 1

Demographic Information

Variable	*n*	*f*	%	*M*	*SD*
Age	164			18.33	.532
Gender	164				
Male		70	42.7		
Female		94	57.3		
Race	164				
White		152	92.7		
Black		4	2.4		
Spanish/Hispanic		4	2.4		
Asian		1	0.6		
Other		3	1.8		
Major	164				
Undecided		33	20.1		
Pre-Med/Pre-Nursing		20	12.2		
Education		8	4.9		
Psychology		11	6.7		
Journalism		16	9.8		
Business		30	18.3		

Table 1

Demographic Information, Continued

Variable	*n*	*f*	*%*	*M*	*SD*
Sports Science		5	3.0		
History		2	1.2		
Architecture		2	1.2		
Pre-Law		2	1.2		
Biology		9	5.5		
Music/Film		2	1.2		
Chemistry		3	1.8		
Social Work		4	2.4		
Engineering		3	1.8		
Art/Design		2	1.2		
Foreign Language		2	1.2		
Speech Therapy		2	1.2		
Communications		3	1.8		
Computer Science		1	0.6		
Political Science		1	0.6		
Community Health		1	0.6		
International Studies		1	0.6		
Geography		1	0.6		

Table 1

Demographic Information, Continued

Variable	*n*	*f*	*%*	*M*	*SD*
Hours Enrolled	164			14.6	1.451
Less than 12		3	1.8		
12-15 Hours		121	73.8		
16-18 Hours		40	24.4		
Employed	164				
Yes		24	14.6		
No		140	85.4		

Table 2

Mean Scores and Standard Deviations (in parentheses) for Role-play Group (n =64), Problem-Solving Group (n = 62), and Control Group (n = 36) on the Perceived Stress Scale (PSS)

	Pre-Test	*Post-Test*
Role-Play	26.98 (6.12)	27.42 (6.05)
Problem-Solving	28.84 (5.61)	28.29 (6.47)
Control	25.72 (5.06)	25.67 (6.48)

Note. The Pre-Test values were taken at baseline and Post-Test values were taken immediately following the intervention.

Table 3

Mean Scores and Standard Deviations (in parentheses) for Role-play Group (n = 64), Problem-Solving Group (n = 62), and Control Group (n = 37) on the Positive and Negative Affect Schedule- Positive Scale (PANAS)

	Pre-Test	*Post-Test*
Role-Play	31.53 (5.76)	31.44 (5.54)
Problem-Solving	32.77 (6.34)	32.65 (6.57)
Control	33.41 (6.17)	32.78 (6.70)

Note. The Pre-Test values were taken at baseline and Post-Test values were taken immediately following the intervention.

Table 4

Mean Scores and Standard Deviations (in parentheses) for Role-play Group (n = 60), Problem-Solving Group (n = 61), and Control Group (n = 34) on the Positive and Negative Affect Schedule- Negative Scale (PANAS)

	Pre-Test	*Post-Test*
Role-Play	22.51 (7.00)	22.60 (6.96)
Problem-Solving	22.52 (6.58)	23.60 (7.69)
Control	23.16 (8.31)	21.76 (7.93)

Note. The Pre-Test values were taken at baseline and Post-Test values were taken immediately following the intervention.

Table 5

Repeated Measures Analysis of Variance (Pre-Test, Post-Test) for Role-Play Intervention Group (n = 64)

	df	*F*	*p*	η^2
PSS	1	.674	.415	.011
PANAS- Positive	1	.030	.864	< .01
PANAS- Negative	1	.024	.877	< .01

Note. PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule.

Table 6

Mean Scores and Standard Deviations (in parentheses) for Role-play Group (n = 43) and Problem-Solving Group (n = 35), on the Perceived Stress Scale (PSS)

	Pre-Test	*Post-Test*	*Delayed Post-Test*
Role-Play	26.86 (6.05)	27.02 (6.38)	27.81 (7.47)
Problem-Solving	28.63 (5.55)	27.94 (5.96)	27.54 (6.62)

Note. PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule. The Pre-Test values were taken at baseline, Post-Test values were taken following the intervention, and Delayed Post-Test values were taken two weeks after the intervention. Control group participants were not included, as they did not complete the Delayed Post Test. Participants in the intervention groups who did not complete delayed post measures were removed for analysis.

Table 7

Mean Scores and Standard Deviations (in parentheses) for Role-play Group (n = 42) and Problem-Solving Group (n = 35), on the Positive and Negative Affect Schedule-Positive Scale (PANAS)

	Pre-Test	*Post-Test*	*Delayed Post-Test*
Role-Play	30.62 (5.26)	31.19 (5.04)	30.83 (5.81)
Problem-Solving	33.06 (6.80)	32.54 (6.90)	32.14 (7.25)

Note. The Pre-Test values were taken at baseline, Post-Test values were taken following the intervention, and Delayed Post-Test values were taken two weeks after the intervention. Control group participants were not included, as they did not complete the Delayed Post Test. Participants in the intervention groups who did not complete delayed post measures were removed for analysis.

Table 8

Mean Scores and Standard Deviations (in parentheses) for Role-play Group (n = 42) and Problem-Solving Group (n = 35), on the Positive and Negative Affect Schedule-Negative Scale (PANAS)

	Pre-Test	*Post-Test*	*Delayed Post-Test*
Role-Play	21.98 (6.51)	22.67 (6.55)	22.52 (6.81)
Problem-Solving	22.77 (6.84)	23.43 (8.18)	23.17 (8.71)

Note. The Pre-Test values were taken at baseline, Post-Test values were taken following the intervention, and Delayed Post-Test values were taken two weeks after the intervention. Control group participants were not included, as they did not complete the Delayed Post Test. Participants in the intervention groups who did not complete delayed post measures were removed for analysis

Table 9

Repeated Measures Analysis of Variance (Pre-Test, Post-Test) for Problem-Solving Intervention Group (n = 62)

	df	*F*	*p*	η^2
PSS	1	1.232	.271	.020
PANAS- Positive	1	.053	.819	< .01
PANAS- Negative	1	2.453	.122	.039

Note. PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule.

Table 10

Repeated Measures Analysis of Variance of Interaction for Group (Role-play, Problem-solving, Control) x Time (Pre-Intervention, Post- Intervention)

	df	*F*	*p*	η^2
PSS	2	1.44	.24	.01
PANAS- Positive	2	0.20	.82	< .01
PANAS- Negative	2	2.16	.12	.03

Note. PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule.

Table 11

Repeated Measures Analysis of Variance of Interaction for Time (Pre-Intervention, Post- Intervention, Delayed-Post Intervention) x Group (Role-play, Problem-solving)

	df	*F*	*p*	η^2
PSS	2	1.68	.19	.04
PANAS- Positive	2	0.55	.58	.02
PANAS- Negative	2	.01	.99	< .01

Note. PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule.

Table 12

Repeated Measures Analysis of Covariance of Interaction for Group (Role-play, Problem-solving, Control) x Time (Pre-Intervention, Post- Intervention) with Trait Meta Mood Scale (TMMS) as a covariate

	df	*F*	*p*	η^2
PSS	2	1.23	.29	.02
PANAS- Positive	2	.16	.85	< . 01
PANAS- Negative	2	2.09	.13	.03

Note: PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule. Participants completed the TMMS as a pre-test measure before the intervention.

Table 13

Repeated Measures Analysis of Covariance of Interaction for Group (Role-play, Problem-solving, Control) x Time (Pre-Intervention, Post- Intervention) with Toronto Alexithymia Scale (TAS-20) as a covariate

	df	*F*	*p*	η^2
PSS	2	1.12	.33	.01
PANAS- Positive	2	.13	.88	< .01
PANAS- Negative	2	2.25	.11	.03

Note: PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule. Participants completed the TAS-20 as a pre-test measure before the intervention.

Table 14

Repeated Measures Analysis of Covariance of Interaction for Time (Pre-Intervention, Post- Intervention, Delayed-Post Intervention) x Group (Role-play, Problem-solving) with Trait Meta Mood Scale (TMMS) as a covariate

	df	*F*	*p*	η^2
PSS	2	2.92	.06	.08
PANAS- Positive	2	.69	.50	.02
PANAS- Negative	2	.01	.99	< .01

Note. PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule. Participants completed the TMMS as a pre-test measure before the intervention. The control group is not included for comparison, as control participants did not complete the delayed-post measures.

Table 15

Repeated Measures Analysis of Covariance of Interaction for Time (Pre-Intervention, Post- Intervention, Delayed-Post Intervention) x Group (Role-play, Problem-solving) with Toronto Alexithymia Scale (TAS-20) as a covariate

	df	*F*	*p*	η^2
PSS	2	1.72	.19	.04
PANAS- Positive	2	.48	.62	. 01
PANAS- Negative	2	.01	.99	< .01

Note. PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule. Participants completed the TAS-20 as a pre-test measure before the intervention. The control group is not included for comparison, as control participants did not complete the delayed-post measures.

Table 16

Repeated Measures Analysis of Covariance of Interaction for Time (Pre-Intervention, Post- Intervention, Delayed-Post Intervention) x Group (Role-play, Problem-solving) with Trait Meta Mood Scale (TMMS) and Toronto-Alexithymia Scale (TAS-20) as covariates

	df	*F*	*p*	η^2
PSS	2	3.44	.04	.09
PANAS- Positive	2	.82	.45	.02
PANAS- Negative	2	.01	.99	< .01

Note. PSS = Perceived Stress Scale. PANAS = Positive and Negative Affect Schedule. Participants completed both the TMMS and TAS-20 as pre-test measures before the intervention. The control group is not included for comparison, as control participants did not complete the delayed-post measures.