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# The Effects Of Creativity On Mood Enhancement Caused By Laughter Therapy

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THE EFFECTS OF CREATIVITY ON MOOD ENHANCEMENT  
CAUSED BY LAUGHTER THERAPY

being

A Thesis Presented to the Graduate Faculty  
of the Fort Hays State University in  
Partial Fulfillment of the Requirements for  
the Degree of Master of Science

by

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Chair, Graduate Council

## ETIHCS APPROVAL

The research described in this thesis utilized human subjects. The thesis prospectus was therefore examined by the Human Subject Research Committee of the Psychology Department, Fort Hays State University, and found to comply with Title 45, Subtitle A-Department of Health, Education and Welfare, General Administration; Part 46-Protection of Human Subjects.

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Date

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Ethics Committee Chairperson

## ABSTRACT

This study was conducted to examine the mood-enhancing benefits of Judy Young's Laughter Therapy and the facilitative effects of high levels of creativity on changes in mood. This program aims to teach participants purposeful laughter so that they may 'turn on' genuine laughter at will. Two hour exposure to Laughter Therapy revealed increases in Positive Affect (PA) and decreases in Negative Affect (NA). The full three-week program was conducted with a control group with consenting employees at a school district. The control group included beneficial components of the Laughter Therapy program (i.e. light cardiovascular exercise, diaphragmatic breathing, and social interaction) in order to isolate the effects of the purposeful laughter taught during the sessions in the Laughter Therapy condition. Creativity levels did not influence the degree of mood changes in participants. T-tests did not indicate significant changes in PA or NA when the Laughter Therapy was compared with the control group in the three-week data collection. However, correlations revealed a small change in PA and NA in the anticipated directions for the Laughter Therapy condition. These results may have been influenced by an inadequate amount of participants in the three-week data collection. While Laughter Therapy may be useful for enhancing mood, more research is needed to determine the therapeutic benefits of this approach.

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## **Introduction**

Laughter Therapy, as developed by Judy L. Young in 2003 (n.d.), is a program that has sparked only a minimal amount of empirical investigation to date. This program uses purposeful laughter sounds to develop the ability to ‘turn on’ genuine laughter when desired. Laughter Therapy includes components that are already empirically proven to benefit individuals such as cardiovascular exercise, diaphragmatic breathing, and social interactions (Cooper, 2007; Khasky & Smith, 1999; Steel & Suedfeld, 1991). These components alone may cause people to increase problem-solving abilities, increase positive affect, and relieve stress (Cooper, 2007; Khasky & Smith, 1999; Steel & Suedfeld, 1991). Therefore, it seems logical to deduce that the process utilizing these components like Laughter Therapy may also provide mood-enhancing benefits. These mood-enhancing benefits may have positive effects for healthy individuals as well as positive therapeutic implications for clients seeking mental health treatment.

Another possible benefit to the therapeutic process is creativity (Carson & Becker, 2004; Egler, 1999). In fact, creativity has been described as “paramount to the therapeutic process” (Carson & Becker, 2004). Clinician creativity consists of adjusting traditional approaches and interventions in the moment for each client (Carson & Becker, 2004; Murray & Rotter, 2002). This clinician quality is necessary for clients to experience therapeutic gains in part due to increased opportunities for corrective emotional experiences and observational learning (Carson & Becker, 2004). Solely talking is inadequate; creative interventions may help increase flow in therapy by allowing clients to become more experientially involved in their treatment (Carson &

Becker, 2004). Unfortunately, research on client creativity and therapeutic outcomes is sparse. However, it may be assumed that if creativity allows clinicians to provide tailored interventions that improve treatment outcomes, then clients undergoing an uncommon approach like Laughter Therapy may also find unique ways to incorporate helpful interventions into their life. Adapting Laughter Therapy interventions into daily life may increase flow and the experiential component of the approach, provided client creativity levels are high. The benefits of creativity may not depend on just the clinicians' abilities but also on clients' levels of creativity. Preexisting creativity levels in individuals undergoing Laughter Therapy may help determine the level of beneficial emotional experiences, as well as increase opportunities for participating in the Laughter Therapy process.

Many questions are left unanswered about the use and benefits of Laughter Therapy. Will the reduction of negative affect be significant for individuals participating in Laughter Therapy? Will creativity influence the benefits gained from Laughter Therapy? This study aims to answer these questions and provide empirical evidence of the effectiveness of Laughter Therapy in enhancing mood.

### **Previous Research**

**Laughter Therapy.** Judy L. Young, Laughter Coach, received training in Laughter Yoga a program started by cardiologist Dr. Madan Kataria for the purpose of teaching people to laugh for no reason (n.d.). Young expanded these teachings to create Laughter Links, a corporate training program that incorporates purposeful cardiovascular exercise, diaphragmatic breathing, social interaction, and laughter. Throughout daily

fifteen minute meetings over a three week period, Young leads individuals in purposeful laughter in the absence of humor. As the three weeks progress, clients are taught skills involved in purposeful laughter in groups as large as fifteen to twenty individuals. In addition to her three-week program, Young also conducts two-hour sessions to present the concept of Laughter Therapy and short laughter sessions to parties interested in learning more but unable to commit to three weeks. This two-hour presentation includes the same components as the three-week program but does not incorporate some of the activities, such as walking around the rooms giving 'high-fives'.

Laughter Therapy starts with instruction on diaphragmatic breathing.

Diaphragmatic breathing is accomplished by using the diaphragm to inhale deeply into the lungs. Young provides examples and teaches the clients to make the 'sounds of laughter' using diaphragmatic breathing: ho ho ho, he he he, and ha ha ha. Clients are also asked to attempt natural laughter after these exercises. During the course of Laughter Therapy, Young adds skills, such as increased motions when laughing (e.g. slapping one's knee), increased social interaction (e.g. giving high-fives), and continuing to develop diaphragmatic breathing skills (e.g. blowing a feather). Young's goal is to teach clients to purposefully turn laughter on and off to produce psychological and physiological benefits in clients' daily lives (Beckman, Regier, & Young, 2007; Young, n.d.).

This type of laughter is called controlled laughter. With controlled laughter, people are able to determine the onset and duration of laughing. Clients participating in Young's Laughter Therapy learn to control genuine laughter in order to produce the same

benefits as spontaneous laughter, such as decreased stress and increased positive affect (“Laughing Boosts”, 2006).

With controlled laughter, clients do not need humor to stimulate the onset of laughing. Humor is not involved in Laughter Therapy. Young finds this to be a possible deterrent of participation as individual differences exist when finding humor. For example, some information may be humorous to some people and offensive to others (Young, n.d.). In addition, the absence of humor allows other beneficial elements, such as the cardiovascular exercise and diaphragmatic breathing, to be incorporated in the program to reach the goal of controllable laughter.

In addition to the benefits of laughter without humor, Laughter Therapy seems beneficial as participants are engaged and active throughout the process. Particularly interesting is the importance of the experiential component of Laughter Therapy. Carson and Becker (2004) believe that an experiential component is often involved in creativity in a counseling setting. This experiential approach is useful for clients for a variety of reasons. Engaged, active clients may be more likely to experience genuine feelings, implement interventions more readily, and avoid using defenses that prevent progress when compared to clients not experientially engaged in the therapeutic process (Carson and Becker, 2004). This seems to suggest that Laughter Therapy, an experiential interaction, may be a powerful activity for engaging clients and producing change in affect. Creativity may be used to incorporate these experiential interactions in daily life, which may lead to additional mood enhancing benefits. Therefore, it seems as though an

experiential approach, such as Laughter Therapy, may be useful in increasing positive affect through creativity.

**Creativity.** The experiential component is an important part of Laughter Therapy. While experiencing Laughter Therapy may increase positive affect and decrease negative affect, participants levels of creativity prior to starting the intervention may further influence the degree of affect change one experiences. However, identifying one consistent definition of creativity is a difficult task. There are approximately as many definitions of creativity as there are creativity researchers. A traditional definition of creativity in Western cultures includes the following criteria: originality and functionality/effectiveness (Averill, Chon, & Hahn, 2001; Kersting, 2003). For the present study, some common elements of current definitions of creativity will be combined to form a relevant definition for evaluating creativity and its effects on mood enhancing benefits gained from Laughter Therapy. Although definitions of creativity encompass personality traits and cognitive/metacognitive domains, the focus of this study will remain primarily with behavioral creativity. This seems most relevant given participants will need to make behavioral changes in their daily routine to incorporate the learned laughter.

In addition to including a behavioral component in the present definition, it is also important to consider the two different types of creativity. First, “big-c” creativity entails accomplishing a task that greatly influences the lives of others’ way of life, thoughts, and feelings. Big-c creativity is rare and is usually recognized or honored, perhaps with an acknowledgment such as the Nobel Prize (Kersting, 2003). This type of creative genius is

difficult to study as big-c creativity occurs with low frequency and is generally recognized after an individual is deceased.

The second type of creativity is “little-c” creativity, or everyday creativity. This type of creativity is used in everyday tasks, such as budgeting or parenting. Kersting (2003) describes this type of creativity as the ability to problem-solve and adapt to change. Since this type of creativity is found quite readily and is most relevant to incorporation of skills learned in Laughter Therapy, it is the focus of the present study. In other words, little-c creativity is measured in this study because the task of incorporating the benefits of Laughter Therapy into one’s life is more similar to everyday problem solving (e.g. budgeting one’s earned income) than to influencing the lives of others (e.g. creating the theory of gravity).

Other considerations when defining creativity include how previous researchers identify the construct, as well as components of creativity. However, the definition of creativity is not agreed upon by many researchers. Many theorists include originality or novelty in the definition of creativity (Clapham, 1998; Heilman, 2005; Sundararajan & Averill, 2007). In other words, the solution must not be common, copied, or closely related to another solution. In addition, many researchers extend the definition and measurement of creativity such that it relies on solving a problem or completing a task (Clapham, 1998; Heilman, 2005; Kersting, 2003; Runco, Okuda, & Thurston, 1987; Sundararajan & Averill, 2007). The problem to be solved is often a divergent thinking task (Runco et al., 1987). This is consistent with the originality component of creativity as it requires an individual to come up with a variety of novel solutions with only one

prompt rather than using numerous pieces of information to produce one correct answer (i.e. convergent thinking) (Silvia, et al., 2008). One example of a divergent thinking task is providing the participants with a prompt, such as a stick, and asking them to list all the uses of the identified prompt. This type of divergent thinking task is also required to incorporate changes in affect with Laughter Therapy being the prompt. Like in the divergent thinking tasks of creativity measures, participants will be required to take a stimulus (in this case Laughter Therapy) and find beneficial ways to use this on a daily basis, which may ultimately lead to an increase in positive affect as indicated by previous Laughter Therapy research (Beckman et al., 2007).

Considering the factors involved in defining creativity, as well as types of creativity, the present study defines creativity as *the ability to adapt and find novel solutions to everyday issues using divergent thinking*. Using this definition, creativity is thought to be relevant to the task of the participants: find a way to incorporate laughter more readily into their own daily lives. This seems relevant as participants will be required to adapt to the Laughter Therapy and find a novel solution to use this intervention in their lives. Perhaps increasing solutions to utilize laughter in participants' lives may also increase the potential for increases in positive affect and decreases in negative affect due to increased exposure and use of laughter.

**Mood / Affect.** In light of the present definition of creativity, individuals with high levels of creativity may be more able to flexibly and uniquely incorporate interventions into daily routines in order provide personal benefits, such as to increase positive affect and decrease negative affect. Positive and negative affect are independent

concepts (Crawford & Henry, 2004; Watson, Clark, & Tellegen, 1988). Positive affect is defined as pleasurable interactions with the environment where a person is likely to feel alert and active (Crawford & Henry, 2004; Watson et al., 1988). On the other hand, negative affect is unpleasurable interactions with the environment and may include feelings of distress, anger, or fear (Crawford & Henry, 2004; Watson et al., 1988).

Keeping in mind how creativity is defined in the current study, does creativity have the power to influence the degree of change a person experiences in terms of positive and negative affect? Research seems contradictory on the subject. Certainly many studies have reported a connection between creativity and mental illnesses such as unipolar and bipolar depression (Jamison, 1989; Post, 1994; Post, 1996; Schildkraut, Hirshfeld, & Murphy, 1994). These relationships with creativity are especially prevalent among a specific type of problem: mood disorders. However, most studies investigating this relationship do so with participants who are deceased or famous for his/her creative accomplishments (Post, 1994; Post 1996; Schildkraut et al., 1994). Therefore, the type of creativity researched in relation to mental disorders tends to be big-c creativity. The connection of mental illness and mood with little-c creativity seems to be less clear.

Waddell (1998) collected studies from the 1900's investigating the link between mental illness and creativity. Research indicated that only thirty-one percent of studies examined reported an association between creativity and mental illness. In addition, the few studies in support of the connection contained various methodological issues. For example, some studies examined did not use standardized measures of creativity or mental illness and others used only examined late, historical figures as participants

(Waddell, 1998). Waddell identifies a popular belief of a link between creativity and mood disorders despite the lack of scientific evidence in the literature of the twentieth century. One explanation of the assumed association may be that highly creative individuals are more open about their mental illnesses, thus they are given increased attention (1998). Regardless of the cause, the association between creativity and mental illness seems questionable when considering twentieth century research as Waddell (1998) uncovered few methodologically sound studies supporting the relationship.

In terms of the available research supporting the link between affect and creativity, Ruth Richards seems to be the primary researcher in the area (Richards & Kinney, 1990; Richards, 1990; Richards 1992). Although an association between bipolar disorder and creativity was found, the association primarily seems limited to mild forms of the disorder and/or symptoms (Barbato, Piemontese, & Pastorello, 2007; Richard & Kinney, 1990; Richards, Kinney, Daniels & Linkins, 1992). This is likely the case because more severe symptoms and disorders may interfere with functioning, which may lead to reduced levels of everyday creativity (Richards & Kinney, 1990). Further, variables such as family history and personal history may in part determine the link between creativity and affective disorders (Richards et al., 1992).

Although the association between mild psychopathology and creativity has been demonstrated in the literature, Richards (1990) only offers several vague hypotheses about the relationship between creativity and psychopathology. Unfortunately, these hypotheses represent possible combinations of interaction rather than associations or causal implications (Richards, 1990). In the end, definitive research on the nature of the

relationship between little-c creativity and mood is lacking in the literature. Furthermore, a relationship seems unlikely given the small percentage of studies supporting evidence of an association with big-c creativity and mental illness. The minimal support offered seems to come from studies with either questionable results (Waddell, 1998) or vague findings (Richard & Kinney, 1990; Richards et al., 1992). Therefore, the link between creativity and mental disorders, specifically mood disorders, seems questionable.

### **Laughter Therapy and Previous Research**

**Mood.** Currently little research investigating mood has been conducted on Laughter Therapy as developed by Judy L. Young. One study investigating Young's Laughter Therapy found decreases in the depressive levels of institutionalized elderly individuals (Clark, 2006). Furthermore, the higher the initial depressive levels, the higher the reduction of depressive levels at posttest (Clark, 2006). Therefore, more depressed individuals tended to benefit from a greater reduction in depressive levels after completing Laughter Therapy. In addition, this study found that reduction of depressive levels after Laughter Therapy was higher than reductions in a positive-thought suppression and a control group (Clark, 2006). These results come from an unpublished study with few participants, so reliability and validity may be questionable.

Although little research exists examining mood and Laughter Therapy, the benefits produced by the components of Laughter Therapy have been well established. Diaphragmatic breathing, for example, has been demonstrated to induce relaxation in individuals, as well as provide benefits such as reducing stress, anxiety, and negative affect (Cooper, 2007). Four hours per week of cardiovascular exercise also tends to

release endorphins and influence the synthesis of neurotransmitters involved in mood regulation (“Boost your”, 2007). In addition to diaphragmatic breathing and cardiovascular exercise, the social interaction component of Laughter Therapy seems to be beneficial to individuals as well. Steel and Suedfeld (1991) found negative affect increased in isolated individuals. This seems to suggest that social interactions or some component of this plays a role in reducing negative affect.

Research on the components of Laughter Therapy seems to suggest positive benefits. However, these studies were not done on Judy Young’s Laughter Therapy program. To date, one study examines Young’s program and has found that laughter itself is beneficial as it increases self-efficacy (Beckman et al., 2007). Beckman, Regier, and Young completed a study investigating Young’s program in the workplace. Results indicated that “employees demonstrated a significant increase in several different aspects of self-efficacy, including self-regulation, optimism, positive emotions, and social identification, and they maintained these gains at [ a 90-day] follow-up” (Beckman et al., 2007, p. 2).

Other studies on laughter indicate laughter influences mood by creating a neurological change involving dopamine (Crook, 2008) and laughter may increase pain tolerance (Zweyer, Velker, Ruch, 2004). The mechanism of mood changes relative to laughter seems to be rooted in increases of the natural opiate, dopamine (Crook, 2008). This reaction also tends to reduce pain and stress. Pain tolerance may also increase after watching humorous films as indicated by facial expression, an affect which seems likely to carry over to Laughter Therapy due to the experience of similar facial expressions

(Zweyer et al., 2004). Overall, Laughter Therapy, as well as laughter and expressed positive emotions, seem to provide an array of benefits to individuals including increased self-efficacy, positive affect, and pain tolerance (Beckman et al., 2007; Crook, 2008; Zweyer et al., 2004).

Due to the benefits of Laughter Therapy, as well as the components of Laughter Therapy, it seems logical to assume benefits in mood may occur when these components are combined over a three-week period, despite the lack of empirical evidence that people can “turn on” the physiological reaction of laughter and produce similar benefits as spontaneous laughter. However, little research seems to exist that examines the mood enhancing benefits of laughter in a nonclinical population. Rather than assessing depression levels in a clinical population, this study will measure negative affect in a nonclinical population. Negative affect is an important component when diagnosing depression, but negative affect alone does not meet criteria for a full depression diagnosis (American Psychiatric Association [*DSM-IV-TR*], 2000; Wichers, Jacobs, Derom, Thiery, & van Os, 2007). Since negative affect is subclinical, it seems probable that individuals in the general population are more likely to experience negative affect than depression. Therefore, the current Laughter Therapy may be conducted on a larger sample and possibly be shown relevant for subclinical symptoms.

**Creativity.** Previous research has established a relationship between creativity and laughter. When first presented with a humorous tape, individuals experiencing the most laughter scored higher on a subsequent administration of the Torrance Test of Creative Thinking (Ziv, 1976). More recent research by Rocco touts the many benefits of

laughter including the ability to increase creativity (2006; Hirt & Devers, 2008). However, no research on laughter without humor and its link to creativity has been conducted to date. In any case, it seems logical to extend the benefits of laughter with humor to laughter without humor as identical physiological reactions seem to be taking place, and the possible confound of humor is removed.

Despite the consensus on increases of creativity produced by laughter, less research exists explaining how individual creativity may, conversely, influence their gains in a therapeutic situation. Kendall, Chu, Gifford, Hayes, and Nauta (1998) have found an association between the flexibility of creativity and positive therapeutic progress. In addition, Egler (1999) administered self-report measures and interviews to participants engaged in psychotherapy. Levels of creativity in the therapy setting were assessed and progress was monitored. Egler (1999) found a positive correlation between creativity in therapy and therapeutic progress. Although the research in the area is sparse, available empirical evidence suggests an association between high creativity levels and gains in therapy. One hypothesis on this connection is that the flexibility component of creativity allows clinicians and clients to tailor therapies to clients rather than using a ‘cookie cutter’ approach (Kendall et al., 1998).

### **Current Study**

The current study aims to investigate the mood enhancing benefits of Laughter Therapy. Data was collected in two phases. Phase one examined archival data to determine if short-term exposure to Laughter Therapy produces mood enhancing benefits. The phase one intervention lasted two hours and included a presentation on

Laughter Therapy as well as group participation in purposeful laughter. No control group was present. The second phase implemented the full three week Laughter Therapy (LT) program to examine creativity and more enduring mood benefits. The full LT program included a presentation and purposeful laughter on day one, and purposeful laughter activities each proceeding business day. A control group completed daily activities with the same components as the LT intervention (light cardiovascular exercise, social interaction, deep breathing) in the absence of purposeful laughter.

### **Hypotheses**

**Hypotheses of Two Hour LT and Three Week LT Programs.** Individuals were expected to experience significant decreases in negative affect, as well as increases in positive affect, due to the benefits of the components of laughter therapy: diaphragmatic breathing, cardiovascular exercise, social interactions, and laughter (Beckman, 2007; “Boost your”, 2007; Cooper, 2007; Crook, 2008; Steel & Suedfeld, 1991; Zweyer, 2004). These changes have been shown without regard to creativity, so all individuals are likely to benefit. Although negative and positive affect are independent of one another (Crawford & Henry, 2004; Watson et al., 1988), both groups were expected to be impacted due to the components of the Laughter Therapy. An archival pre and post Positive and Negative Affect Scale from Judy L. Young’s Laughter Links was analyzed to examine the expected changes in affect for this phase.

**Additional Hypothesis for Three Week LT Program.** Laughter Therapy was expected to be most beneficial to individuals beginning the study with higher levels of negative affect. That is, the more negative affect a person has as indicated by the pretest,

the larger the reduction in negative affect he/she will demonstrate on the posttest. This is consistent with previous research on Judy L. Young's Laughter Therapy (Clark, 2006). Negative affect, rather than a measure of depression, was chosen as participants are a nonclinical population and are largely unlikely to suffer from major depression or other mental disorders. Previous research, as well as established diagnostic criteria, has pointed to the link between depression in a clinical population and negative affect in a nonclinical population (American Psychiatric Association [*DSM-IV-TR*], 2000). The same hypothesis will be investigated with pre and post tests for Young's two-hour presentation and demonstration of Laughter Therapy in the workplace.

While both the Laughter Therapy groups and control groups were expected to see increases in positive affect and decreases in negative affect due to the beneficial components of the interventions, the changes were likely to be more pronounced in the Laughter Therapy program due to purposeful laughter. These changes may be further enhanced with increased levels of creativity. High little-c creativity levels during the initial session with participants as determined by the Torrance Test of Creative Thinking was expected to be correlated with larger reductions in negative affect and larger increases in positive affect between the pre- and post-assessments of mood. Since research is contradictory regarding the relationship between creativity and mental illness, this hypothesis is based off of research indicating creativity is associated with therapeutic progress (Egler, 1999; Makel & Plucker, 2008). Given the present definition of creativity, the two-hour group was not assessed for this aspect as they were not allowed adequate time to find ways to incorporate Laughter Therapy in their every day lives and data for

this group is archival. Demographics (age, gender, number of sessions attended, and satisfaction with interventions) were collected at the conclusion of the three-week study to eliminate possible confounds.

### **Implications**

Results of this study may indicate a promising technique for individuals to reduce negative affect: Laughter Therapy. If this is the case, non-clinical individuals may benefit from this intervention. In addition, this suggests the possibility of relief for a clinical population, particularly if individuals with more negative affect experienced more benefits from the Laughter Therapy. Analyzing the archival data to investigate changes in affect over the two-hour presentation may shed light on whether longer exposure to such techniques yields more significant results. More research is needed to confirm this benefit for individuals diagnosed with mood disorders such as depression.

If creativity has a significant effect on the benefits of Laughter Therapy in regard to mood, researchers may want to attend to individuals' creativity when considering treatment for mood related disorders or ability to benefit from other treatments. For example, if individuals are struggling to benefit from treatment for depression, perhaps these individuals have a low current creative performance. In this case, the individuals may benefit from methods increasing creativity thereby allowing them to benefit further from treatment. More research is needed to determine the nature of the association between creativity and gains in therapy.

Finally, this study will provide valuable research on Laughter Therapy by Judy L. Young and the effectiveness of purposeful laughter in the absence of humor. This

research may be used to form new hypotheses to examine data on the benefits laughter further. In the future, this may lead to programs or interventions to enhance psychological or physiological well-being in diagnosed, as well as undiagnosed individuals.

A two hour study will examine the mood benefits of short-term exposure to Laughter Therapy. A two hour presentation along with an experiential laughter component may increase participant mood due to exposure to beneficial components of the program such as cardiovascular exercise, diaphragmatic breathing, and social interactions (Cooper, 2007; Steel & Suedfeld, 1991). Due to the limited duration of the intervention, mood enhancing benefits may be minimal.

A Laughter Therapy intervention which is longer in duration may have additional mood benefits. The full three week Laughter Therapy program will allow participants more opportunities to incorporate interventions on a daily basis. Due to the additional exposure to the intervention, mood benefits may be maximized when compared to the brief two hour presentation and laughter. When compared to a control group without purposeful laughter, both groups are likely to experience benefits due to the helpful nature of the components (i.e. as cardiovascular exercise, diaphragmatic breathing, and social interactions). However, Laughter Therapy is likely to produce more mood benefits due to the additional component of laughter. Mood benefits may be further enhanced by high participant creativity which may allow participants to more fully incorporate interventions on a daily basis.

## **Methods**

The present research includes two studies to investigate the benefits of Laughter Therapy. The first study (Two Hour Data Collection) used archival data to analyze the link between a two hour Laughter Therapy presentation and changes in positive affect (PA) and negative affect (NA). The second study (Three Week Data Collection) utilized Young's entire three week Laughter Therapy program and a control group to analyze changes in PA and NA between groups. In addition, pre-intervention levels of creativity were measured in the second study to determine whether high levels of creativity facilitated changes in affect.

### **Two Hour Data Collection**

**Participants.** Employed adults in a midsized Midwestern city completed this study with Judy L. Young leading the intervention. A mental health facility hosted Young's presentation for employees and agreed to complete the Positive and Negative Affect Scale (PANAS) before and after Young's presentation. One hundred fourteen individuals employed at the mental health facility participated in this data collection. Data was archival. No demographics were provided.

**Procedure.** Participants met as planned with their employer to hear Young's presentation as desired by the employer for the professional development of staff. Young requested participants complete the PANAS both before and after her presentation for evaluation purposes. Consenting participants completed the PANAS prior to the presentation to determine current affect. The session lasted approximately two hours and included a presentation explaining Laughter Therapy and 2-3 laughter demonstrations

where participants are asked to use the components of Laughter Therapy. At the end of the two hour period, the posttest PANAS was administered. Young provided the researcher with the data for examination in the present study.

### **Three Week Data Collection**

**Participants.** Employed adults in a midsized Midwestern city were recruited to participate in this study. Calls were made to businesses agreeing to participate in Young's program to petition for participants. A total of twenty five participants were recruited for the study. Four participants were unable to complete the three week intervention. A total of twenty one participants completed the pre-test. The study ended with a total of nineteen participants at post-test as two were unable to complete the post-test PANAS and debriefing information. The participants who completed the study had an age range of 24 to 58 ( $M= 45.89$ ,  $SD= 9.53$ ). Seven participants were female, eleven were male, and one participant did not disclose gender. The Laughter Therapy group ended with eight participants, and the control group ended with eleven participants.

**Procedure.** A consent form including notification of components to be investigated (creativity and mood), as well as information regarding time commitment (fifteen minutes per day for three weeks) was provided to potential participants. Participants were randomly assigned into a control group or a Laughter Therapy group. Each group met daily in the morning for three weeks, with the exception of one day due to the place of employment closing. During the first meeting, both groups completed the Torrance Test for Creative Thinking (TTCT) and the PANAS to determine current creative performance and current affect, respectively. The first session lasted 45 minutes

to allow participants adequate time to complete the pretests. Fifteen minute sessions were held once per day for the remainder of the three weeks. The experimental group participated in Laughter Therapy as conducted by Judy L. Young.

The control group completed breathing exercises identical to the diaphragmatic breathing in Laughter Therapy and interacted while participating in light cardiovascular exercise to mimic the movement and social interaction of the Laughter Therapy group. The control group was also facilitated by Judy Young. This group also spent 15 minutes together per day. (See Appendix A for an outline of activities for each group.) During the last session, the posttest PANAS and a demographic data sheet was administered for each group and a debriefing sheet was completed (see Appendix B). At this time, participants were asked to rate their experience on a Likert scale (1-10) according to the following questions: 1) How enjoyable was your experience?, 2) How demanding were your tasks?, and 3) How much did you benefit overall?. Number of sessions attended was also reported by each participant.

## **Measures**

**Positive and Negative Affect Scale (PANAS).** Positive and negative affect were measured pre- and post-intervention using the Positive and Negative Affect Scale (Watson et al., 1988). This measure was used for the two hour data collection, as well as the two groups (Laughter Therapy and control) participating in the three week laughter program. The PANAS is composed of twenty words that describe various emotions or feelings. For each word, participants must rate the intensity of each feeling as they are experiencing it “in the moment” on a Likert scale from 1 (very slightly or not at all), 3

(moderately) and 5 (extremely). While participants in the Two Week Data Collection study rated mood as they experienced it “in the moment”, mood ratings of “the past week” rather than “in the moment” were collected for the Three Week Study to ensure the reported affect is more enduring as opposed to a result of the previously completed Laughter Therapy session.

The Positive Affect Scale (PA) consists of ten words such as excited, inspired, and proud. The Negative Affect Scale (NA) consists of ten words such as scared, upset, and distressed. Scores for each scale range from 10-50 points. Internal consistencies of the PA and NA scales have a Cronbach’s alpha of .89 (95% CI = .88–.90) and Cronbach’s alpha of .85 (95% CI = .84–.87), respectively (Crawford & Henry, 2004). In addition, the scales seem to be a valid measure of affect when considering previously reported convergent ( $r = .89 - .95$ ) and discriminate validity ( $r = -.02 - -.18$ ) scores (Watson et al., 1988).

Reliabilities were calculated for both Two Hour Study and Three Week Study using Cronbach’s Alpha. All scales consisted of 10 items. For the two hour study, reliabilities were good for both the pre-test PA scale ( $\alpha=.86$ ) and the post-test PA scale ( $\alpha=.95$ ). Reliabilities were acceptable for the pre-test NA ( $\alpha=.68$ ) scale and the post-test NA scale ( $\alpha=.68$ ). The same trend was present for the reliabilities calculated for the three week program. Pre-test PA ( $\alpha=.83$ ) and post-test PA ( $\alpha=.90$ ) were good, whereas pre-test NA ( $\alpha=.71$ ) and post-test NA ( $\alpha=.76$ ) were acceptable. This suggests the lower reliabilities for the NA scales may be due to the characteristics of the PANAS itself.

**Torrance Test of Creative Thinking (TTCT).** The definition of creativity in the present study requires the use of divergent thinking to use novel or original solutions. The TTCT, a creative divergent thinking measure, seems to be a good fit for measuring creativity when considering the definition of creativity used in the current study (Runco et al., 1987). During the initial meeting with participants in the Three Week Study, the TTCT was administered to measure current creative ability. (The two hour data collection group was not assessed for creativity.) The TTCT measures creativity using divergent thinking tasks. These tasks are scored using the following criteria: Fluency, Flexibility, and Originality (Clapham, 1998; Owen & Baum, 1985; Torrance, 1974). Fluency refers to the number of relevant responses. Flexibility is calculated by determining the number of independent categories present in participant responses. Finally, Originality is the number of infrequent or novel responses. Responses are counted as original if not present on the list of most frequent responses provided in the Torrance manual (Torrance, 1990).

In his original edition, Torrance (1974) reported interscorer reliability to fall between .86-.99. The TTCT was scored by the researcher, as well as a trained student to calculate interscorer reliability. The Pearson correlation revealed a strong relationship between each scorers results indicating reliable scoring for the present study,  $r(20) = .84$ ,  $p < .01$ .

Rather than administering the complete TTCT, one activity was used to allow time for participants to complete paperwork, as well as the intervention. Activity 5 was used because the task is consistent with the present definition of creativity and requires participants to find new uses for a common object which is similar to the task of finding

new ways to incorporate Laughter Therapy into their daily lives. Directions were administered as required in the manual. Participants were asked to think of as many new uses as possible for a cardboard box or boxes (Torrance, 1974). Scores from this activity were used to find an overall creativity rating. Three components are scored in each TTCT activity (fluency, originality, and flexibility). Raw scores for each in Activity 5 were converted to standard scores. The three standard scores were averaged to provide the clearest indicator of overall creativity (Torrance, 1974). This method was used to calculate the creativity score for the study.

## Results

### Two Hour Data Collection

Participants were expected to experience significant decreases in negative affect, as well as significant increases in positive affect after the two hour Laughter Therapy presentation and laughter. Results from the paired samples t test indicated that post-test positive affect ( $M=34.54$ ,  $SD=10.66$ ) was significantly higher than pre-test positive affect ( $M=27.99$ ,  $SD=8.39$ ),  $t(88)=-7.18$ ,  $p<.05$ . Also as expected, negative affect significantly decreased between pre-test ( $M=13.40$ ,  $SD=3.64$ ) and post-test ( $M=11.22$ ,  $SD=2.15$ ),  $t(88)=7.54$ ,  $p<.05$ .

### Three-Week Data Collection

Independent t-tests were run to determine if there were any basic attendance, enjoyability, perceived task demand, and perceived benefit differences between the Laughter Therapy (LT) and control groups to make sure the two groups were comparable. No significant differences between the LT ( $M=13.38$ ,  $SD=.744$ ) and control ( $M=12.40$ ,  $SD=2.12$ ) groups were found in attendance ( $t(16)=1.24$ ,  $p>.05$ ). The LT ( $M=6.25$ ,  $SD=2.32$ ) and control ( $M=6.36$ ,  $SD=2.29$ ) groups were not significantly different in participant perceived enjoyability ( $t(17)=-.11$ ,  $p>.05$ ). In addition, no significant differences were found for perceived task demand ( $t(17)=-.33$ ,  $p>.05$ ) and perceived benefit ( $t(17)=.87$ ,  $p>.05$ ) between the LT ( $M=2.00$ ,  $SD=.93$  and  $M=6.25$ ,  $SD=2.32$ , respectively) and control ( $M=2.18$ ,  $SD=1.33$  and  $M=5.27$ ,  $SD=2.49$ , respectively) groups. Therefore, the LT and the control group could be compared on PA, NA and creativity.

Both the Laughter Therapy and control groups were expected to experience increases in PA and decreases in NA. To determine if overall changes in PA and NA could be found, a dependent t-test was run for PA and NA with both the Laughter Therapy and control groups combined. Pre-test PA ( $M=29.16$ ,  $SD=6.06$ ) and post-test PA ( $M=31.05$ ,  $SD=7.25$ ) were not significantly different,  $t(18)=-1.26$ ,  $p>.05$ . There was also no significant difference between pre-test NA ( $M=13.42$ ,  $SD=3.22$ ) and post-test NA ( $M=12.05$ ,  $SD=2.70$ ) with both groups combined,  $t(18)=1.38$ ,  $p>.05$ . Therefore, regardless of group, no changes in PA or NA were found.

Dependent t-tests were also run to test differences in affect for each group. For the Laughter Therapy group, pre-test PA ( $M=29.00$ ,  $SD=4.50$ ) was not significantly different than post-test PA ( $M=32.25$ ,  $SD=8.88$ ),  $t(7)=-1.06$ ,  $p>.05$ . Pre-test NA ( $M=14.25$ ,  $SD=3.37$ ) was not significantly different than post-test NA ( $M=12.50$ ,  $SD=2.33$ ),  $t(7)=1.05$ ,  $p>.05$ . The results were similar for the control group. Pre-test PA ( $M=29.27$ ,  $SD=7.20$ ) and post-test PA ( $M=30.18$ ,  $SD=6.11$ ) were not significantly different,  $t(10)=-.65$ ,  $p>.05$ . Pre-test NA ( $M=12.82$ ,  $SD=3.13$ ) and post-test NA ( $M=11.73$ ,  $SD=3.00$ ) were also not significantly different,  $t(10)=.85$ ,  $p>.05$ . Similar to the combined results, no changes in either PA or NA were found when examining the groups separately.

In addition, independent t-tests were run on pre-PA, post-PA, pre-NA, post-NA, and the TTCT score for the Laughter Therapy and control groups to determine whether significant differences in scores exist between the groups (See Table 1). While means changed in the anticipated direction, none of the comparisons were significant. This indicates no differences exist between the LT and the control groups on affect or

creativity. However, effect sizes and statistical power were generally inadequate for all variables: pre-PA ( $d=-.13$ ,  $P=.05$ ), post-PA ( $d=.34$ ,  $P=.10$ ), pre-NA ( $d=.60$ ,  $P=.23$ ), post-NA ( $d=.26$ ,  $P=.08$ ), and the TTCT score ( $d=-.53$ ,  $P=.19$ ).

Table 1

*Independent t-test PANAS scale results for LT and control groups*

Scale	<i>M(SD)</i>	<i>t</i>	<i>df</i>
Pre-PA		-.34	19
Laughter	28.44 (4.53)		
Control	29.33 (6.86)		
Post-PA		.60	17
Laughter	32.25 (8.88)		
Control	30.18 (6.11)		
Pre-NA		1.35	19
Laughter	14.44 (3.21)		
Control	12.58 (3.09)		
Post-NA		.61	17
Laughter	12.50 (2.33)		
Control	11.73 (3.00)		
TTCT		-.98	19
Laughter	61.11 (7.66)		
Control	63.83 (5.10)		

Correlations were run to determine whether PANAS scales were related when data for groups were combined and when separate. Pearson correlations were run for the pre and post PANAS scales with both groups combined. Significant positive correlations exist between pre-PA and post-PA scales,  $r(17)=.53$ ,  $p<.05$  and pre-NA and post-PA scales,  $r(17)=.58$ ,  $p<.05$ . When correlations were run with groups separate, significant results between pre-NA and post-PA,  $r(6)=.77$ ,  $p<.05$  and post-NA and post-PA,  $r(6)=-.83$ ,  $p<.05$ , were present for the Laughter Therapy group. No significant correlations were present in the control group.

Correlations were also run to determine whether TTCT scores were positively correlated with changes in PA and negatively correlated to changes in NA. Pearson correlations revealed no significant correlations exist between TTCT scores and changes in PA,  $r(17)=-.20, p>.05$  and TTCT scores and changes in NA,  $r(17)=-.10, p>.05$ . When correlations were run with groups separate, no significant results were found between TTCT and changes in PA,  $r(6)=-.34, p>.05$  and TTCT and changes in NA,  $r(6)=-.07, p>.05$ , for the Laughter Therapy group. In addition, no significant results were found between TTCT and changes in PA,  $r(6)=.19, p>.05$  and TTCT and changes in NA,  $r(6)=-.17, p>.05$ , for the control group. Creativity scores are not significantly related to changes in PA or changes in NA when groups are combined or for the Laughter Therapy group, or the control group.

Two variables were created to analyze the changes in PA and NA. These variables were created by subtracting the post-test total from the pre-test total for both PA and NA separately. The variables were created to determine whether the LT or control group experienced a significant change in PA or NA over the course of the interventions and, if so, in what direction. An independent t-test revealed the change in PA was not significantly different between the Laughter Therapy ( $M=3.25, SD=8.70$ ) and control groups ( $M=.91, SD=4.66$ ),  $t(17)=.76, p>.05$ . Changes in NA were also not significant for the Laughter Therapy ( $M=-1.75, SD=4.71$ ) group or the control groups ( $M=-1.09, SD=4.25$ ),  $t(17)=-.32, p>.05$ . Therefore, the LT and the control did not show significantly different amounts of mood change.

Since no significant differences exist between groups when examining changes in PA and NA, a correlation was run to test whether amounts of change are related both within and between groups. A Pearson correlation yielded significant results between the change in PA and the change in NA with both groups combined,  $r(17)=-.48, p<.05$ . Pearson correlations were run for the change in PA and the change in NA for each group. The correlation was significant for the Laughter Therapy group,  $r(6)=-.72, p<.05$ , but not the control group,  $r(9)=-.14, p>.05$ .

## Discussion

The present research analyzed results from two studies investigating Laughter Therapy. The first study was a two hour intervention including a Laughter Therapy presentation and laughter. Data was archival, and PA and NA were assessed before and after this intervention using the PANAS. This data was analyzed to determine whether short exposure to Laughter Therapy created changes in mood. The second study involved the full three week Laughter Therapy program. Affect was assessed before and after the three week intervention using the PANAS. In addition, creativity levels were assessed before the three week program to determine whether higher levels of creativity were associated with greater changes in affect after exposure to Laughter Therapy.

As hypothesized, positive affect was expected to increase, whereas negative affect was expected to decrease in the two hour Laughter Therapy intervention. Results confirmed this hypothesis as a significant increase in positive affect and a significant decrease in negative affect were found after a two hour intervention which included a presentation on Laughter Therapy and purposeful laughter. Although it seems that laughing may have caused the changes mood over the duration of the two hour data collection, this may not be accurate. Data for this portion of the research was archival and did not include a control group. Previous research indicates that increases in PA and decreases in NA are expected to occur due to diaphragmatic breathing, social interaction, and/or light cardiovascular exercise, all of which are components of the Laughter Therapy program (Cooper, 2007; Steel & Suedfeld, 1991; Young, n.d.). Since no control group was present to compare these components with the Laughter Therapy intervention,

results may be due to other components in the Laughter Therapy program and cannot be solely attributed to laughter or the Laughter Therapy program.

The three week Laughter Therapy data collection investigated whether laughter produces the same results when other variables (i.e. diaphragmatic breathing, social interaction, light cardiovascular exercise) are controlled for using a control group. Positive affect was expected to increase, whereas negative affect decreased for both groups. These changes were expected to be more pronounced in the Laughter Therapy group due to the additional component of laughter. Results did not indicate a significant difference in positive affect or negative affect. This was the case for both the Laughter Therapy and control groups. However, correlations did reveal a small change in the proposed direction in the Laughter Therapy group. While changes in PA and NA were not significant, the correlation revealed that as positive affect increased, negative affect decreased in the Laughter Therapy group but not in the control group.

This finding suggests the three week laughter data collection resulted in small affect changes in the anticipated direction, but these changes were not large enough to produce significant results when pre- and post- PA and NA means were compared between groups. This finding may be expected if participants failed to incorporate laughter into their daily lives as requested by Young. Simply participating fifteen minutes per day may have produced minimal changes as indicated in the significant correlations. These changes are consistent with previous research, which indicates increases in PA may occur via chemical changes in the brain due to laughter (Crook, 2008). However, fifteen minutes per day may not have provided enough exposure to purposeful laughter to

produce significant changes in brain chemistry or affect when PA and NA group means are compared.

In addition, the lack of significance may be due to inadequate statistical power resulting from too few participants. Locating businesses willing to participate proved to be a difficult task. After willing businesses were located, employees were offered the opportunity to participate in the three-week study. Three weeks is a significant time commitment, particularly when participants were required to attend early each morning. This led to minimal participation. With small numbers, the statistical tests were less likely to yield significant results. This seems to be a reasonable explanation for the lack of significant mood change in the three-week program because significant correlations indicated change in PA and NA for the Laughter Therapy group in the anticipated direction and significant changes in mood were found for the two hour laughter intervention. While not significant in the present study, these results indicate the possibility of significant changes in mood over the three-week Laughter Therapy with adequate numbers of participants. More research is needed to determine if this is the case.

The small number of participants may also be responsible for the contradictory results because of environmental changes. Random assignment may not have been effective in eliminating environmental confounds that could impact mood. More participants would have increased the effectiveness of randomly assigning participants to groups.

One final explanation for contradictory results between the two hour data collection and the three week data collection is that participants in the two hour

intervention were more likely to experience practice effects. Participants were asked to complete the PANAS before and after the two hour intervention. Participants in the three week data collection had significantly more time between the pre- and post-PANAS, which may have reduced the risk of recalling previous answers which could influence the second PANAS. Therefore, the three week study may have provided a more accurate representation of changes in affect caused by the interventions.

In addition to analyzing changes in mood, creativity levels were examined prior to the three week data collection to determine whether participants with higher levels of creativity would experience more pronounced mood changes, as expected. This hypothesis was not supported. Creativity levels prior to the intervention did not have an impact on changes in mood for the Laughter Therapy or control groups. Participants with higher creativity levels were expected to have more resources allowing them to better incorporate the interventions into everyday life, but creativity levels did not seem to be related to changes in mood in the present study. Previous research investigating the link between creativity and mood disorders seemed contradictory and inconclusive. While some research supports the idea that mood disorders are related to levels of creativity (Jamison, 1989; Post, 1994; Post 1996; Schildkraut et al., 1994), other research indicates a weak or nonexistent link between creativity and mood (Schildkraut et al., 1994; Post, 1994; Post, 1996; Waddell, 1998). The results of the present study suggest creativity and changes in affect are not related. Therefore, creativity may not be paramount in the therapeutic process for clients struggling with inappropriate or excessive affective states.

While the present study found that creativity and changes in mood are not related, these results may be influenced by the administration of the TTCT and should be interpreted with great caution. In the present study, one activity was used rather than the entire assessment. Administration of the complete TTCT may have produced a larger range of creativity levels in participants and possibly emphasized any differences in facilitating changes in affect, if present. Future research should consider evaluating creativity with the full TTCT.

In addition to examining the hypotheses, analyses were conducted to control for variables. Results indicated the Laughter Therapy and control groups did not differ on attendance, perceived enjoyability, task demand, or benefits gained throughout data collection thus eliminating these confounds.

Overall, results do not clearly indicate that purposeful laughter causes an increase in PA and a decrease in NA or that creativity plays a role in facilitating mood change. However, several limitations exist in the present study, some of which may account for lack of more significant results. Each of these limitations should be addressed in future research. As previously discussed, low numbers of participants in the three-week study likely influenced results. Future research should aim to collect data on a larger number of participants, preferably more diverse (e.g. in age, race, geographic area, etc.) to produce more accurate and more generalizable results.

The population in the present study all worked in a small, rural town. Each of the participants knew one another, and many knew the experimenter. This may be considered a problem for two reasons. First, participants likely communicated with one another

during the three week period. Knowledge of activities in the other group may have led some participants to find their group more or less desirable, causing changes in results. However, both groups were similar in ratings of task enjoyability and perceived benefit within. These results make this explanation unlikely.

A more probable issue with the small population is that of evaluation apprehension. Participants may have attempted to present themselves favorably due to anxiety about being evaluated for a study in the field of psychology. Anxiety about other, familiar participants viewing paperwork while completing forms may have added to this affect, particularly in a small, rural setting where nearly all participants are familiar with other participants and their families. Participants may have attempted to produce results considered favorable by both the experimenter and their peers.

Issues with the population may be prevented or reduced by asking the participants to sign an agreement asking each person not to discuss interventions until the three weeks are complete and by allowing participants to complete paperwork in the absence of other participants. Certainly, a sample from a larger company may help to eliminate these confounds as well. In this case, participants may not discuss interventions or experience such high levels of evaluation apprehension since they would be significantly less likely to know other participants on a personal level. Future research may consider soliciting participants from a larger organization to reduce these issues.

With these limitations corrected, researchers may come closer to discovering the benefits of Laughter Therapy. Mood enhancing benefits may positively influence clients, both clinical and nonclinical, in a setting likely to be less expensive than traditional one-

on-one therapy. Laughter Therapy may also be used alone or in conjunction with a more traditional approach, although more research is needed before the program is implemented in a therapy setting. The present study seems to indicate two hour exposure more significantly influences affect. However, the three week Laughter Therapy program may produce similar results with an adequate number of participants, particularly since correlations indicate small changes in affect in the anticipated directions. If this is the case, the Laughter Therapy program may provide a useful, cost effective intervention to increase PA and decrease NA for both a clinical and a non-clinical population. Further research is needed to determine the value and application of this type of therapy.

In the end, Laughter Therapy seems to be a promising method for increasing PA and decreasing NA, particularly when presented in the two hour format. However, mood benefits are not concrete with the full three week program. Mood seems to change in the anticipated direction, but not enough to be statistically significant. Furthermore, levels of creativity do not seem to be linked to the magnitude of affect changes experienced by participants. While Laughter Therapy seems to be a promising method to improve affect, further research is needed to determine the benefits and the therapeutic value of this approach.

## References

- (2006). Laughing boosts brainpower. *Mind, Mood & Memory* 7(1). Academic OneFile. Gale. Ft Hays State University. 14 Nov. 2008  
<<http://find.galegroup.com/itx/start.do?prodId=AONE>>.
- (2007). Boost your brain with exercise: Recent studies show that staying active helps your mind by improving memory and mood. *Food & Fitness Advisor*, 4(1).
- American Psychiatric Association (1994). Diagnostic and statistical manual of mental health disorders (4th ed). Washington DC: Author.
- Averill, J. R. (1999). Creativity in the domain of emotion. In T. Dalgleish & M. Power (Eds.), *Handbook of Cognition and Emotion* (pp. 765-782). New York: John Wiley & Sons, Ltd.
- Averill, J. R., Chon, K. K., & Hahn, D. W. (2001). Emotions and creativity, east and west. *Asian Journal of Social Psychology*, 4, 165-183.
- Baas, M., De Dreu, C. K. W., & Nijstad, B. A. (2008). A meta-analysis of 25 years of mood-creativity research: Hedonic tone, activation, or regulatory focus?. *Psychological Bulletin*, 134(6), 779.
- Barbato, G., Piemontese, S., & Pastorello, G. (2007). Seasonal changes in mood and creative activity among eminent Italian writers. *Psychological Reports*, 101, 771-777.
- Beckman, H., Regier, N., & Young, J. L. (2007). Effect of workplace laughter groups on personal efficacy benefits. *Journal of Primary Prevention*, 28, 167-182.

- Carson, B. K., & Becker, K. W. (2004). When lightning strikes: Reexamining creativity in therapy. *Journal of Counseling and Development, 82*(1), 111-115.
- Clapham, M. M. (1998). Structure of figural forms A and B of the Torrance tests of creative thinking. *Educational and Psychological Measurement, 58*(2), 275-283.
- Clark, J. M. (2006). Reducing depression in the elderly: An empirical examination of the effectiveness of laughter therapy and positive thought suppression. (Unpublished undergraduate thesis). Bethel College, North Newton, KS.
- Cooper, P. G. (2007). Stress management: Deep breathing. *McKesson Corporation*. Retrieved November 12, 2007, from [http://www.fairview.org/healthlibrary/content/bha\\_stressdp\\_bha.htm](http://www.fairview.org/healthlibrary/content/bha_stressdp_bha.htm)
- Crawford, J. R., & Henry, J. D. (2004). The positive and negative affect schedule (PANAS): Construct validity, measurement properties and normative data in a large non-clinical sample. *British Journal of Clinical Psychology, 43*, 245-265.
- Crook, T. (2008). Your brain on laughter. *Prevention, 60*(6), 145.
- De Dreu, C.K.W., Baas, M., & Nijstad, B.A. (2008). Hedonic tone and activation level in the mood-creativity link: Toward a dual pathway to creativity model. *Journal of Personality and Social Psychology, 94*(5), 739-756.
- Egler, L. G. (1999). On the relationship between psychotherapeutic and creative processes. (Doctoral dissertation) University of Michigan, 1999. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 59*(7-B), 3638.
- Heilman, K. M. (2005). *Creativity and the brain*. New York: Psychology Press.

- Hirt, E. R., & Devers, E. E. (2008). I want to be creative: Exploring the role of hedonic contingency theory in the positive mood-cognitive flexibility link. *Journal of Personality and Social Psychology, 94*(2), 214-230.
- Jamison, K. (1989). Mood disorders and patterns of creativity in British writers and artists. *Psychiatry, 52*, 125-34.
- Kendall, P. C., Chu, B., Gifford, A., Hayes, C., & Nauta, M. (1998). Breathing life into a manual: Flexibility and creativity with manual-based treatments. *Cognitive and Behavioral Practice, 5*, 177–198.
- Kersting, K. (2003). What exactly is creativity?. *American Psychological Association Monitor on Psychology, 34*(10), 40.
- Khasky, A. D., & Smith, J. C. (1999). Stress, relaxation, and creativity. *Perceptual and Motor Skills, 88*, 409-416.
- Makel, M. C., & Plucker, J. A. (2008). Creativity. In Pfeiffer, S.I. (Eds.). *Handbook of giftedness in children: Psychoeducational theory, research, and best practices* (247-270). New York: Springer Science.
- Murray, P. E., & Rotter, J. C. (2002). Creative counseling techniques for family therapists. *The Family Journal: Counseling and Therapy for Couples and Families, 11*, 203-206.
- Owen, S. V., & Baum, S. M. (1985). The validity of the measurement of originality. *Educational and psychological measurement, 45*, 939-944.
- Post, F. (1994). Creativity and psychopathology: A study of 291 world-famous men. *British Journal of Psychiatry, 165*, 22-34.

- Post, F. (1996). Verbal creativity, depression and alcoholism. *British Journal of Psychiatry, 168*, 545-555.
- Richards, R. (1990). Everyday creativity, eminent creativity, and health: "Afterview" for CRJ. *Creativity Research Journal 3*(4), 300-326.
- Richards, R., & Kinney, D. K. (1990). Mood swings and creativity. *Creativity Research Journal, 3*(3), 202-217.
- Richards, R., Kinney, D. K., Daniels, H., & Linkins, K. (1992). Everyday creativity and bipolar and unipolar affective disorder: Preliminary study of personal and family history. *European Psychiatry, 7*, 49-52.
- Rocco, F. (2006). The miracle of laughter? It's healing and contagious!. *New Life Journal*. Retrieved from <http://www.newlifejournal.com/nov07/breathe-in-miracle-of-laughter.shtml>
- Runco, M. A, Okuda, S. M, & Thurston, B. J. (1987). The psychometric properties of four systems for scoring divergent thinking tests. *Journal of Psychoeducational Assessment, 2*, 149-156.
- Schildkraut, J., Hirshfeld, A., & Murphy J. (1994). Mind and mood in modern art, II: Depressive disorders, spirituality, and early deaths in the abstract expressionist artist of the New York school. *American Journal of Psychiatry, 151*, 482-488.
- Silvia, P. J., Winterstein, B. P., Willse, J. T., Barona, C. M., Cram, J. T., Hess, K. I., Martinez, J. L., & Richard, C. A. (2008). Assessing creativity with divergent thinking tasks: Exploring the reliability and validity of new subjective scoring methods. *Psychology of Aesthetics, Creativity, and the Arts, 2*(2), 68-85.

- Steel, G. D., & Suedfeld, P. (1991). Temporal patterns of affect in an isolated group. *Environment and Behavior, 23*(6), 749-765.
- Sundararajan, L., & Averill, J. R. (2007). Creativity in the everyday: Culture, self, and emotions. In R. Richards (Ed.), *Everyday creativity and new views of human nature: Psychological, social, and spiritual perspectives* (pp. 195-220). Washington DC: American Psychological Association.
- Torrance, E. P. (1974). *Norms-technical manual: Torrance tests of creative thinking*. Bensenville, IL: Scholastic Testing Service.
- Waddell, C. (1998). Creativity and mental illness: Is there a link?. *Canadian Journal of Psychiatry, 43*, 166-172.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070.
- Wichers, M., Jacobs, N., Derom, C., Thiery, E., & van Os, J. (2007). Depression: Too much negative affect or too little positive affect? *Twin Research and Human Genetics, Supplement*, 19-20.
- Young, J. (n.d.) History of Laughter Links. Retrieved from [http://www.laughterlinks.com/about\\_us/history\\_laughter.htm](http://www.laughterlinks.com/about_us/history_laughter.htm)
- Ziv, Avner. (1976). Facilitating effects of humor on creativity. *Journal of Educational Psychology, 68*(3), 318-322.

Zweyer, K., Velker, B., & Ruch, W. (2004). Do cheerfulness, exhilaration, and humor production moderate pain tolerance? A FACS study. *International Journal of Humor Research*, 17(1-2), 85-119.

Appendix A  
Daily Intervention Activities

## Daily Intervention Activities

<b>Day</b>	<b>Laughter Therapy</b>	<b>Control Group</b>
<b>1</b>	<ul style="list-style-type: none"> <li>▪ Pretests (PANAS, TTCT Activity 5)</li> <li>▪ Laughter Therapy Presentation (slide show and explanation)</li> <li>▪ Deep breathing</li> <li>▪ Sounds of purposeful laughter</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pretests (PANAS, TTCT Activity 5)</li> <li>▪ Nature Video (ten minutes)</li> <li>▪ Deep breathing</li> <li>▪ Light exercise: walking, tossing balls to other participants</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Walking</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter while pretending to bowl</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Stand in circle and toss two balls to others</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter while pretending to golf</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Walking</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>5</b>	NO INTERVENTION, BUSINESS CLOSED	NO INTERVENTION, BUSINESS CLOSED
<b>6</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter with animal sounds</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Learned hand massage</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>7</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Learned hand massage</li> <li>▪ Do-si-do (walking around one another)</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Stand in circle, toss four balls to others</li> <li>▪ Walking</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>8</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter with mouth closed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Imitate airplane with arms while</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>walking</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>9</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter with alternating speeds</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Stand in circle, toss five balls to others</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>10</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter while pretending to be animals</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Used balance boards</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>11</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Focus on breathing, explanation of benefits of deep breathing</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Focus on breathing, explanation of benefits of deep breathing</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>12</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter while pretending to play baseball</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Attempt/practice juggling</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>13</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter while pretending to direct choir</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Focus on gentle neck stretches</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>14</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter while singing children's song</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Balance board and juggling</li> <li>▪ Participant interaction throughout session</li> </ul>
<b>15</b>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Laughter</li> <li>▪ Participant interaction throughout session</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deep breathing</li> <li>▪ Gentle stretching</li> <li>▪ Stand in circle and toss balls to others</li> <li>▪ Participant interaction throughout session</li> </ul>

	<ul style="list-style-type: none"><li>▪ Post-test PANAS</li><li>▪ Demographic sheet</li><li>▪ Debriefing</li></ul>	<ul style="list-style-type: none"><li>▪ Post-test PANAS</li><li>▪ Demographic sheet</li><li>▪ Debriefing</li></ul>
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Appendix B  
Debriefing Information

## Debriefing Information

This study included two groups of participants. The first group participated in Judy L. Young's Laughter Therapy program. Components of the program include deep breathing, social interaction, light exercise (e.g. walking) and laughter. The second group consisted of individuals participating in a social activity (e.g. discussions) and deep breathing exercises. The data gathered will be analyzed to compare the effects of Laughter Therapy versus a control group on your mood. In addition, your creativity score will be analyzed with the data to assess whether a higher creativity level will facilitate greater changes in mood.

Half of participants did not experience the purposeful laughter, so the title "Laughter Therapy" for the research was inappropriate. The interventions were termed "Wellness Therapy" to create a relatively representative title for the activities.

Please address any concerns or questions with the experimenter: Jennifer Clark,

(620)877-7411

### **Feeling distressed? Contact your area mental health center:**

Prairie View  
805 Western Heights Circle  
Hillsboro, KS 67063  
(620) 947-3200

### **Questions? Please contact us:**

Experimenter:

Jennifer Clark  
FHSU Department of Psychology  
600 Park St.  
Hays, KS 67601  
(620) 877-7411

Research Advisor:

Janett M. Naylor, Ph.D.  
Fort Hays State University, Dept. of  
Psychology  
600 Park St.  
Hays, KS 67601  
(785) 628-5857

Laughter Links Founder/Presenter:

Judy L. Young, Laughter Coach  
Laughter Links  
Wichita, KS  
(316)-685-8565

FHSU IRB:

600 Park St.  
Hays, KS 67601  
(785) 628-4349

Appendix C  
Demographics

## Demographics

Age \_\_\_\_\_

Gender \_\_\_\_\_

Number of sessions attended \_\_\_\_\_

Please rate the following on a scale of 1 (not at all) to 10 (extremely):

How enjoyable was your experience? \_\_\_\_\_

How demanding were your tasks? \_\_\_\_\_

How much did you benefit overall? \_\_\_\_\_

Once analyzed, results will be provided to your employer for you to view if desired.

Appendix D

Positive and Negative Affect Scale

### The Positive and Negative Affect Scale

This scale consists of a number of words that describe feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. 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		_____
	_____	distressed		_____
	_____	excited		_____
	_____	upset		_____
	_____	strong		_____
	_____	guilty		_____
	_____	scared		_____
	_____	hostile		_____
	_____	enthusiastic		_____
	_____	proud		_____
				_____
				irritable
				_____
				alert
				_____
				ashamed
				_____
				inspired
				_____
				nervous
				_____
				determined
				_____
				attentive
				_____
				jittery
				_____
				active
				_____
				afraid

Appendix E  
Ethics Packet

## Ethics Packet

**FORT HAYS STATE UNIVERSITY  
INSTITUTIONAL REVIEW BOARD  
FOR HUMAN SUBJECTS RESEARCH****APPLICATION**

Proposals for review by the IRB may be submitted at any time. With the exception of expedited reviews, complete proposals submitted no later than ten (10) business days prior to a scheduled meeting will be reviewed at that meeting. Late proposals will be reviewed at the next scheduled meeting. The IRB meeting schedule is posted on the website. Incomplete proposals will not be reviewed, and will be returned to the researcher for completion.

**Type of Request:**

- Full Review**  
Complete Application and Relevant Forms
- Expedited Review**  
Complete Application and Expedited Review Attachment
- Approved research proposal revision request (use revision /extension form)**
- Approved research proposal extension request (use revision /extension form)**
- Exempt from Review**  
Complete Application and Exempt Review Attachment



○ Please identify each investigator and describe the research group:

#### 4. Certifications:

I am familiar with the policies and procedures of Fort Hays State University regarding human subjects in research. I subscribe to the university standards and applicable state and federal standards and will adhere to the policies and procedures of the Institutional Review Board for the Protection of Human Subjects. I will comply with all instructions from the IRB at the beginning and during the project or will stop the project.

AND

I am familiar with the published guidelines for the ethical treatment of human subjects associated with my particular field of study.

#### **Statement of Agreement:**

By electronically signing this application package, I certify that I am willing to conduct and /or supervise these activities in accordance with the guidelines for human subjects in research. Further, I certify that any changes in procedures from those outlined above or in the attached proposal will be cleared through the IRB.

*If the Principal Investigator is a student, the electronic signature of the Faculty Advisor certifies:*

*1) Agreement to supervise the student research; and, 2) This application is ready for IRB review. The Student is the "Principal Investigator". The Faculty Research Advisor is the "Advisor". Designees may not sign the package. It is the student's responsibility to contact their Faculty Research Advisor when the study is ready for his/her signature.*

- I certify the information provided in this application is complete and correct
- I understand that I have ultimate responsibility for the conduct of the study, the ethical performance of the project, the protection of the rights and welfare of human subjects and strict adherence to any stipulations imposed by the IRB.
- I agree to comply with all FHSU policies, as well as all federal, state and local laws on the protection of human subjects in research, including:
- Ensuring all study personnel satisfactorily complete human subjects in research training
  - Performing the study according to the approved protocol
  - Implementing no changes in the approved study without IRB approval
  - Obtaining informed consent from subjects using only the currently approved consent form

- Protecting identifiable health information in accordance with HIPAA Privacy rule
- Promptly reporting significant or untoward adverse effects to the IRB

## Description of Project

Completely describe the research project below. Provide sufficient information for effective review, and define abbreviations and technical terms. Do NOT simply attach a thesis, prospectus, grant proposal, etc.

### A. Project purpose(s):

#### *Pilot Study*

Judy L. Young gives two-hour presentations with 2-3 short Laughter Therapy demonstrations with participation (see below for Laughter Therapy components). I would like to use this as a pilot to examine whether affect will change over a short period. I will be using the results to the pre and post Positive and Negative Affect Scale (PANAS) already collected by Young. All data used for this portion is archival.

#### *Main Study*

The intervention is Laughter Therapy as conducted by Judy L. Young. This is a 15-minute per day program lasting three weeks where participants will have the opportunity to learn to 'turn on' authentic laughter. The program occurs in a group setting and includes deep breathing, imitation of the sounds of laughter, and social interactions (e.g. giving high-fives). I would like to have a control group as well. In the control group, participants will discuss neutral topics to mimic the social interaction of Laughter Therapy in addition to practicing the deep breathing associated with Laughter Therapy. This group will meet for the same amount of time per day as the Laughter Therapy group.

I would like to measure creativity levels using a part of the Torrance Test of Creative Thinking (TTCT) before the interventions begin. I will also measure participants' affect before and after interventions with the Positive and Negative Affect Scale. I am interested in finding the difference in affect after the interventions as well as whether higher levels of creativity will lead to more increases in positive affect.

**\*\*Interventions will be conducted by Judy L. Young. My role in her program is to simply recruit businesses signed up for her program to allow me to petition participants to complete the PANAS and TTCT in order to examine the effectiveness of this program.**

### B. Describe the proposed participants (number, age, gender, ethnicity, etc)

Participants will be from a place of employment. All will be above the age of eighteen. Males or females in addition to various ethnicities may be recruited for participation. Maximum number per group is twenty five participants for the full three week program, but I am expecting significantly smaller numbers per group due to difficulty finding

participants to commit for three weeks. Participants will be recruited from businesses already agreeing to participate in Young's Laughter Therapy programs.

C. What are the criteria for including or excluding subjects? Are any criteria based on age, gender, race, ethnicity, sexual orientation, or origin? If so, justify.

Since Judy's program is geared toward adults in the workplace, my participants will all be above the age of eighteen. Interventions will likely take place in the morning when a younger population is in school. No other criteria for exclusion/inclusion exists

D. Population from which the participants will be obtained:

General Populations:

Adult students (18-65 years) on-campus

X  Adults (18-65 years) off-campus

FHSU Students\*

FHSU Employees\*

International Research Population \*

Protected Populations\*

Children (Less than 18 Years)

Elderly (65+ Years)

Prisoners

Wards of the State

Pregnant Women

Fetuses

Vulnerable Population\*

*Vulnerable to coercion*

*Vulnerable to influence*

*Economically disadvantaged*

*Educationally disadvantaged*

*Mentally disabled*

\*APPROPRIATE ATTACHMENTS MUST BE INCLUDED IN THE APPLICATION PACKAGE

E. Recruitment Procedures: Describe in detail steps used to recruit participants.

Once Young has scheduled with a willing business, I will talk with the individual in charge of scheduling to determine whether employee participation is feasible for the business. If so, I will meet with participants on the first day of Young's time to request participation. Each willing participant will sign an informed consent form giving the relevant information. Data will be collected with groups already consenting to participate in Laughter Therapy with Judy L. Young.

F. Describe the benefits to the participants, discipline/field, and/or society for completing the research project.

Participants may experience an increase in positive affect. Previous research on Judy Young's Laughter Therapy program indicated self-efficacy and positive affect increased after the Laughter Therapy program was completed. These changes were sustained over a 90-day period. These changes indicate Laughter Therapy may be extended beyond the workplace into the clinical realm. This intervention may help alleviate depressive disorders or other mental illnesses involving changes in mood. In a nonclinical population (like the population in the present research), an increase in positive affect may increase well-being and quality of life.

An additional benefit may be a reduction in stress level for participants. The components of Laughter Therapy are empirically proven to be helpful for individuals by reducing stress and increasing self-efficacy. The skills learned in the Laughter Therapy may allow participants to turn genuine laughter on and off. These skills may be easily taught to others as well.

G. Describe the potential risks to participants for completing the research project. *A risk is a potential harm that a reasonable person would consider important in deciding whether to participate in research. Risk can be categorized as physical, psychological, social, economic and legal, and include pain, stress, invasion of privacy, embarrassment or exposure of sensitive or confidential information. All potential risks and discomforts must be minimized to the greatest extent possible by using appropriate monitoring, safety devices and withdrawal of a subject if there is evidence of a specific adverse event.*

The program does include very mild forms of exercise, as mentioned previously. Examples of this include deep breathing and walking in the room for several minutes. Individuals with preexisting health conditions which affect mobility and/or ability to exercise may experience problems during the program and will be informed of these risks before giving consent for participation. Young includes this in the initial session with her clients, and I will assist her to assure participants are fully informed of the risks.

H. Describe the follow up efforts that will be made to detect any harm to subjects, and how the IRB be kept informed. *Serious adverse or unexpected reactions or injuries must be reported to the IRB within 48 hours. Other adverse events should be reported within 10 days.*

Participants will be monitored during the Laughter Therapy by Judy Young. Young tends to adjust the activities of the group to meet the needs of the individuals present. Any reported or observable exhaustion is unlikely but will be treated promptly by ceasing activities. If any individual is unable to participate or seems distressed in any way due to the interventions, the individual may inform Young or me and withdraw at any time.

I. Describe the procedures used in the research project (in detail, what will all participants experience during the research project):

I have included a tentative schedule of the Laughter Therapy with Judy Young and control group activities.

### **Laughter Therapy Schedule**

<b>Day 1</b>	1.5 hours	Orientation	<ul style="list-style-type: none"> <li>Consent signed, TTCT and PANAS administered</li> <li>Humor vs. Laughter: what is the difference</li> <li>Introduction to laughter without humor - standing activity</li> <li>Scientific evidence on humor induced laughter (seated)</li> <li>Group standing circle activity practicing laughter-without-humor</li> <li>Results of published research from Prairie View (seated)</li> <li>Final group circle of laughter without humor</li> </ul>
<b>Day 2</b>	15-Min	Deep breathing	<ul style="list-style-type: none"> <li>Gentle stretching</li> <li>Imitate natural laughter sounds</li> <li>Gather in a circle and begin walking and laughing</li> <li>Pick-up the tempo of the walk and laugh</li> <li>Add arm swings and marching steps</li> <li>Stop, breath and drink water - explain next exercise</li> <li>Imitate talking on a cell phone while laughing and walking making eye contact and holding an imaginary conversation with one person at a time all the time engaged in deep belly laughter. Wave good-bye and move to the next person. Continue to engage in laughter.</li> <li>Stop, breath and drink water - explain next exercise</li> <li>Toy airplane - arms extended body swooping down and stretching upward with open arms walking quickly and exulting deep robust belly laughter.</li> <li>Stop, breath and drink water - explain next exercise</li> <li>Form two circles one inside the other and have each walk counter to the other group. Make solid eye contact and participate in hi-fives. Those not wishing to make human contact or those with a cold or flu symptoms keep their hands at their sides but generate the biggest and best smiles ever. Mentally wish each person a day full of joy and laughter.</li> </ul>

<b>Day 3-14</b>	15-Min	Introduction of additional exercises daily with laughter and breathing
<b>Day 15</b>	15-Min	Post test PANAS and debriefing ; any questions answered

**Control Group Schedule**

<b>Day 1</b>	1.5 hours	Orientation Consent signed, TTCT and PANAS administered Introduction to deep breathing techniques First discussion over neutral topic (not likely to activate positive or negative affect) proposed by participants
<b>Day 2-14</b>	15-Min	Daily deep breathing and discussions about neutral topics
<b>Day 15</b>	15-Min	Post test PANAS and debriefing ; any questions answered

**Two-Hour Presentation Pilot Group (archival data)**

<b>Day 1</b>	2 hours	Orientation Consent signed, PANAS administered Humor vs. Laughter: what is the difference Introduction to laughter without humor - standing activity Scientific evidence on humor induced laughter (seated) Group standing circle activity practicing laughter-without-humor Results of published research from Prairie View (seated) Final group circle of laughter without humor Post test PANAS and debriefing ; any questions answered
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J. List all measures/instruments to be used in the project, include citations and permission to use (if measure/instrument is copyrighted) if needed or if it will be changed for this study. Attach copies of all measures:

1. Torrance Test of Creative Thinking (TTCT), Verbal Form A, Activity #5

Torrance, E.P. (1974). *Norms-technical manual: Torrance tests of creative thinking*. Bensenville, IL: Scholastic Testing Service.

2. Positive and Negative Affect Scale (PANAS)

K. Describe in detail how confidentiality will be protected before, during, and after information has been collected?

Participants will be assigned a number to write on his/her TTCT, PANAS, and debriefing information. No names or identifying information will be requested.

L. Data: How will the data be stored? When will the data be destroyed? Who will have access to the data? If audio or video recordings are used, how will they be kept confidential?

Data will be stored on a flash drive owned by the experimenter. I will have access to the data in addition to my thesis committee chair, if needed. Data will be destroyed five years after completion of the research in order for further analysis by other researchers if warranted. No audio or video recordings will be used during the study, and no identifying information will be stored.

M. Informed Consent: Describe in detail the **process** for obtaining consent. *If non English speaking subjects are involved, describe how consent will be obtained.*

1. Calls will be made to businesses requesting permission to recruit employees for participation.
2. Follow-up phone calls will be made to answer questions businesses may have.
3. If businesses are willing to participate, informed consent forms (emphasizing voluntariness, comprehension, and disclosure) will be distributed to employees prior to the first group intervention to allow for consideration for participation in the research.
4. Employees willing to participate will sign the informed consent form and have an opportunity for questions before beginning the program.

N. If informed consent is to be waived or altered, complete Supplemental: Consent Waiver Form  
NA

O. If written documentation of consent is to be waived, complete Supplemental: Documentation Waiver Form  
NA

N. Explain Debriefing procedures/end of study information that will be given to all participants.

1. A short summary of the purpose of the research is included on the debriefing sheet. I will explain the variables of interest (creativity and affect), if needed, and answer any questions regarding the nature of the research, results, or conclusions.

2. I will give participants information about contacting Young for additional laughter classes/courses available as well as counseling resources in the appropriate county in the event any participant may need additional services.

O. Emergencies. How will emergencies or unanticipated adverse events related to the research be handled if they arise?

If emergencies arise, building safety procedures will be followed. Data collection will cease until the situation is completely resolved. The IRB as well as thesis committee advisor will be notified immediately as well. If additional services are needed due to the emergency, the researcher will provide pertinent information to the participant(s) involved.

P. Will information about the research purpose and design be held from subjects? If yes, justify the deception.

Interventions will be termed “Wellness Therapy” rather than “Laughter Therapy”. The term Laughter Therapy is misleading for the control group experiencing discussions without the emphasis on laughter. The term Wellness Therapy is similar and fairly representative of the activities/goals, but it eliminates the focus on laughter specifically.

R. If the research involves protected health information, it must comply with the HIPAA Privacy Rule. *Not applicable.*

NO  Do you plan to use or disclose identifiable health information outside FHSU?  
*If yes, the consent form must include a release of protected health information.*

The IRB may make a waiver of authorization for disclosure if criteria are met under the HIPAA Privacy Rule.

*If a waiver of authorization is being requested, the researcher must contact the IRB chair prior to submitting this application.*

Will the protected health information to be used or disclosed be de identified or will a limited data set be used or disclosed?

S. Each individual with a personal financial interest or relationship that in the individual’s judgment **could reasonably appear to affect or be affected by the proposed study** involving human subjects should attach a Supplemental Form: Conflict of Interest. It is unnecessary to report any financial interests or relationships that do **not** reasonably appear to affect or be affected by the proposed study.

NA

**Definitions:**

*“Conflict of interest”* occurs when an independent observer may reasonably question whether an individual's professional actions or decisions are influenced by considerations of the individual's private interests, financial or otherwise.

Conflicting financial interests do not include:

- Salary and benefits from Fort Hays State University;
- Income from seminars, lectures, teaching engagements, or publishing sponsored by federal, state, or local entities, or from non-profit academic institutions, when the funds do not originate from corporate sources;
- Income from service on advisory committees or review panels for governmental or non-profit entities;
- Investments in publicly-traded mutual funds;
- Gifts and promotional items of nominal value; and
- Meals and lodging for participation in professional meetings.

*“Principal investigator or other key personnel”* means the principal investigator and any other person, including students, who are responsible for the design, conduct, analysis, or reporting of research involving human subjects.

<p><i>The decision to exempt a study from IRB review must be made by someone other than the researcher associated with the project.</i></p>	<p><b>Fort Hays State University Institutional Review Board Office for Scholarship and Sponsored Projects</b> 600 Park Street Hays, KS 67601 (785) 628-4349 E-mail: <a href="mailto:lpaige@fhsu.edu">lpaige@fhsu.edu</a></p>
<p><b>Request for Exemption</b> From IRB Review</p>	

<p><b>Study Title:</b> The Effects of Creativity on Mood Enhancement Caused by Laughter Therapy</p>		
<p><b>Name of Principal Investigator:</b> Jennifer Clark</p>		
	Departments with Human Subjects/Ethics Review Committees	Departments without Human Subjects/Ethics Review Committees
Departmental Representative (Department Chair/Ethics Chair)	Departments with Human Subjects/Ethics Review Committees	
Date of Departmental		
Committee Members: Dr. Naylor, Dr. Olson, Dr. Herrman, Dr. Davis		
Votes for:		
Votes Against:		
Abstained:		

<p><b>EXEMPT CRITERIA</b></p>
<p>Research must be "<b>minimal risk</b>" to qualify for an Exemption. Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.</p>
<p><b>A. Risk Level:</b> Does this research pose more than minimal risk to participants? <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No                  * Greater than minimal risk research must be reviewed by the university IRB. <u>Please request a full IRB review.</u></p>
<p><b>B. Public Data:</b> Will the study use archived data, documents, records or biological specimens? <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No                  * Provide Source:                  *When were these data collected:</p>

**C. Special Subject Populations** (generally not eligible for exemption, unless the study qualifies for an educational exemption).

1. Minors (under 18 years of age). Not applicable to educational research. **Not exempt.**
2. Fetuses or products of labor and delivery
3. Pregnant women (in studies that may influence maternal health)
4. Prisoners
5. Wards of the state
6. Elderly (65+)
7. Individuals with a diminished capacity to give informed consent

Does the study include any special subject populations?  Yes\*  No

\* Indicate population:

**E. Categories of Sensitive Information** (generally not eligible for exemption)

1. Information relating to sexual attitudes, preferences, or practices.
2. Information relating to the use of alcohol, drugs or other addictive products.
3. Information pertaining to illegal conduct.
4. Information that if released could reasonably damage an individual's financial standing, employability, or reputation within the community.
5. Information that would normally be recorded in a patient's medical record and the disclosure of which could reasonably lead to social stigmatization or discrimination.
6. Information pertaining to an individual's psychological well-being or mental health.
7. Genetic information.

Does the study include collection of any sensitive information?  Yes\*  No

**F. Exempt Categories (45 CFR 46.101(b))** Check Category that best describes the study:

(1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

**This applies only Normal educational research in regular educational settings.**

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:

(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation. **This exemption does not apply to children or prisoners**

(3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if:

(i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

**This applies only to elected officials, not officials appointed via a regular hiring process**

(4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

**All data must exist when the application is submitted (if data will be used that is collected or will be collected for clinical purposes, complete the IRB Review Form)**

(5) Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine:

(i) Public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

**This applies only to research and demonstration projects under the Federal Social Security Act. This does NOT apply to state or local public service projects that are not pursuant to the Social Security Act.**

(6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

**PROCESS:**

This form should be completed and attached to the Application Package for Human Subjects Research. All components must be included:

- Application
- Informed Consent Process and Documentation (if needed)
- Recruitment materials
- Any research instruments that will be used for the study (interviews, questionnaires, advertisements) If the study is designed to develop instruments and test the instruments for validity, state this in the Research Summary. Provide a copy of the materials to the OHRPP once developed using an Amendment Form.

Departments with Human Subjects/Ethics Review Committees:

The Chair of the Committee provides the completed form to the Principal Investigator to upload.

Departments without Human Subjects/Ethics Review Committee:

The Department Chair provides the completed form to the Principal Investigator to upload, and recommends the study be considered for exemption.

<b>ELECTRONIC SIGNATURES</b>
<b>PRINCIPAL INVESTIGATOR</b>
Your electronic signature means that the research described in the application and supporting materials will be conducted in full compliance with FHSU policies, as well as federal, state, and local laws on the protection of human subjects in research. You have the ultimate responsibility for the conduct of the study, the ethical performance of the project, and the protection of the rights and welfare of human subjects. In the case of student protocols, the faculty supervisor and the student share responsibility for adherence to policies.
Jennifer Clark
<b>FACULTY RESEARCH ADVISOR- REQUIRED FOR STUDENT RESEARCH</b>
Your electronic signature certifies that you have read the research protocol submitted for IRB review, and agree to supervise these activities in accordance with the guidelines for human subjects in research. Although the Principal Investigator has ultimate responsibility for the conduct of the study, the ethical performance of the project, the protection of the rights and welfare of human subjects and strict adherence to any stipulations imposed by the IRB, faculty who are serving as the Principal Investigator's Faculty Advisor are responsible for providing appropriate supervision.
<b>DEPARTMENT HUMAN SUBJECTS/ETHICS REVIEW COMMITTEE CHAIR REQUIRED FOR FACULTY OR STUDENT RESEARCH FOR DEPARTMENTS WITH HUMAN SUBJECTS/ETHICS REVIEW COMMITTEES</b>
Your electronic signature certifies that the Committee has reviewed the application and all supporting documents pertaining to this research protocol. The Committee has determined that the proposed activity meets the criteria for exemption from IRB review.
<b>SIGNATURE OF DEPARTMENT CHAIR REQUIRED FOR FACULTY RESEARCH FOR DEPARTMENTS WITHOUT HUMAN SUBJECTS /ETHICS REVIEW COMMITTEES</b>
Your electronic signature affirms you have been informed of the research, and recommend that this study be considered for exemption.

## **CONSENT TO PARTICIPATE IN RESEARCH**

*Department of Psychology, Fort Hays State University*

**Study title:** The Effects of Creativity on Mood Enhancement  
Caused by Laughter Therapy

Name of Researcher  
Jennifer Clark

Contact Information  
FHSU Psychology Department, 600 Park St., Hays, KS 67601 (785) 628-5729

Name of Faculty Supervisor & Contact Information, if student research  
Dr. Naylor, FHSU Psychology Department, 600 Park St., Hays, KS 67601 (785) 628-4405

**You are being asked to participate in a research study. It is your choice whether or not to participate.**

Your decision whether or not to participate will have no effect on benefits or services, job status, or quality of care to which you are otherwise entitled. Please ask questions if there is anything you do not understand.

### **What is the purpose of this study?**

The purpose of the study is to investigate the effects Wellness Therapy has on mood as well as how creativity levels may alter the effects of Wellness Therapy.

### **What does this study involve?**

If you decide to participate in this research study, you will be asked to sign this consent form after you have had all your questions answered and understand what will happen to you. The length of time of your participation in this study is three weeks. During weekdays, participation will last one hour the first day and just fifteen minutes the subsequent days. Approximately 20-50 participants will be in this study.

You will be asked to complete a mood measure and a creativity measure before and after your participation in the Wellness Therapy program. These confidential scores will be analyzed to determine whether Wellness Therapy has an affect on mood. None of the procedures (or questionnaires) used in this study are experimental in nature. The only experimental aspect of this study is the gathering of information for analysis.

**Are there any benefits from participating in this study?**

There will be (or may be) no benefits to you should you decide to participate in this study. Your participation will help us learn more about the effect of Wellness Therapy on mood and how creativity may change the effects of this therapy. This research may lead to better treatments for individuals suffering from a mental illness as well as ways to increase any individual's well-being.

**Will you be paid or receive anything to participate in this study?**

No compensation will be offered.

**What about the costs of this study?**

Wellness therapy is provided free of charge for participants.

**What are the risks involved with being enrolled in this study?**

A general statement could be, "It is unlikely that participation in this project will result in harm to participants." If you feel distressed or become upset by participating, notify the leader of the group promptly. Additional resources include the Kelly Center located on the sixth floor of Weist Hall in the Fort Hays State University Campus. (785-628-4401) Information on your local mental health center will also be provided.

Wellness therapy may require you to breathe deeply and/or move about the room. Again, the likelihood of harm is minimal and participants are encouraged to report any distress to the experimenter as soon as possible. Participants are able to cease activity if needed.

**How will your privacy be protected?**

The information collected as data for this study includes: Mood states, creativity measures, and demographics (age, gender, attendance at sessions, response to participation). Data will be collected anonymously and stored by the experimenter. Information will be used to measure the effects of Wellness Therapy in the workplace. Data will be kept for five years for analysis.

Efforts will be made to protect the identities of the participants and the confidentiality of the research data used in this study, such as: Forms completed will be numbered (rather than requiring your name) to protect confidentiality. No identifying information will need to be disclosed by participants.

Data will be stored on a flash drive and will remain locked in a safe for a five year period at which time it will be erased from the flash drive. The information collected for this study will be used only for the purposes of conducting this

study. What we find from this study may be presented at meetings or published in papers but your name will not ever be used in these presentations or papers.

If you disclose that you may harm yourself or others, I am required by law to report this information to the appropriate authorities.

**Other important items you should know:**

- **Withdrawal from the study:** You may choose to stop your participation in this study at any time. Your decision to stop your participation will have no effect on the status of your job.
- **Funding:** There is no outside funding for this research project.

**Compensation for Injury**

I have been informed and I understand that Fort Hays State University does not provide medical treatment or other forms of reimbursement to persons injured as a result of or in connection with participation in research activities conducted by Fort Hays State University or its faculty. If I believe that I have been injured as a result of participating in the research covered by this consent form, I should contact the Office of Scholarship and Sponsored Projects, Fort Hays State University at 785-628-4349.

**Whom should you call with questions about this study?**

Questions about this study or concerns about a research related injury may be directed to the researcher in charge of this study: Jennifer Clark at (620) 877-7411.

If you have questions, concerns, or suggestions about human research at FHSU, you may call the Office of Scholarship and Sponsored Projects at FHSU (785) 628-4349 during normal business hours.

**CONSENT**

I have read the above information about the Wellness Therapy research and have been given an opportunity to ask questions. By signing this I agree to participate in this study and I have been given a copy of this signed consent document for my own records. I understand that I can change my mind and withdraw my consent at any time. By signing this consent form I understand that I am not giving up any legal rights. I am 18 years or older.

Signature

Date

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Appendix F

Vita

## Jennifer Clark

314 S. Main St.  
 Hillsboro, KS 67063  
 (620) 947-0104  
[jmclark8@scatcat.fhsu.edu](mailto:jmclark8@scatcat.fhsu.edu)

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<b>Professional Objective</b>	To provide effective therapy services and assessments to clients with psychological issues to assist in creating a better quality of life.
<b>Qualifications</b>	<ul style="list-style-type: none"> <li>◆critical thinking skills and analytical abilities to assess individuals' challenges and implement solutions for more productive living</li> <li>◆strong desire to make a difference in persons' lives</li> <li>◆patience and understanding of difficult challenges persons may face</li> <li>◆critical thinking skills to implement interventions</li> <li>◆organized and detail-oriented in completion of paperwork and work-related tasks</li> <li>◆as well as ability to work well with a team of professionals</li> </ul>
<b>Education</b>	<p><b>M.S. Clinical Psychology</b>, Present          Fort Hays State University, Hays, KS          GPA to date 4.0 on 4.0 Scale          30% of Education Earned</p> <p><b>B.A. Psychology</b>, May 2006          Bethel College, North Newton, KS          Psychology GPA 3.9 on 4.0 Scale</p> <p><b>B.A. Art</b>, May 2006          Bethel College, North Newton, KS          Emphases in Painting and Photography          Art GPA 3.2 on a 4.0 Scale</p>
<b>Research</b>	<p><b>Master's Level Thesis</b>, Present          Fort Hays State University, Hays, KS</p> <ul style="list-style-type: none"> <li>◆□Constructing thesis project to investigate effect of Laughter Therapy on affect □in a nonclinical population and the interaction of creativity and benefits of Laughter □Therapy</li> </ul> <p><b>B.A. Thesis</b>, May 2006</p>

Bethel College, North Newton, KS

- ◆□Planned, prepared, and completed B.A. Thesis project
- ◆□Presented at the Bethel College Research Symposium.

**Undergraduate Research Award Recipient**, May 2005

Bethel College, North Newton, KS

- ◆□Completed original research entitled “Reducing Depression in the Elderly: an □Empirical Examination of the Effectiveness of Laughter Therapy and Positive □Thought Suppression”

**Experience**

**Adjunct Professor of Psychology**, August 2010 - Present

Butler Community College, El Dorado, KS

- ◆Organize, plan, and teach online and face-to-face courses in undergraduate psychology
- ◆□Grade undergraduate work and enter grades
- ◆Communicate and collaborate with students on a consistent basis

**KSHC Assistant Summit Planner**, April 2010 – July 2010

Kansas Statewide Homeless Coalition (KSHC), Topeka, KS

- ◆□Assisted conference organizers in planning the annual KSHC Summit in Hays, KS
- ◆Contacted groups to provide information tables at the conference

**Kelly Center Intern Therapist**, August 2009 – May 2010

Fort Hays State University Kelly Center, Hays, KS

- ◆□Organized and provided therapy services to students seeking treatment
- ◆□Conducted and scored assessments of intelligence, achievement, personality and assessments of pathology for use in therapy sessions and Learning Disability testing
- ◆□Created and presented reports on testing results and therapy progress
- ◆□Worked with a team of professionals to provide necessary resources and services to clients
- ◆□Created and kept appropriate documentation
- ◆□Assisted Kelly Center staff in keeping information and documentation confidential

**Graduate Teaching Assistant**, August 2008 - Present

Fort Hays State University Psychology Department, Hays, KS

- ◆□Grade undergraduate work, enter grades, and organize paperwork

**Child and Adolescent Case Manager**, May 2006 - January 2007

Prairie View Inc., Marion, KS

- ◆ Provided case management services to child/adolescents and families
- ◆ Brought community members together for treatment organization
- ◆ Created and sent documentation
- ◆ Coordinated additional services for children and families, such as attendant and respite care services
- ◆ Worked collaboratively with a team of professionals

**Psychology Tutor**, February 2005 - May 2006

Bethel College Center for Academic Development, North Newton, KS

- ◆ Maintained office hours and available by appointment to aid students in their study of psychology

**Psychological Assistant**, August 2004 - December 2004

Bethel College Psychology Department, North Newton, KS

- ◆ Organized empirical documents

**Caring Place Volunteer**, August 2004 - December 2004

Bethel College, Newton, KS

- ◆ Visited Caring Place, a center where mentally ill individuals can congregate at designated times for social activities

**Professional Memberships****American Psychological Association**, August 2009 - Present