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**Ameliorating Effects of Sense of Humor on Trait Depression**

**by Mohsan Beg**

**B.Sc., University of Toronto, 1992**

**A Thesis**

**Submitted to the Faculty of Graduate Studies and  
Research through the Department of Psychology  
in Partial Fulfilment of the  
Requirements for the Degree  
of Master of Arts at the  
University of Windsor**

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**1996**



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## **Abstract**

The purpose of this study was twofold. First, to examine the previously reported moderating effects of humor on the relationship between stress and depression. Second, to examine in more detail than had been done previously the relationship between specific humor variables and overall depression as well as the relationship between specific depression variables and overall sense of humor. Participants were 244 university students who filled out the Multiscore Depression Inventory as a measure of depression, the Multidimensional Sense of Humor Scale as a measure of humor, and the Life Experiences Survey as a measure of negative life stress. A hierarchical multiple regression was conducted to test for the stress moderating effects of humor. Results indicated that negative life stress was significantly related to depression and that subjects with higher humor scores reported significantly less depression than did those with lower scores. In examining the relationship of various humor elements with overall depression it was found that each of these aspects of humor was significantly negatively related to depression. However, none of these variables independently predicted overall depression scores. In addition, in examining the relationship of various depression variables with overall humor it was found that only social introversion contributed independently to the prediction of overall humor. In other words, people who reported being more socially introverted had less of a sense of humor than those who did not report being socially introverted.

These results and their relation to previous research were discussed and limitations of the present study as well as suggestions for future research were also presented.



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## **Chapter I**

### **INTRODUCTION**

Over the last 2 decades, an increasing amount of research has focused on the role that stressful life events play in an individual's current physiological and psychological functioning. Much of this interest began with Holmes and Rahe's publication of the Life Events Survey and their work on the effects of stress on disease (Holmes & Rahe, 1967). Subsequently researchers have investigated the effects of life stress in areas ranging from depression to the common cold (e.g., Holmes & Holmes, 1970). An impressive number of studies have documented the relation between the experience of stress and the onset of poor health, disease, and various forms of psychological disorders (Christensen, 1981; Paykel, 1974).

However, although this association has been established, there is a great deal of variation in the responses of individuals to similar life events (Rabkin & Struening, 1976). Therefore, more recent investigations have addressed the variables that serve to moderate the effects of life stress. One of these variables that has recently received increased attention is sense of humor.

Clinical lore has long suggested the notion that humor possesses therapeutic properties. However, it is only recently in the literature that a few studies have appeared that have directly investigated the stress moderating effects of humor. Though these studies do provide some evidence for a sense of humor moderating the relationship between stress and depression, the

results are inconsistent. These studies have been criticized for only tapping one or two dimensions of humor and failing to measure an overall sense of humor (Thorson & Powell, 1993). In addition these studies have taken a unidimensional view of depression, only focusing on an overall global rating of without examining the particular features of, depression.

The present study was designed to investigate sense of humor as a moderator between stress and depression. Similar to previous research in the area, this study will examine an overall rating of depression, however, the present study goes into more detail by exploring particular features of depression. In addition, the present study focuses on an overall sense of humor as well as particular dimensions associated with it.

Before reaching this point it will be necessary to discuss how the complex concepts of both stress and depression will be conceptualized. This will be followed by a discussion of the relationship between stress and health in general, and more specifically the relationship between negative life stress and depression. Some of the literature that has investigated the variables that moderate this relationship will be presented. A number of theories of humor will be reviewed before examining the handful of studies that have examined humor as a stress moderator. Finally, a brief review of the measurement techniques of humor will be necessary.

## DEFINING TERMS

It is well recognized that the concepts of stress and depression are

indeed complex phenomena. For this reason it is necessary for the present study to clarify at the outset how the terms "stress" and "depression" will be conceptualized.

### *Stress*

The term "stress" is widely used and many disciplines, ranging from the biological sciences to psychology to the social sciences, have studied one aspect or another of stress. However, as confusing as this variation may seem, Aldwin (1994) pointed out that most researchers are quite precise about what they mean by "stress" in specific studies. He stated that "psychologists and sociologists generally concentrate on the definition of an external occurrence and on the individual's emotional reaction to it" (p. 22). This fact is reflected in research examining variables that moderate the relationship stress and depression. This relationship is viewed as the impact of some external stressful occurrence and the person's emotional reaction to that occurrence (i.e., depression).

The next logical step is determining what qualifies as an external stressful occurrence. Derogatis & Coons (1993) stated that regarding stress as an external occurrence means "focusing on the intrinsic potential for stress in the environment" (p.204). They go on to say "Although numerous aspects of the environment can be demonstrated to be stress inducing, few approaches have given rise to a consistent psychological measurement strategy. An exception to this trend is life events research" (p. 204).

Approaches to life event stress often include structured clinical interviews, psychometric assessment, and behavioural assessment strategies (Miller, 1993). For the measurement of life stress, the most common approach has been the use of life event checklists (Costa & McCrae, 1993). Original assumptions concerning life event stress held that it was irrelevant whether these events were positive or negative, it was only the cumulative impact of life change associated with the events that was identified as the etiologic agent (Holmes & Rahe, 1967). Subsequent research has argued strongly against the idea that profoundly negative events are no more stressful than positive events (Brown, 1974). Vinokur & Selzer (1975) demonstrated that stress-related measures of affect and symptoms correlated selectively with negative, as opposed to positive, life events.

Therefore, the present study conceptualized the stress construct as negative life events. The use of negative life events as a stress measure is consistent with previous research investigating humor as a stress moderator (Martin & Lefcourt, 1983; Nezu, Nezu, & Blisset, 1988; Overholser, 1992; Porterfield, 1987).

### *Depression*

"When considering the assessment of depression, the clinician must always remain aware of the fact that depression is a multifaceted concept" (Shaw, Valles, & McCabe, 1985; p.373). This quote emphasizes the complex and multidimensional nature of depression. Depression is not a unitary



concept and "adequate assessment of depression should not be restricted to a single dimension, such as mood, but should sample the range of relevant factors including psychological, biological, and social functioning" (Shaw et al., 1985; p.373).

Lewinsohn, Biglan, & Zeiss (1976) proposed over 25 different symptoms of depression which they grouped into five classes including Dysphoria (feelings of sadness, apathy, boredom), Behavioral Deficits (minimal social participation, decreased verbal and physical activity), Behavioral Excesses (feelings of guilt, excessive complaints about one's life circumstances), Somatic Symptoms (fatigue, insomnia, appetite loss), and Cognitive Manifestations (poor self-esteem, negative experiences, self-criticism). Blazer (1982) compared symptoms assessed by various depression rating scales. His list contained over 40 different symptoms organized into five groups, emotional, cognitive, delusional, physical, and volitional.

A number of factor analytic studies have been conducted on commonly used measures of depression. For example, investigations into the factor structure of the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), the most frequently used self-report method of assessing severity of depression (Shaw et al., 1985), have found anywhere from one to three factors (Byrne & Baron, 1993; Campbell, Burgess, & Finch, 1984; Golin & Hartz, 1979; Welch, Hall, & Walkey, 1990).

These studies emphasized the fact that depression is not a uniform

construct but one that consists of a variety of different features. Previous studies investigating humor as a stress-moderator have only considered a single global rating of depression (e.g., Nezu, Nezu, & Blissett, 1988; Porterfield, 1987). The present study examined depression, not only in terms of an overall rating, but also in terms of specific features or dimensions of depression.

### **Stress and Health**

Many investigations have examined the relationship that exists between stress and health. High levels of stress have been implicated in a wide range of physical illnesses: increased risk of the common cold (Cohen, Tyrell & Smith, 1991); higher risk of infectious illnesses (Glaser, et al., 1987); immune-related disorders (Rabin et al., 1989); coronary heart disease (De Backer, Kornitzer, & Kittel, 1983; Eaker, Abbot, & Kannel, 1989); psychosomatic disorders (Creed, 1981); stroke (House et al., 1990); back pain (Craufurd et al., 1990); arthritis (Conway, 1992); and multiple sclerosis (Grant et al., 1989) just to name a few.

The role of stress in psychiatric disorders has also been an area of study. The DSM IV (1994) identifies a number of syndromes that can be linked to stress. These include Brief Psychotic Disorder which has a sudden onset possibly developing "shortly after and apparently in response to one or more events that, singly or together, would be markedly stressful to almost anyone in similar circumstances in that person's culture" (DSM IV, 1994; p.302). The

clinical picture includes emotional turmoil and at least one gross psychotic symptom that can last a few hours but no more than one month. Post-traumatic Stress Disorder and Acute Stress Disorder are both classified as anxiety disorders. In both these disorders the stressor is a "traumatic event...in which the person experienced or witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others" (DSM IV, 1994; p.424). Acute Stress Disorder is distinguished from Post-traumatic Stress Disorder because the symptoms for Acute Stress Disorder must occur within 4 weeks of the traumatic event and resolve within that 4 week period, whereas for a diagnosis of PTSD the symptoms must last for more than 1 month and may occur months or years after the traumatic event.

Rabkin (1993) reviewed the literature for studies that involved stress and anxiety disorders, schizophrenia, or depressive disorders. She found that the findings in the area of stress and anxiety disorders was very limited with only a handful of studies regarding stress and phobic disorders. For a comprehensive review of this literature see Rabkin & Klein (1980). Investigations in the area of stress and schizophrenia are also limited. Rabkin (1993) summarized the work in the area by stating "...there is no evidence that stressful life events reported by schizophrenics are more frequent than those reported by other diagnostic groups preceding illness onset" (p.487), however, she states that because of design discrepancies and methodological

shortcomings the possibility of an association between stressful life events and schizophrenia cannot be eliminated. In contrast, considerably more investigators have considered aspects of the relationship between stress and depressive disorder. In fact in the field of stress research, more investigators have studied depression than all other psychiatric disorders combined (Rabkin, 1993).

### **Stress and Depression**

The results of a large number of studies suggest that life stress is significantly related to depression. In an early study Paykel (1974) found a positive relationship between life stress and depression and Sarason, Johnson, & Siegel (1978) found that negative life events were positively related to scores on the Beck Depression Inventory.

In an examination of the relationship of reported maternal depression to prior and current life stressors it was found that depressed mothers were more likely to report having experienced more negative life events than nondepressed mothers. In addition, negative life events and mother characteristics were the two most potent variables discriminating depressed from nondepressed mother families (Webster-Stratton & Hammond, 1988). In a study of depressed mood and self esteem in young Asian, black, and white women in the United States it was found that negative life events and low religiosity fostered depression amongst black women and that negative life

events was related to low self-esteem amongst white women (Woods et al., 1994). Turkish women reporting more negative life events had higher depression scores than those women who did not report such events, regardless if they were employed or stayed at home (Boyacioglu & Nuray, 1992).

Couples in which one of the partners was clinically depressed were studied within an expanded stress-illness paradigm. Negative life events, coping, and family support were found to be directly related to depression (Mitchell et al., 1983). In a review of the literature on family variables and interaction processes associated with child and adolescent depression it was found that negative life events, along with a number of other factors, was significantly related to the development of depression (Kaslow et al., 1994). In a five year longitudinal study of predictors and consequences of depression of childhood depressive symptoms it was found that negative events early in childhood, negative events, but not explanatory style, predicted depressive symptoms (Nolen-Hoeksema et al., 1992). Associations among negative life events, perceived problem solving alternatives, and depression were studied among 150 high school students. Experiencing a negative life stress was likely to lead to increased depressive symptomatology only for those adolescents with primary negative problem solving alternatives (Adams & Adams, 1993). Out of 100 inpatient children, the 13 children diagnosed with depression reported having more negative life events than did the remaining subjects. The depressed children also had lower self-concepts, greater hopelessness, and were

more withdrawn (Kashani et al., 1990). Impact of negative life events, social support satisfaction, and locus of control were all found to directly predict levels of depression in a group of high school students (Benson & Deeter, 1992).

In a study that assessed the distribution of older adults with dysphoric symptoms across a variety of depressive subtypes it was found that those diagnosed with major depression were more likely to report negative life events and poor social relations (Blazer et al., 1987). In a longitudinal analysis of late life problem drinkers, it was found that environmental risk factors that predicted poorer follow-up functioning and treatment seeking were negative life events and chronic health and stressors related to their relationship with their spouse (Brennan et al., 1994).

Research examining the relationship between the relationship of negative life stress to various aspects of distress in 45 chronic low back pain patients indicated that negative life events were associated primarily with depression and social maladjustment (Smith et al., 1985). In analyzing data from 140 medical outpatients it was found that 59% had probable emotional disorders and that 48% suffered from significant symptoms of depression. Negative life stress and low social support were significantly associated with both probable emotional disorder and depressive symptoms (Cohen, 1982). Caregivers of a family member with progressive dementia were assessed annually for three years and divided into three groups: never depressed,

episodically depressed, and chronically depressed. Compared to the other two groups the chronically depressed caregivers reported higher frequencies of negative life stress and upsetting social support (Redinbaugh & MacCallum, 1995). 424 depressed patients were studied 12 months after they entered treatment for depression. Negative life events and chronic strains were found to be significantly correlated with depressive symptoms, after controlling for stress at intake (Billings & Moos, 1985).

These are but a few of the wide ranging investigations in a substantial number of studies that have documented the relation between the experience of stress, specifically negative life events, and the onset of depression or depressive symptoms. One would think, looking over this body of work, that developing depression in the wake of negative life events would be a foregone conclusion. However, although this association has been established, the actual effect appears to be modest, with correlations between stressful events and depression typically around .30. This suggests that stressful life experiences may account for less than 10% of the variance in depression (Nezu & Roman, 1985). Additionally, research has indicated that many people, even under extremely stressful situations, do not necessarily experience adverse effects (Sarason, Levine, & Sarason, 1982). Therefore, researchers (e.g., Johnson & Sarason, 1979; Kobasa, 1979) have suggested investigating variables that might serve to moderate the effects of life stress.

### **Moderators Between Stress and Depression**

Moderating theories predict that it is the interaction of stress and some second (moderating) variable that protects the individual from the negative effects of stress. Recently, researchers have begun to identify several variables that may moderate the negative life stress-depression relationship, some of which are outlined in the following paragraphs, including social support, locus of control, dependency & self criticism, and problem solving.

A prime example of such a moderator is social support. Both social support and positive events moderated the relationship between negative life stress and depressive symptomatology and both were found to protect against development of depressive symptoms for those with high levels of life stress (Cohen & Hoberman, 1983). For a review of studies investigating social support as a stress moderator see Cohen & Wills (1985).

In a longitudinal study, locus of control was found to have the most marked effect on depression of the personal resources under study and was proved to be as good a predictor of depression as was prior depression (Husaini & von Frank, 1985). Elderly persons with extreme internal or external locus of control beliefs were found to be especially vulnerable to the negative effects of life stress (Krause, 1986). A number of other investigators have also found evidence for the stress buffering role of locus of control (Johnson & Sarason, 1978; Lefcourt, Miller, Ware, & Sherk, 1981; Sandler & Lakey, 1982).

The role played by attributes such as dependency and self-criticism



in depression have been examined by a number of researchers and theorists (Beck, 1983; Blatt, Quinlan, & Chevron, 1990). In a study of college students that examined dependency and self-criticism as moderators of negative interpersonal and achievement life events it was found that dependent and self-critical subjects displayed greater increases in dysphoria following negative interpersonal events (Lakey & Ross, 1994). Self-criticism was found to moderate the association between negative life events and depression in women, as did dependency in men (Smith, O'Keefe, and Jenkins, 1988).

A study utilizing both cross-sectional and prospective analyses, as well as controlling for prior levels of depression, found that effective problem solvers under high levels of stress reported significantly lower depression scores than ineffective problem solvers under similar levels of stress (Nezu & Ronan, 1988). A study conducted with a group of 8-12 year-old inner city children found that children experiencing a high impact of negative life events with less effective social problem solving skills reported higher levels of depression compared to effective problem solving children experiencing the same level of negative life stress (Goodman, Gravitt, & Kaslow, 1995).

Other variables that have been investigated as to their stress-moderating roles include hardiness (Kobasa, 1979; Rhodewalt & Zone, 1989), sex-role orientation (Nezu, Nezu, & Peterson, 1987; Ross & Cohen, 1987), attributional style (Metalsky, Abrahamson, Seligman, Semmel, & Peterson, 1982), and sensation seeking (Johnson, Sarason, & Siegel, 1979).

These studies all support the fact that the relation between the onset of depression and negative life experiences can be moderated by a number of different variables. Such variables are believed to buffer the deleterious effects of experiencing high levels of stressful life events. Recently the possible stress moderating functions of another variable, sense of humor, has received some attention.

### *Humor as a Moderator of Stress*

Anecdotal daily experience and folk wisdom has for ages held that humor and laughter can help us bear life's burdens, and we are often reminded "to keep a sense of humor" during difficult times (Porterfield, 1987). Within the psychological literature, personality theorists such as Freud, Allport, and May have characterized humor as a healthful and adaptive coping strategy (Martin & Lefcourt, 1983).

Dixon (1980) proposed that the capacity to enjoy humor is the outcome of the development of an alternative mechanism to the primitive adrenergic response to stress. He stated that humor replaces the old mechanism of response to stress because it enables the individual to cope with sources of stress by viewing them as stimuli with alternative meanings. O'Connel (1976) stated that an individual with a sense of humor "is skilled in rapid perceptual cognitive switches in frame of reference" (p. 326). This flexibility allows the person to distance oneself from a stressful situation by looking at it from another perspective.

Norman Cousins (1979) described his experience with a very painful, life threatening illness of no certain cause. Cousins found that hospitals were stressful environments and no place for him to recover so he checked himself into a hotel where he watched funny movies. He reported that laughter was about the only thing that relieved his pain and allowed him at least 2 hours of pain free sleep. Cousins' apparently complete recovery from this disease provides anecdotal evidence for the beneficial effects of humor and laughter on the body. Others have also written of the positive effects of humor and laughter on human physiology (Averill, 1985; Fry, 1979; Godkewitsch, 1976).

Humor as an adaptive coping mechanism has also been advocated in psychotherapy (Fry & Salameh, 1987; Kuhlman, 1984; Mindness, 1971). For example O'Connell (1981) recommends the use of "humodrama," a group method that teaches people how to use their sense of humor in stressful situations.

In summary, much has been said about the important role that humor has to play in moderating the negative consequences of stress. However, very few empirical investigations of the stress-moderating effects of humor have been conducted. Before turning to these investigations, a review of some of the theories of humor would be helpful.

### **Theories of Humor**

Over 100 theories of humor exist today (Holland, 1982), put forth by philosophers, novelists, sociologists, psychologists, artists, and humorists.

The Latin origin of "humor" means fluid or moisture. The four basic humors played a role in determining a person's mood or temperament. Therefore being in "good humor" or "out of humor" was a description of the balance or imbalance between the four basic humors (Foot, 1991). Humor is a complex phenomenon, one that is multifaceted. It is simply not possible to develop a single broad theory that embraces all the main qualities of humor simultaneously and perhaps the best we can do is provide several theories that touch upon the different aspects of humor (Haig, 1988). Theories of humor can be divided into four main groups: incongruity, superiority, arousal or relief, and psychoanalytic (Lefcourt & Martin, 1986). A few representative theories of each area will be presented. A more comprehensive review is provided by McGhee & Goldstein (1983), and Holland (1982) provides an extensive bibliography of the theories of humor.

### *Incongruity Theories*

Incongruity theories focus on the cognitive elements of humor. In our everyday lives we come to expect certain patterns among things, their properties, events, etc. We laugh when something doesn't fit into these patterns. This includes any juxtaposition of ideas or situations which is surprising, unexpected, illogical, absurd, disjointed, or out of context (Foot, 1991).

Incongruity theories can be traced back to the writings of Kant and Schopenhaur in the 18th and 19th centuries respectively. Kant stated that laughter is "an affection arising from the sudden transformation of a strained

expectation into nothing" (Piddington, 1963; p.168). Schopenhaur outlined incongruity theory more directly. He states that our expectations do not turn into "nothing", as Kant says, but that the explanation given is incongruous to what we had expected. Laughter is simply the expression of this incongruity (Berger, 1995).

The incongruity approach to humor was more fully elaborated by Koestler (1964) who coined the term "bisociation" which refers to "the creative thinking which links two self-consistent but mutually incompatible frames of reference or associative contexts at the same time" (Haig, 1988; p.24). When this new link is formed in the presence of an "emotional charge" like anxiety or aggression, the abrupt shift from one field to the other causes a "momentary dissociation of the emotional charge from its thought context and the discharge of this redundant energy is the laughter reflex" (Berger, 1995 p.27)

Researchers taking a cognitive approach to humor differ in that some believe incongruity by itself was enough to produce humor (Nerhardt, 1976), while others argued that resolution of the incongruity was the important component (Suls, 1983).

### *Superiority Theories*

Superiority theories focus on the sudden perception of one individual as being superior to another as the basis for laughter. This group of theories has

the longest history of the four groups.

Plato felt that the proper object of laughter is human evil and folly and the laughable person is the one who thinks of himself as better than he really is. Aristotle's view was similar to Plato's in that he believed laughter to be basically a form of derision which arises mostly in response to weakness and ugliness. Both men thought laughter was incompatible with a good life (Moreall, 1983).

Hobbes had a stronger version of the superiority theory. He felt that laughter was "a sudden glory arising from some sudden conception of eminency in ourselves, by comparison with the infirmity of others or with our own formerly" (Haig, 1988; p.15). Hobbes' version became known as the classic form of superiority theory of humor.

Bergson's (1911) theory can also be classified as a superiority theory (Lefcourt & Martin, 1986). At the centre of his theory is the idea that comedy involves "something mechanical encrusted on the living" suggesting that laughter results whenever rigidity or simple machine-like qualities are observed in the appearance or actions of another person (e.g., physical deformities or silly behaviour). Bergson also believed that humor does not exist outside of that which is strictly human.

### *Arousal or Relief Theories*

There are different versions of these theories but what they all have in common is a view that laughter is seen as a venting of nervous energy.

Spencer's (1860) theory is one of the earliest arousal theories. His was a tension release theory which stated that emotions take the form of nervous energy. Spencer suggested that in laughter aroused by unpleasant feelings or incongruity the surplus nervous energy overflowed into the nerves supplying the mouth and respiration thus producing the characteristic movements and sounds associated with laughter (Haig, 1988).

Berlyne (1972) felt that laughter did not arise from the release of built up tension but occurred during the reduction of tension. He drew attention to the inverted "U" relationship between physiological arousal and subjective pleasure. As a joke is being told arousal is being elevated by means of certain properties of the joke (e.g., novelty, incongruity, etc.) and this arousal is pleasurable to a point. After this optimal level is reached increased arousal causes discomfort. The punch line of the joke results in the resolution of the arousing properties of the joke, causing arousal level to be reduced ("arousal jag") to a pleasurable level again, which is expressed as laughter.

Apter & Smith (1977) rejected Berlyne's inverted "U" relation between arousal and pleasure. They hypothesized that individuals are in one of two types of "metamotivational states": telic or paratelic. In the telic state the individual is goal oriented and serious. In the paratelic state the individual is more playful. Increased arousal in the telic state is unpleasant but in the paratelic state it is seen as pleasurable. Humor involves an increase in arousal and a reversal from a telic state to a paratelic state.

*Psychoanalytic Theories*

Freud produced two works where he dealt with the issue of humor. The first was "Jokes & Their Relation to the Unconscious" (Freud, 1960) and a less well known paper, "Humor" (Freud, 1928).

Freud believed that all forms of mirthful experience represented a savings or economizing of psychic energy that have become unnecessary for its normal purposes and thus dissipate in the form of laughter. He distinguished between three types of psychic energy that may be turned into laughter and each corresponding to a different category of mirth.

Jokes involved techniques that allowed people to express briefly, unconscious aggressive and sexual impulses that would normally be repressed. It takes a certain amount of libidinal energy to keep the impulses repressed but when a joke allows them to be expressed some of this energy is left over and it is dissipated in the form of laughter. It is this release of the libidinal drive that makes jokes so pleasurable.

The comic has to do with nonverbal sources of mirth (e.g., slapstick). According to Freud an observer mobilizes a certain amount of mental or ideational energy in anticipation of what is going to happen. When the expected does not occur, this mental energy becomes redundant and is released in the form of laughter.

Freud believed that humor occurs in situations in which people would normally experience certain negative emotions such as sadness or fear but the



perception of various humorous elements in the situation provides them with an altered perspective of the situation and thus they avoid expressing negative affect. The laughter of humor arises from the release of energy that would have been associated with the negative emotion. It is a transformation of pain into pleasure. Freud regarded humor as "the highest of defense mechanisms" and felt that a sense of humor was a "rare and precious gift."

### *Summary*

The last stanza in John Godfrey Saxe's famous poem "The Blind Men and the Elephant" (cited in Berger, 1995), which is about five blind men each touching a different part of an elephant and describing what they felt, sums up nicely the different viewpoints on humor;

and so these men of Indostan  
Disputed loud and long  
Each in his own opinion  
Exceeding stiff and strong,  
Though each was partly in the right,  
And all were in the wrong

Like the blind men, these theories are partially right in their insights and analyses, but individually they are not complete. As Berger (1995) points out, there is no "single way" or "royal road" to deal with humor. Incongruity, superiority, arousal or relief, and psychoanalytic theories all shed light on some facet or aspect of humor and it is the combination of these approaches that will allow a better understanding of the complex nature of humor.

### **Humor as a Stress Moderator**

As stated earlier, much has been written about the positive effects of humor, however there are only a handful of empirical investigations that have examined the commonly held belief that humor can function as a moderator between stress and depression. These studies however do not point to the same conclusions and thus some ambiguity exists around the value of humor as a stress moderator.

Safranek and Schill (1982) were the first to examine the assumed moderator role of humor. They wanted to determine whether two aspects of humor, humor use and humor appreciation, helped to moderate the effects of life stress. Humor use was measured using the Humor Use Inventory (Angell, 1970) which assesses how frequently and how funny a person tries to be in various situations. Humor appreciation was assessed by the total score of subject ratings of degree of funniness of five categories of jokes: nonsense, sick, ridicule, hostile, and sexual. Using 161 undergraduates (82 male and 79 female) Safranek and Schill used each measure separately to predict the effects of stress measured by Sarason's Life Events Scale ((LES) Sarason, Johnson, & Siegel, 1978) on two measures of psychological distress, depression and anxiety. Depression was assessed using Beck's Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and anxiety was assessed using Spielberger's State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970). The investigators found that, as expected, stress was

significantly correlated with depression and both state and trait anxiety. However, neither of their humor measures interacted with stress as a moderator variable.

In order to avoid the shortcomings observed in other measures Martin and Lefcourt (1984) developed their own humor assessment scale, the Situational Humor Response Questionnaire (SHRQ). The SHRQ measures the frequency with which subjects display mirth in a variety of life situations that could be potentially irritating as well as funny. Martin & Lefcourt (1984) felt that the SHRQ had a number of advantages over traditional humor measures. Previous humor scales were based on a conformist definition of humor, i.e., the degree to which a person agrees with others about what is funny. Whereas the SHRQ emphasizes a quantitative, behavioral definition of humor, i.e., "the frequency with which the individual smiles, laughs, or otherwise displays amusement in a variety of situations" (Martin & Lefcourt, 1984; p.147). Secondly the authors state that the SHRQ also taps productive aspects of humor (the degree to which the individual tells funny stories and amuses people). In addition the SHRQ focuses on behaviours related to humor and is not tied to any particular theory regarding the underlying processes in humor. Finally, Martin and Lefcourt (1984) claimed that the SHRQ avoids a social desirability response bias by focusing respondent's attention to particular situations rather than to their own enduring qualities.

Martin & Lefcourt (1983) conducted three studies to directly investigate

the stress moderating effects of humor. Along with the Situational Humor Response Questionnaire, Martin and Lefcourt (1983) created, particularly for this study, the Coping Humor Scale (CHS) which specifically assesses the degree to which subjects reported using humor as a means of coping with stressful experiences. Each study used a different measure or measures of humor. In all of the studies a negative life events checklist was used as an indicator of the level of stress in subjects' lives over the past year. The psychological impact of that stress was assessed using the Total Mood Disturbance score from the Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1971), a measure of current moods including tension, depression, anger, fatigue, and confusion. Subjects were asked to fill out this scale in terms of how they were feeling during the preceding month. All of the studies involved a hierarchical multiple regression analyses of mood disturbance (ie. POMS) scores. Negative life events measure was entered first, followed by the measure of humor, and finally the interaction of the two. A significant interaction would indicate a moderating effect of humor. This method of analysis was used to test the humor as a stress moderator hypothesis in all the studies that followed Martin & Lefcourt (1983).

In the first study (Martin & Lefcourt, 1983) conducted with 56 undergraduates, the humor measures included the Situational Humor Response Questionnaire, the Coping Humor Scale, the Liking of Humor subscale (degree to which subjects report valuing humor in their lives) and

Meta-Message Sensitivity subscale (degree to which subjects report being able to notice humorous stimuli in their environment) from Svebak's Sense of Humor Questionnaire (SHQ; Svebak, 1974). Of these measures the Situational Humor Response Questionnaire, the Coping Humor Scale, and the Liking of Humor subscale of the Sense of Humor Questionnaire were found to produce significant interactions with the measure of life stress, Life Events of College Students (Sandler & Lakey, 1982), in the prediction of Total Mood Disturbance Scores from the POMS. Further analyses of these interactions indicated that humor acted as a stress moderator. In other words, subjects who scored high on each of the humor measures, indicating a good sense of humor, were less likely than low humor subjects to have their POMS score be predictable from the stress measure. Martin & Lefcourt (1983) concluded that the negative effects of stress are less pronounced for individuals who tend to laugh and smile in a wide variety of situations, who use humor as a means of coping with stress, and who place a high value on humor. However the ability to notice humorous situations in the environment (as measured by the Meta-Message Sensitivity subscale) did not seem to contribute to the moderating effects of humor.

In the second study examining the stress moderating effects of humor Martin & Lefcourt (1983) decided to obtain a more behavioural assessment of subjects' ability to produce humor instead of relying on scales. To do this they used a technique described by Turner (1980) in which subjects were

individually seated at a table on which had been placed about a dozen miscellaneous objects, such as an old tennis shoe, a toothbrush, etc. The subjects, 62 university undergraduates, were asked to make up a 3-minute comedy routine incorporating the objects on the table in as humorous a way as they could. Their monologues were recorded and were later scored for number of witty remarks and overall wittiness. These two measures were combined into a composite humor index. The stress measure was the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978) and the mood measure was again the POMS. Similar to the previous study a significant interaction was found between stress and humor in predicting total mood disturbance on the POMS. In further analysis of the interaction, Martin & Lefcourt (1983) found that subjects who were able to produce humor showed less of a relationship between stress and mood disturbance than did those who were less able to produce a humorous monologue.

The third study conducted by Martin & Lefcourt (1983) involved 25 of the subjects who had participated in the first study. The same life stress and mood measure utilized in the first study were used in this study. The humor measure assessed the subject's ability to produce humor in a stressful situation. The subjects watched a film entitled *Subincision*, a film about male initiation rites involving ritual genital mutilation amongst a tribe of Australian aborigines, which was found to be mildly stressful in laboratory research conducted by Lazarus (1966). While watching the silent film, subjects were

asked to create a humorous monologue to accompany the film. These monologues were recorded and later scored for wittiness similar to the second study. Once again results showed a significant interaction between stress and humor in the prediction of humor production. Subsequent analysis of this interaction found that for subjects who could produce humor in this stressful situation had mood disturbance scores that were unpredictable from scores on their stress measure. Those subjects who could not produce a humorous monologue had a strong relationship between stress and mood disturbance scores. This stress-buffering effect of humor was found to be larger than those found with other humor measures in previous two studies.

The results of these studies (Martin & Lefcourt, 1983) provided support for the hypothesis that humor reduces the impact of stress. Five of the six different measures of humor demonstrated that subjects with a good sense of humor showed little negative impact from stressful experiences while those who scored low on the humor measures demonstrated a stronger relationship between stress and mood disturbance. In addition, among those subjects who reported high levels of negative events those with high scores on humor measures showed lower mood disturbance scores in comparison with subjects with lower humor scores. Finally, Martin and Lefcourt (1983) noted that only one of the humor measures (the Personal Liking of Humor subscale) produced a significant main effect on mood disturbance scores. They concluded that "it appears from these findings that there is generally not a simple relation

between sense of humor and disturbed moods. Instead this relation seems best understood in terms of an interaction with stressful experiences" (Martin & Lefcourt, 1983; p.1322).

Since the publication of these results a number of other studies examining the stress moderating effects of humor have been conducted. The findings from these studies have provided mixed results.

Porterfield (1987) attempted to replicate Martin and Lefcourt's (1983) findings with a larger sample ( $n=220$ ), and in addition investigated whether humor also moderates the impact of life stress on physical illness. Participants were given the Situational Humor Response Questionnaire and Coping Humor Scale (Martin & Lefcourt, 1983), as measures of humor, and the College Students Life Events Schedule (CSLES; Sandler & Lakey, 1982), as a measure of stress. All of these measures were used by Martin and Lefcourt (1983). The psychological impact of stress was assessed by the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). Physical illness was measured with a modified version of the Cohen-Hoberman Inventory of Physical Symptoms (Cohen & Hoberman, 1983).

Porterfield's (1987) results were quite different from those of Martin & Lefcourt (1983). Unlike Martin and Lefcourt's (1983) study, both humor measures, the Coping Humor Scale and Situational Humor Response Questionnaire were found to produce main effects in the prediction of depression. Subjects with higher humor scores reported significantly less



depression than those with lower humor scores, regardless of stress levels. No main effects were found in the prediction of physical illness. In addition, no interactions were found between stress and humor for either depression or physical illness. Porterfield (1987) concluded that the results are consistent with a "main effect model" which suggests that having a good sense of humor mitigates depression directly rather than by moderating the effect of stressful life events as proposed by Martin & Lefcourt (1983).

Labott & Martin (1987) examined two expressive styles, weeping and humor-coping, as moderators of the relationship between negative life events and mood disturbance with 334 undergraduate volunteers. The Weeping Frequency Scale, developed by Labott & Martin for this study, was used to assess subject's tendency to weep in various situations. Similar to Martin & Lefcourt's study, humor was assessed using the Coping Humor Scale (CHS; Martin & Lefcourt, 1983), stress was measured using the College Student Life Events Schedule (CSLES; Sandler & Lakey, 1982) and the impact of life stress was measured using the Profile of Mood States (POMS; McNair et al., 1971).

Results indicated a main effect for humor on mood disturbance. No significant interaction was found between humor and stress alone, however, a significant interaction between humor, stress, and weeping was found. Humor buffered the effect of negative events upon mood disturbance in all but high crying males. The authors concluded that their findings were generally consistent with the work of Martin & Lefcourt (1983). However, the fact that

the measures used to assess both humor and stress were identical to those used by Martin & Lefcourt (1983), and unlike Martin & Lefcourt's (1983) study, a main effect for humor was found and no significant interaction between humor and stress was found. Their results also support Porterfield's (1987) conclusion that humor may mitigate mood disturbance directly rather than buffering the impact of stress.

A more rigorous test of the humor as a stress moderator hypothesis was conducted by using both a cross-sectional and prospective design which allowed for control of prior levels of distress (Nezu, Nezu, & Blissett, 1988). In addition, the authors decided to use two different forms of distress symptomology: depression and anxiety as opposed to using an overall measure of mood disturbance (eg. POMS). Eighty-seven undergraduates were administered the Beck Depression Inventory (BDI; Beck et al., 1961), the Trait-Scale of the State-Trait Anxiety Inventory (STAI; Spielberger et al., 1970), and Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978) twice with a two month interval between administrations. During the first administration participants were also given two separate measures of humor, the Situational Humor Response Questionnaire and Coping Humor Scale.

In the cross-sectional analyses, both the Coping Humor Scale and Situational Humor Response Questionnaire, along with the Life Experiences Survey, produced significant main effects in the prediction of depression. The interaction between life stress and each measure of humor was also found to

be significant thus supporting the stress moderating effect of humor. The results using anxiety, however, were quite different. The main effects caused by humor and the interaction between life stress and humor, for both the Situational Humor Response Questionnaire and Coping Humor Scale, were not significant in the prediction of anxiety.

In the prospective analyses the depression and anxiety scores taken two months earlier were parcelled out (entered as covariates) in order to control for previous levels of distress. The results were similar to those found in the cross-sectional analyses. Once again no significant main effects for either of the humor measures, nor any significant interactions between life stress and humor was found in the prediction of anxiety. Depression assessed during the second testing was predictable from life stress scores for events that occurred between the two testing sessions, from each of the humor measures, and from the interaction of life stress and each of the humor scales.

Further analyses of these interactions indicated that individuals with a good sense of humor (e.g., high Situational Humor Response Questionnaire and Coping Humor Scale scores) under high levels of stress were found to report lower depression scores compared with individuals with low humor scores under similarly high levels of stress. Nezu, Nezu, & Blissett (1988) concluded that their results supported the hypothesized role of humor as a stress moderator but only with regard to depressive, not anxiety, reactions to stress.

Martin and Dobbin (1988) investigated the moderating effects of humor

on the relationship between stressors and secretory-immunoglobulin A (S-IgA). S-IgA has been found to be an index of immune functioning (Tomasi, 1976), and low concentrations of S-IgA have been associated with high levels of self-reported stress and with increased illness (McClelland et al., 1980). Forty subjects were given one measure of stress, the Daily Hassles Scale (DHS; Kanner et al., 1981), four measures of sense of humor, the Situational Humor Response Questionnaire, Coping Humor Scale, and two subscales of the Sense of Humor Questionnaire (Metamessage Sensitivity scale and Liking of Humor scale) all of which were used in previous research by Martin and Lefcourt (1983). S-IgA concentration was used as a measure of the impact of stress and was obtained from samples of saliva provided by subjects at two sessions six weeks apart. The DHS was administered at both these times.

Four hierarchical multiple regressions analyses were carried out, one for each measure of humor, with S-IgA concentration from the second saliva sample used as the dependent variable. Three of the four measures of humor, Liking of Humor subscale being the exception, interacted significantly with hassles in predicting S-IgA concentrations. Further analyses of these interactions revealed that subjects with low scores on the humor scales showed a strong negative relationship between hassles and S-IgA. Subjects with high humor scores revealed a very weak relationship between these two variables. The results suggested that subjects with less of a sense of humor, compared to those with a strong sense of humor, experienced a greater reduction in their

immune functioning following stress. The authors concluded that these findings support the stress moderating role of humor.

Anderson and Arnoult (1989) examined coping humor, beliefs about personal control, irrational beliefs, and positive stress as moderators of the effects of negative stress on psychological and physical health. 159 undergraduates filled out the Life Experiences Survey as a measure of stress, the Coping Humor Scale as a measure of humor, and perceived control and irrational beliefs were measured on two separate 7-point scales. Psychological health was assessed using the total score from the Multiple Affect Adjective Check List (MAACL; Zuckerman, 1960) which included depression, hostility and anxiety subscales. In addition subjects completed the Beck Depression Inventory. Physical health was measured by a sickness score compiled from subjects endorsement of various physical maladies in the recent past, subject's reported experiences of insomnia, and subjects' ratings of their overall health.

A series of multiple regression analyses was performed to test for the moderator effects which would be seen as significant interactions between the health measure and the moderator variable. In order to reduce the likelihood of a Type I error the authors used the Bonferroni solution in their analyses resulting in a stricter level required for significance ( $p < .0025$ ). Results indicated that none of the four proposed moderators, including coping humor, affected the relationship between negative stress and health. Using a standard unadjusted criterion level, coping humor interacted significantly with negative

life stress in predicting subjects' ratings of their overall health and reported experiences of insomnia. However, the negative life stress by humor interaction for subjects' ratings of their overall health was in the wrong direction, i.e., those who scored highly on coping humor had lower ratings of overall health when they had experienced high levels of stress than when they had experienced little stress; those low on coping humor revealed no relationship between stress and health rating. Though the negative stress by humor interaction for insomnia was in the right direction, further analyses indicated that insomnia was the least valid of all the health measures. The authors felt this finding supported the conclusion that there were no significant moderator effects of coping humor, or any of the other variables, because the only interaction that was in the right direction and was marginally significant was with insomnia as the criterion variable.

Overholser (1992) examined the relationship between stress, humor, and psychological adjustment in more detail than had been done in previous studies. Ninety-six undergraduates completed three different measures of humor: the Coping Humor Scale and two new scales developed by the authors, the Humor Appreciation Scale (HAS) and Humor Creativity Ratings (HCR). The HAS consists of fourteen captioned cartoons to be rated on a five-point scale from Not Funny At All to Very Funny. The HCR contains eight cartoons depicting stressful situations but without any caption. Subjects were required to provide a humorous caption for each cartoon which were later scored for

humorous qualities by objective raters. Stress was assessed using The Life Experiences Survey. The impact of life stress was assessed using the Beck Depression Inventory, the UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980), and the Rosenberg Self-Esteem Scale (Rosenberg, 1965). Each of these measures was given twice, with seven weeks between assessments.

A series of multiple regression analyses, performed separately for each sex to examine the relationship between measures of humor and psychological adjustment. Results indicated that subjects who reported using humor to cope with stressful situations were found to be less depressed, less lonely, and report higher levels of self-esteem. However these effects disappeared when subjects were reassessed seven weeks later. Further analyses of the results indicated that subjects that reported infrequently using humor to cope with stress displayed strong correlations between humor appreciation and humor creativity with depression, loneliness and self-esteem. In contrast subjects high in humor coping displayed no correlations between humor and psychological adjustment. In fact, for higher humor coping females stress was more likely to be significantly related to depression and self-esteem. Overholser (1992) concluded that humor as a coping mechanism seems to have important but seemingly short term effects on psychological adjustment. He concluded that to be effective humor must be used judiciously. Excessive use of humor as a coping mechanism may cause humor to lose its coping power and may be used as a form of denial. He also felt that his results

supported the stress moderating effects of humor, however, these effects vary with the degree of life stress, the frequency with which humor is used, the sex of the subjects, and the particular emotional reaction being examined.

### *Summary*

Though there is some variation in the above studies, there does seem to be some evidence to support that humor does play a role in the moderation of stress. Martin & Lefcourt (1983) obtained interactions indicating stress moderation for mood disturbance with five different measures of humor in two separate samples. Nezu et al. (1988) also found support both in concurrent and prospective data for the stress moderating role of humor for depression, but not for anxiety. Labott & Martin (1987) found humor to buffer the impact of life stress on mood disturbance in most but not all groups. Martin & Dobbin (1988) found humor to moderate the relationship between stress and immune functioning. Overholser (1992) also provided support for the stress moderating effects of humor on depression, loneliness, and self-esteem. However the effects of humor varied with the degree of life stress, frequency with which humor is used, sex of the subjects, and particular emotional reaction being examined.

Although these studies provide support for the stress-moderating role of humor a number of studies did not support these findings. Porterfield (1987) found no significant interaction effects between stress and humor, though he did find support for humor directly mitigating depression. Anderson & Arnoult (1989) using a Bonferroni solution found no significant negative



stress by humor interactions. When they used a less conservative statistical restriction only a weak main effect was found for humor with depression and mood disturbance. Safranek and Schill (1982) found no evidence of the stress moderating effects of humor on measures of depression or anxiety.

In conclusion there does seem to be some evidence for the stress moderating effect of humor on depression. However, a number of studies have at least brought into question the universality of these findings. As Lefcourt & Davidson-Katz (1989) point out, "the nature of the measuring devices and the characteristics of the subject sample may serve to limit or enhance the likelihood of finding the moderator effects..." (p.46)

### **Humor Measurement Techniques**

Constructing valid measures of a sense of humor trait have proved to be difficult (Ruch, 1992). Early attempts focused on the appreciation of jokes and cartoons to discover personality traits. For example, tests such as the IPAT Humor Test of Personality (Cattell & Tollefson, 1966), the Wit & Humor Apperception Test (WHAT; O'Connell, 1962), and the Mirth Response Test (MRT; Redlich et al., 1951). The WHAT and IPAT Humor Test of Personality work with joke preferences among Freud's three types of mirth: humor, hostile jokes, & jests. The MRT was based on the assumption that jokes express conflict ridden wishes in conditions that avert anxiety. These techniques have been criticized for focusing on types of humor (e.g., aggressive, sexual) rather

than on a general propensity towards humor and secondly, they are primarily concerned with humor appreciation rather than the daily production of humor (Martin & Lefcourt, 1984).

More recently, questionnaires have been developed that are designed to assess sense of humor which do not confront subjects with humor stimuli. Instead these tests rely on self-descriptions of aspects of humor occurring in everyday situations. The Sense of Humor Questionnaire (SHQ; Svebak, 1974) is a 21-item scale designed to assess generalized individual differences in humor production and appreciation. However, Svebak (1974) did not report any reliability or validity data for the scale. Two of the three Sense of Humor Questionnaire subscales, Metamessage Sensitivity (the ability to recognize humor in situations) and Personal Liking of Humor, have been used as separate measures of different aspects of humor in stress-moderator research (Martin & Dobbin, 1988; Martin & Lefcourt, 1983). These authors have reported favourable validity data, though low reliabilities, for these subscales.

The use of Sense of Humor Questionnaire as a measure of humor in research has been criticized on the grounds it is affected by social desirability and low reliability (Overholser, 1992). In addition a factor analysis of the Sense of Humor Questionnaire found that it failed to assess what it claimed to assess (Thorson & Powell, 1991). These authors described the Sense of Humor Questionnaire as being more of an "anti-humor" scale that was "haphazard in its approach" and lacked face validity.

In an effort to develop a more valid measure of sense of humor, one that reflected a more quantitative and productive definition of humor, the Situational Humor Response Questionnaire (SHRQ; Martin & Lefcourt, 1984) was developed. The 21 items on the scale are self-ratings of one's perceived likelihood to laugh in a variety of situations. The authors of the Situational Humor Response Questionnaire felt that it assessed "an overall sense of humor." The Situational Humor Response Questionnaire was considered the most "mature representative" of the self-report humor questionnaires (Deckers & Ruch, 1992) and one of most frequently utilized measure of humor (Thorson & Powell, 1991). The Coping Humor Scale (CHS; Martin & Lefcourt, 1983) was specifically designed for research into the stress moderating role of humor. The Coping Humor Scale assesses the degree to which subjects report using humor as a means of coping with stressful experiences. The Situational Humor Response Questionnaire and Coping Humor Scale, along with the Sense of Humor Questionnaire in some instances, have been utilized, either singly or together, in all the studies examining the stress moderating effects of humor since their development.

The deficiencies in this approach to humor measurement was demonstrated by a factor analysis of these instruments (Thorson & Powell, 1991). The Situational Humor Response Questionnaire demonstrated construct validity, i.e., it did measure the likelihood to laugh in a variety of situations. However, Thorson (1990) questioned the assumption that propensity to laugh

is equivalent to sense of humor. Chapman (1976) observed that "...laughs and smiles may sometimes be indicative of neither humor perception nor comprehension, either or both behaviours being emitted in the total absence of humor" (p.158). Lefcourt & Martin (1986), the authors of the Situational Humor Response Questionnaire, themselves note that "laughter can occur in the absence of humor and humor is not always accompanied by laughter" (p.2). Others have also demonstrated the lack of relationship between ratings of funniness and measures of mirth (Gavanski, 1986; Porterfield et al., 1988).

Thorson (1991) concluded that the Situational Humor Response Questionnaire "...has very little to do with sense of humor. Rather it should be seen for what it is, a tool to assess the likelihood of laughing, a behavioral response that may or may not be related to the construct of personal sense of humor" (p.700). The Coping Humor Scale was found to measure what it purports to measure, i.e. to rate the use of humor as a coping mechanism (Thorson & Powell, 1991).

Thorson & Powell (1991) conclude by stating that personal sense of humor is not a unidimensional concept but is made up of many different elements. Coping humor may be one of those, "but only one," and a behavioural response to humor, i.e., laughing, may also be an element but its relationship to the core concept of humor is questionable. They state that "use of any or a combination of all of the three scales examined in the present study (SHQ, Situational Humor Response Questionnaire, & Coping Humor

Scale) would not seem to give an accurate picture of sense of humor in the broadest sense" (Thorson & Powell, 1991).

Thorson & Powell (1993a) proposed a new multidimensional scale, the Multidimensional Sense of Humor Scale (MSHS), that attempts to assess several elements of the personal construct of sense of humor. They carried out a factor analysis of the MSHS that revealed four factors: humor production and social uses of humor made up the first factor, Factor 2 had to do with coping or adaptive humor; humor appreciation made up Factor 3; and attitudes toward humor was reflected in Factor 4. The MSHS has achieved high reliability and established construct validity (Thorson & Powell, 1993b, 1993c, 1994).

### **Summary and Evaluation**

Studies involving stress have taken a variety of different approaches in terms of how stress is operationalized. For the purposes of this study stress will be conceptualized as negative life events. This is consistent with past research examining the stress moderating effects of humor (e.g., Nezu et al., 1988; Overholser, 1992). Many investigations have also illustrated that depression is not a unidimensional construct but in fact is best characterized as a heterogenous phenomenon composed of a variety of different features. A large body of literature has established the relationship between negative life events and depression. However, research has also shown that there is a great deal of variation in the responses of individuals to similar life events. This

finding has directed researchers to investigate variables that serve to moderate the deleterious effects of negative life experiences. One such variable that has recently received attention is sense of humor. There are only a handful of studies that have investigated the stress moderating effects of humor and though there is some evidence to support humor as a stress-moderator the results are inconsistent.

### **Statement of the Problem**

As mentioned above studies investigating humor as a moderator between stress and depression have shown mixed results. The reasons for this may be twofold. Firstly, in all of the studies depression has been considered a single unitary phenomenon (Nezu et al., 1988; Porterfield, 1987) or considered as part of a total mood disturbance score (Martin & Lefcourt, 1983; Labott & Martin 1987). It has been established that depression is a complex construct and consists of a number of different features. Therefore, one of the purposes of this research will be, in addition to globally assessing depression, to more closely examine which particular features of depression are protected against by the effects of humor.

A second possible reason for the mixed results comes from the various humor measurements. Safranek & Schill's (1982) results indicated that humor did not appear to moderate the effects of life stress. However, their measure of humor involved ratings of "funniness" across five categories of jokes, a

technique that has been criticized for not being related to having a sense of humor (Martin & Lefcourt, 1983). The remainder of the studies involved the use of the Situational Humor Response Questionnaire or Coping Humor Scale, individually or together, to measure sense of humor. The use of these measures has also been evaluated and criticized (Thorson & Powell, 1991) for failing to measure an over-all sense of humor. The same authors have developed and validated through factor analysis a Multidimensional Sense of Humor Scale. Therefore a second purpose of this study will to examine the stress moderating effects of humor on depression using this new humor measurement technique.

To summarize, the purpose of the present study is to investigate humor as a moderator between negative life stress and depression. Depression is regarded as a multidimensional concept and both a global rating of depression as well as specific features of depression will be examined. In addition, humor will be assessed utilizing a new Multidimensional Sense of Humor Scale that will permit measurement of an overall sense of humor, in addition to particular dimensions, which has not been possible with previous self-report humor questionnaires.

### **Hypotheses**

A number of hypotheses can be put forward based upon the existing literature in the area of humor as a stress moderator:

1. As pointed out earlier, a large body of literature exists that, in general, has shown a positive relationship between negative life stress and depression. This relationship has also been found studies examining the stress moderating effects of humor (e.g., Anderson & Arnoult, 1989; Overholser, 1992). Therefore, it is expected in the present study that a positive relationship will exist between negative life events and depression.

2. The studies examining the stress moderating effects have produced inconsistent findings. If the literature that has shown humor to have a stress moderating effect are correct (Labott & Martin, 1987; Martin & Dobbin, 1988; Martin & Lefcourt, 1983; Nezu et al., 1988; Overholser, 1992), then the present study should also find sense of humor as a mediating variable between negative life stress and depression. If the literature which has not found any stress moderating effects of humor is correct (Anderson & Arnoult, 1989; Porterfield, 1987; Safranek and Schill, 1982) then the present study should find no mediating effects of humor between the relationship of negative life stress and depression.

In addition, the unique feature of the present study is its exploratory aspect. Depression in previous research examining humor as a stress moderator has been conceptualized as a global concept and has been criticized for not assessing an overall sense of humor. The present study goes into more detail by examining, not only overall depression and sense of humor, but also particular dimensions of both and how they may interact.



## **Chapter II**

### **METHOD**

#### **Subjects**

Subjects in this study included 244 undergraduate students enrolled in various psychology courses at the University of Windsor (See Table 1 for subject demographics). Subjects received course credit for their participation.

#### **Measures**

Negative life stress was assessed by the Life Experiences Survey (LES; Sarason, Johnson, & Siegel, 1978). This is a 47-item self-report measure that allows subjects to indicate the incidence of various important life change events (e.g., death of a family member, leaving home for the first time) experienced during the past year. Subjects can also indicate the occurrence of any significant life events that were not mentioned in the Life Experiences Survey. An additional list of 10 events relevant to a university population is included (e.g., beginning a new school experience). Additionally the Life Experiences Survey requests individuals to rate the perceived stressful impact of each of these events on a seven-point scale ranging from -3 to +3. Scores can thus be computed for negative, positive, and total (positive + negative) life stress impact. Since previous research has indicated that positive life events are uncorrelated with distress symptomatology (Nezu et al., 1986; Sarason et al., 1978) only negative life stress scores were used in the data analysis. This approach is also consistent with previous research on the stress moderating

Table 1

**Demographics for Male and Female Participants**

		<b>Males (<u>n</u>=100)</b>		<b>Females (<u>n</u>=144)</b>	
		<u>n</u>	%	<u>n</u>	%
<b>Age</b>					
	19	4	4	7	5
	20	10	10	20	14
	21	17	17	39	27
	22	19	19	26	18
	23	10	10	12	8
	24	16	16	7	5
	25-29	12	12	9	6
	30-39	7	7	10	7
	>40	2	2	14	10
	No Response	3	3	0	0
<b>Marital Status</b>					
	Single	84	84	109	76
	Married	10	10	19	13
	Divorced	0	0	7	5
	Other	3	3	6	4
	No Response	3	3	3	2
<b>Ethnicity</b>					
	White	60	60	88	61
	Black	10	10	10	7
	Asian	21	21	33	23
	Native	2	2	3	2
	Other	5	5	6	4
	No Response	2	2	4	3

effects of humor (Martin & Lefcourt, 1983; Nezu, Nezu, & Blisset, 1988; Overholser, 1992).

Sarason et al. (1978) conducted two test-retest reliability studies of the Life Experiences Survey. Both involved psychology undergraduates with a 5-6 week time interval between test and retest. Reliability estimates for the negative stress scale were .56 ( $p < .001$ ) and .88 ( $p < .001$ ) and for the total stress score were .63 ( $p < .001$ ) and .64 ( $p < .001$ ). The authors concluded that the Life Experiences Survey was a "moderately reliable instrument especially when negative and total change scores are considered." In addition they point out that test-retest reliability coefficients found with these type of instruments are likely to underestimate the reliability of the measure. This is due to the possibility of subjects experiencing both positive and negative events during the time interval between test-retest and that these changes may be reflected in responses given at the time of retesting. In addition Sarason et al. (1978) demonstrate additional support for the scale by providing findings that illustrate that the negative life change score is significantly related to a number of stress-related dependent measures (e.g., anxiety, personal maladjustment, depression, grade point average, and locus of control). Other investigators have demonstrated substantial construct validity for the Life Experiences Survey (Christensen, 1981) and have shown the subscales of the Life Experiences Survey (i.e., negative, positive, and total stress) to be relatively independent of locus of control, social desirability, and global affect

(Beehr, 1979).

Humor was assessed using the Multidimensional Sense of Humor Scale (MSHS; Thorson & Powell, 1993). It is a 24-item scale that tests for four different dimensions of sense of humor: humor generativity or creativity, uses of humor as a coping mechanism, appreciation of humor, and attitudes toward humor and humorous persons. It has 18 positively phrased items and six negatively phrased items to reduce response-set bias. It is scored on a five-point Likert scale: from strongly disagree (0) to strongly agree (4). Blanks are scored as neutral. Therefore the lowest possible score is zero and the highest is 96. In an earlier study Thorson & Powell (1993c) stated that the overall Multidimensional Sense of Humor Scale score could be used, or the factors may be treated as subscales. However, in a later report (Thorson & Powell, 1994) the authors caution other researchers that after the first two factors (creativity and coping) they should "not make too much of the attitude and appreciation items that come along in the lesser factors."

In their original development and validation of the Multidimensional Sense of Humor Scale, Thorson & Powell (1993a) reported a Cronbach alpha of reliability as .92. Subsequent studies using the Multidimensional Sense of Humor Scale have also shown the Multidimensional Sense of Humor Scale to have achieved high levels of reliability with reported Cronbach alphas of: .91 (Thorson & Powell, 1993b); .90 (Thorson & Powell, 1994); .91 (Kohler, 1994); and .91 (Ruch, 1994).

In their original paper Thorson & Powell (1993a) attempted to establish construct validity of the Multidimensional Sense of Humor Scale through factor analysis and they were able to demonstrate a stable general factor among three different samples. In a later study Thorson & Powell (1994) conducted another factor analysis of the Multidimensional Sense of Humor Scale for 611 subjects that gave a four-factor solution which was "remarkably similar" to their previous findings, "especially with the first general factor of the Multidimensional Sense of Humor Scale." Other studies have also demonstrated some of the psychometric properties of the Multidimensional Sense of Humor Scale by testing it against other scales. Significant negative correlations have been found between Multidimensional Sense of Humor Scale and: CES-D, a measure of depression (Thorson & Powell, 1994), and measures of seriousness and bad mood (Ruch, 1994). Significant positive correlations have been found between Multidimensional Sense of Humor Scale and measures of intimacy (Hampes, 1994) and cheerfulness (Ruch, 1994).

Depression was assessed using the Multiscore Depression Inventory (MDI; Berndt, Petzel, & Berndt, 1980). The Multiscore Depression Inventory is a 118-item self-report questionnaire measuring severity of depression. Subjects read statements that describe how some people generally feel and are asked to indicate whether each statement applies to them, using dichotomous true or false responses (e.g., "My energy level is usually high", "Things keep getting better in my life"). An overall assessment of severity of

depression is reflected in three summary scores: a total raw score, a percentile score, and a standardized T-score. In addition the Multiscore Depression Inventory also provides 10 subscale scores measuring different features of depression: Low Energy Level, Cognitive Difficulty, Guilt, Low Self Esteem, Social Introversion, Pessimism, Irritability, Sad Mood, Instrumental Helplessness, and Learned Helplessness.

The authors (Berndt et al., 1980) of the Multiscore Depression Inventory state three main reasons why researchers might prefer using the Multiscore Depression Inventory over other traditional self-report measures of depression. The first is that it provides more than a just a global rating of depression, it also gives 10 subscale scores. Another reason is that the Multiscore Depression Inventory has greater sensitivity to subtle variations in less severe levels of depression or depressive phenomena. Finally, the Multiscore Depression Inventory was originally designed for and constructed on a normal population.

Both internal consistency reliability and test-retest reliability have been investigated for the Multiscore Depression Inventory and its subscales. First, internal consistency reliability of the Full Scale Multiscore Depression Inventory and the ten subscales was investigated with six different samples including university students (Berndt et al., 1980), college students (Berndt & Kaiser, 1980), high school students (Berndt, Kaiser, & van Aalst, 1982), and outpatients seen at family practice in a suburb populated largely by blue collar

workers (Berndt, Berndt, & Byars, 1983). Full Scale reliability was demonstrated to be quite stable at either .96 or .97. Equally good were the subscale reliabilities. Most of the subscales had internal consistency reliabilities in the .80s, and the Low Energy subscale had reliabilities in the low .90s. The only exceptions appear to be the Guilt subscale, which had reliabilities fairly consistently in the .70s, and the Learned Helplessness subscale which varied from sample to sample (.70 to .83).

Concurrent validity of the Full Scale Multiscore Depression Inventory was reported on 200 Loyola students (Berndt et al., 1980). The MDI correlated highly with the Beck Depression Inventory (BDI),  $r=.69$  ( $p<.001$ ) and with the trait version of the Depression Adjective Checklist (DACL; Lubin, 1967)  $r=.77$  ( $p<.001$ ). All corrected item-total correlations, for both individual and cross validation Loyola samples (Berndt et al., 1980), were highly significant ( $p<.001$ ). Evidence for concurrent validity of the subscales of the MDI came from two studies (Berndt, 1981; Berndt, Petzel, & Berndt, 1985) in which all subjects were administered the MDI along with a number of questionnaires hypothesized to be functionally related to one or more of the subscales. Correlations between MDI subscales and their respective criterion measures were all significant at  $p<.001$  (except for Learned Helplessness, significant at  $p<.01$ ). Construct validity was investigated using both a factor analysis and cluster analysis (Berndt, 1981) both of which provided evidence for construct validity of most of the subscales.

### **Procedure**

Psychology students were recruited during the first two weeks of the semester and those who wished to participate placed their names on a recruitment form (Appendix A). Students were contacted and those who agreed to volunteer participated in the study several weeks later. At that time, groups of 5-20 subjects first read and signed a consent form (Appendix B) and then completed the Life Experiences Survey, Multiscore Depression Inventory, and Multidimensional Sense of Humor Scale. Scales were administered to each group in a different order, selected randomly. Subjects were permitted to work at their own pace and to leave the testing session when they were finished.



## Chapter III

### RESULTS

Since an initial multivariate analysis of variance test indicated no significant differences as a function of sex regarding all measures, male and female data were combined in all subsequent statistical tests.

One of the purposes of the present study was to determine if humor mediated the relationship between negative life stress and depression. Hierarchical regression was employed, entering the negative life stress measure first, then the measure of humor, and finally the product of these two terms (stress x humor) into the equation to predict depression levels. This order of entry is consistent with previous research on humor and stress (Nezu et al., 1988; Overholser, 1992; Porterfield, 1987). Analysis was performed with SPSS REGRESSION and SPSS EXPLORE was used to assist in evaluation of assumptions.

Correlational procedures such as those used here are sensitive to violations of normality assumptions, and some type of transformation is often necessary to prevent relations among variables from being distorted by skewness in their distribution (Tabachnik & Fidell, 1989). The distributions of each variable used in the multiple regression were tested to determine whether its skewness was significantly different from zero. The finding of skewness led to a square root transformation of the Stress and Depression variables to reduce skewness in their distributions, reduce the number of

outliers, and improve the normality, linearity, and homoscedasticity of residuals. No outliers among the cases were found and  $N = 244$ .

The raw score means, standard deviations, and zero order correlations between the variables used in this analysis are found in Table 2. In the current sample, the mean and standard deviation for the humor variable ( $M=70.02$ ,  $SD=12.20$ ) were found to be comparable to those reported by the authors of the Multidimensional Sense of Humor Scale (Thorson & Powell, 1994). However, the mean depression scores of the present sample of university students ( $M=18.72$ ,  $SD=13.72$ ) was significantly lower than means reported by Berndt et al. (1980) for two samples of college students on the Multiscore Depression Inventory ( $M=29.67$ ,  $SD=20.43$ ,  $N=263$ ;  $M=34.79$ ,  $SD=25.01$ ,  $N=87$ ). The mean for reported stress of the present sample ( $M=15.30$ ,  $SD=11.89$ ) was significantly higher than reported by Sarason et al. (1978) in the original study done using the Life Experiences Survey with college students (Males  $M=6.22$ ,  $SD=6.28$   $n=174$ ; Females  $M=7.04$ ,  $SD=7.90$ ,  $n=171$ ) and also significantly higher than the Life Experiences Survey mean reported by Nezu et al. (1988) ( $M=12.32$ ,  $SD=6.66$ ,  $N=87$ ) in a more recent study that investigated the stress moderating effects of humor.

The results of the hierarchical multiple regression analyses are presented in Table 3 including the unstandardized regression coefficients ( $B$ ) and intercept, the standardized regression coefficients ( $b$ ), cumulative  $R^2$  at

Table 2

**Means, Standard Deviations, and Correlations Among Variables**

<b>Variables</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>STRESS</b>	<b>HUMOR</b>
<b>DEPRESSION (DV)<sup>a</sup></b>	18.71	13.72	.22 <sup>**</sup>	-.22 <sup>**</sup>
<b>STRESS</b>	15.30	11.89		.14 <sup>*</sup>
<b>HUMOR</b>	70.02	12.02		

<sup>a</sup> Means and standard deviations are based on raw scores to permit normative comparison. Correlations use transformed scores.

<sup>\*</sup>  $p < .01$

<sup>\*\*</sup>  $p < .001$

Table 3

**Heirarchical Multiple Regression of Stress, Humor, and Their Interaction on Depression**

Variable	B	$\beta$	<i>sr</i>	<i>R</i>	Cummulative <i>R</i> <sup>2</sup>	$\Delta R^2$	<i>F</i> <sub>inc</sub>
Stress (S)	.29**	.26	.25	.22	.05	.05	12.14**
Humor (H)	-.03**	-.26	-.25	.34	.11	.06	15.33**
S x H	>.01	>.01	>.01	.34	.11	.00	>.001
Intercept = 5.44					<i>R</i> <sup>2</sup> = .11		
					Adjusted <i>R</i> <sup>2</sup> = .10		
					<i>R</i> = .34**		

\*\* *p* <.001

each step, change in  $R^2$  at each step,  $F$  and  $p$  values, and  $R$ ,  $R^2$ , and adjusted  $R^2$ , after entry of all variables.  $R$  was significantly different from zero at the end of each step. After step 3, with all the independent variables in the equation,  $R=.34$ ,  $F(3, 240) = 10.18$ ,  $p<.001$ . With overall depression scores as the dependent variable, significant main effects were obtained for both overall stress and humor scores, stress being positively related and humor being negatively related to depression (see Table 2 for simple  $r$ 's). The humor x stress interaction was not significant, i.e., it did not reliably improve  $R^2$  after stress and humor had already been entered. However, it is worth noting that the stress and humor seem to be mildly inhibitory of each other as evidenced by stronger semi-partial correlations, presented in Table 3, of each of these variables with depression as compared to the correlations presented in Table 2. Also, humor and stress scores showed a significant positive correlation although they correlate oppositely with depression scores.

The second purpose of this study was to explore in greater depth the relationship between humor and depression. Two standard multiple regression analyses were conducted to examine this relationship. One analyses focused on the relationship between overall depression and the humor subscale variables. The second focused on the relationship between overall sense of humor with various depression subscales.

### **Depression and Humor Subscale Variables**

A standard multiple regression was performed between overall

depression score as the dependent variable and humor creativity, humor as a coping mechanism, negative attitudes toward humor, and humor appreciation as independent variables. Analysis was performed using SPSS REGRESSION, and SPSS EXPLORE was used to assist for evaluation of assumptions. Results of evaluations of assumptions required no transformations of the humor subscale variables and the previously transformed depression variable was used in this analysis. No outliers among the cases were found.

Raw score means, standard deviations, and correlations between the variables used in this analyses are found in Table 4. Correlations of the various humor variables with total humor score can also be found in Table 4. Each of the four humor variables was significantly negatively correlated with overall depression and strongly correlated with each other and with the overall humor score.

The results of the standard multiple regression analyses are presented in Table 5 including the unstandardized regression coefficients ( $B$ ) and intercept, the standardized regression coefficients ( $b$ ), the semipartial correlations ( $sr^2$ ),  $F$  and  $p$ ,  $R$ ,  $R^2$ , and adjusted  $R^2$ .  $R$  for regression of humor variables on overall depression was significantly different from zero,  $F(4,239) = 3.32$ ,  $p = .01$ . However, none of the specific humor variables independently contributed significantly to the prediction of depression scores. The four humor variables in combination contributed .05 in shared variability accounting for the total change in  $R^2$ .

Table 4

**Means, Standard Deviations, and Correlations for Depression and Humor Variables**

<b>Variables</b>	<b>Depression (DV)</b>	<b>Coping Humor</b>	<b>Humor Creativity</b>	<b>Humor Appreciation</b>	<b>Attitudes to Humor</b>
<b>Coping Humor<sup>a</sup></b>	-.20**				
<b>Humor Creativity</b>	-.21**	.77**			
<b>Humor Appreciation</b>	-.18*	.55**	.58**		
<b>Attitudes to Humor</b>	-.18*	.75**	.77**	.54**	
<b>Overall Humor</b>	-.22**	.89**	.95**	.68**	.88**
<i>M</i>	18.72	13.91	35.93	5.41	14.78
<i>SD</i>	13.72	3.12	6.13	1.51	2.91

<sup>a</sup> Means and standard deviations are based on raw scores to permit normative comparison. Correlations use transformed scores.

\*  $p < .01$

\*\*  $p < .001$

**Table 5****Standard Multiple Regression of Humor Variables on Overall Depression**

<b>Variables</b>	<b>B</b>	<b><math>\beta</math></b>	<b><i>F</i></b>	<b><i>p</i> &lt;</b>	<b><i>sr</i></b>
<b>Humor Coping</b>	-.05	-.09	.74	ns	-.05
<b>Humor Creativity</b>	-.02	-.10	.86	ns	-.06
<b>Humor Appreciation</b>	-.09	-.08	1.07	ns	-.07
<b>Attitudes to Humor</b>	.01	.02	.03	ns	.01
Intercept = 6.06				$R^2 = .05^a$	
				Adjusted $R^2 = .04$	
				$R = .23^*$	

<sup>a</sup> Unique variability = .00, shared variability = .05

\*  $p < .01$



Having established a main effect for overall sense of humor in predicting depression, the above analysis was conducted to examine if any particular aspect of humor was more important than another in predicting the overall depression score. Despite the fact that all the humor variables were significantly negatively correlated with overall depression, as was the overall humor score, none of them were significant independently. In the present sample the correlations between the humor subscales and with the overall humor score (Table 4) are substantially higher than those reported by Thorson & Powell (1993c). The strong correlations between the four humor variables suggests that there is in fact very little that is unique in each scale. This may be due to a heavy emphasis being placed on the correlations of each of these subscales with the overall humor score in the development of the Multidimensional Sense of Humor Scale. Perhaps for this reason there was a main effect only for the overall humor score and not for any of the humor subscales in this analysis.

#### **Humor and Depression Subscale Variables**

As stated earlier, the second main purpose of this study was to examine the relationship between humor and depression variables. This second standard multiple regression analyses focused on the relationship of the overall humor score with the ten depression subscale variables.

A standard multiple regression was performed between overall humor score as the dependent variable and the ten depression subscales: cognitive

difficulty; guilt; instrumental helplessness; social introversion; irritability; learned helplessness; low energy; low self-esteem; pessimism; and sad mood; as the independent variables. Analysis was performed using SPSS REGRESSION and SPSS EXPLORE was used to assist for evaluation of assumptions.

Results of evaluation of assumptions led to square root transformations of all the depression subscale variables, with the exception of guilt, to reduce skewness in their distributions, reduce the number of outliers and improve the normality, linearity, and homoscedasticity of residuals. No outliers among the cases were found and  $N = 244$ .

Raw score means, standard deviations, and correlations between the variables used in this analyses are found in Table 6. With the exception of learned helplessness, instrumental helplessness, and pessimism, all of the depression subscale variables were significantly negatively correlated with overall humor. The depression subscales showed moderate to strong correlations between themselves and with the overall depression score.

The results of the standard multiple regression analyses are presented in Table 7 including the unstandardized regression coefficients ( $B$ ) and intercept, the standardized regression coefficients ( $b$ ), the semipartial correlations ( $sr^2$ ),  $F$  and  $p$ ,  $R$ ,  $R^2$ , and adjusted  $R^2$ .  $R$  for regression of depression variables on overall humor scores was significantly different from zero,  $F(9,234) = 4.81$ ,  $p < .001$ . Only one of the independent variables was

Table 6

**Means, Standard Deviations, and Correlations Between Overall Humor Scores and Specific Depression Variables**

Variables	2	3	4	5	6	7	8	9	10	11
1 Humor	-.20**	-.14*	-.09	-.35**	-.13*	-.09	-.18*	-.18*	-.09	-.15*
2 Cognitive Difficulty		.61**	.48**	.33**	.40**	.34**	.50**	.54**	.60**	.53**
3 Guilt			.55**	.36**	.35**	.34**	.52**	.63**	.59**	.58**
4 Instrumental Helplessness				.45**	.32**	.31**	.37**	.51**	.55**	.54**
5 Social Introversion					.24**	.20**	.27**	.45**	.34**	.38**
6 Irritability						.18*	.30**	.38**	.43**	.37**
7 Learned Helplessness							.37**	.51**	.55**	.54**
8 Low Energy								.54**	.47**	.54**
9 Low Self-Esteem									.56**	.68**
10 Pessimism										.65**
11 Sad Mood										
Means	1.30	3.00	1.04	.96	1.44	.28	1.11	1.05	.81	.59
SD	.88	2.27	.93	.87	1.01	.93	1.02	.85	.75	.80

\* Means and standard deviations are based on raw scores to permit normative comparison.  
Correlations use transformed scores.

\*  $p < .01$ , \*\*  $p < .001$

**Table 7****Standard Multiple Regression of Depression Variables on Overall Humor Score**

<b>Variables</b>	<b>B</b>	<b><math>\beta</math></b>	<b>F</b>	<b>p&lt;</b>	<b><math>sr^2</math> (unique)</b>
<b>Cognitive Difficulty</b>	-1.89	-.14	2.49	ns	
<b>Guilt</b>	0.02	>.01	>.01	ns	
<b>Instrumental Helplessness</b>	1.65	.13	2.36	ns	
<b>Social Introversion</b>	-5.17	-.37	27.15	.0001	.10
<b>Irritability</b>	-0.52	-.04	0.39	ns	
<b>Learned Helplessness</b>	-0.37	-.01	0.04	ns	
<b>Low Energy</b>	-1.15	-.10	1.52	ns	
<b>Low Self-Esteem</b>	0.37	.03	0.07	ns	
<b>Pessimism</b>	1.87	.11	1.57	ns	
<b>Sad Mood</b>	-0.39	-.03	0.07	ns	

 $R^2 = .16^a$ Adjusted  $R^2 = .16$  $R = .40^*$ 

\*p &lt; .001

<sup>a</sup> Unique variability = .10, shared variability = .06

found to contribute significantly to prediction of overall humor score, introversion ( $\underline{sr^2} = .10$ ). The ten depression subscale variables in combination contributed another .06 in shared variability. Altogether, 16% of the variability in overall humor score was predicted by knowing scores on these ten variables.

## **Chapter IV**

### **DISCUSSION**

The first purpose of this study was to examine the ability of humor to act as a moderator between stress and depression. As predicted and consistent with a large number of studies, negative life stress was significantly related to depression in the present sample. Humor was also inversely related to depression which confirms the results of a number of other studies (Labott & Martin, 1987; Nezu et al., 1988; Overholser, 1992). However, the effect of stress and humor on depression did not significantly interact as had been found by some previous investigators (Martin & Lefcourt, 1983; Nezu et al., 1988). Instead, subjects with higher humor scores reported significantly less depression than did those with lower scores.

The failure to find any moderator effects of humor on stress was consistent with the findings of Safranek and Schill (1982) and Anderson and Arnoult (1989) who also failed to find any such relationship, however they also did not report any direct relationship between humor and depression. The present finding that humor is inversely related to depression scores was also reported by three of the studies (Labott & Martin, 1987; Nezu et al., 1988; Overholser, 1992) that had also found a moderating effect of humor between stress and depression. However, since stress moderating effects of humor were also evident these authors did not interpret the main effects of humor that were found. Other researchers that found that humor moderated the

relationship between stress and depression did not report any direct relationship between humor and depression (Martin & Dobbin, 1988; Martin & Lefcourt, 1983). Porterfield (1987), however, found similar results to the present findings in that there was no moderating effects of humor on the relationship between stress and depression but that humor related to depression directly. Keeping in mind the usual warnings of causal inference in correlational data, Porterfield (1987) proposed a main effect model of the effect of humor on depression, i.e., that humor mitigates depression directly, rather than a buffering model (Martin & Lefcourt, 1983) which states that humor assists individuals to cope with stressful life events.

The results of the present study seem to support Porterfield's (1987) hypothesis. However, both Porterfield's study (1987) and the present one are limited by the correlational nature of the analyses. Future research using an experimental design may provide stronger support for the main effect model of humor on depression. An example of such a study was conducted by Danzer, Dale, & Klions (1990) in which female undergraduates heard a humorous or nonhumorous audiotape or no tape after viewing depressive slides. Subjects completed a measure of depression both before and after the presentations. Only the humor treatment decreased the induced depression to preexperimental baseline levels.

Despite important convergence with existing literature, the present study failed to replicate the stress moderating effects of humor as evidenced

in number of other studies in this area (Labott & Martin, 1987; Martin & Dobbin, 1988; Martin & Lefcourt, 1983; Nezu et al., 1988; Overholser, 1992). As mentioned previously, Lefcourt & Davidson-Katz (1989) pointed out that the nature of measuring devices and characteristics of the particular sample will impact the likelihood of finding stress moderating effects of humor.

The measuring devices used to assess depression and humor in the present study are different than those used in studies that found that humor moderated stress. Depression in those studies was assessed using established instruments such as the Beck Depression Inventory or Center for Epidemiological Studies-Depression Scale. The present study utilized the Multiscore Depression Inventory which was written to assess general mood, closer to trait rather than state depression. Perhaps the moderating effects of humor are more likely to occur when a person is in a depressed state due to some life stressor and humor is used as a coping mechanism to reduce the impact of the stressor. Nezu et al. (1988) make a similar point by stating "...humor may serve only as a coping strategy when people attempt to best deal with the actual occurrence of a stressful experience...(p 524). Whereas when depression is examined as a trait it may be ameliorated directly by a sense of humor. This hypothesis may provide an avenue for future research in terms of examining the relationship between humor, stress and state vs. trait depression.

All of the previous studies examining the stress moderating effects of



humor have utilized all or some combination of the Situational Humor Response Questionnaire (Martin & Lefcourt, 1983), the Coping Humor Scale (Martin & Lefcourt, 1984), and the Sense of Humor Questionnaire (Svebak, 1974). As stated earlier, Thorson & Powell (1991) pointed out the deficiencies of this approach in representing a comprehensive sense of humor:

These often have been in other respects excellent studies, but the use of inappropriate scales unfortunately casts doubt upon their conclusions. Also, there is mischief present in the too frequent practice of using another's technique, of using an inappropriate combination of scales because others have done so. (p.15)

For this reason the Multidimensional Sense of Humor Scale (Thorson & Powell, 1993a) was utilized to permit a more effective measure of humor. Perhaps for this reason the present study was able to find a direct relationship between humor and depression. Evidence for this claim comes from the fact that despite having a relatively non-depressed sample and examining the variation in depression attributed to humor only after the contribution of stress had been taken into account, i.e. placing humor into the hierarchical multiple regression after stress had already been entered, humor still accounted for a significant amount of the variation in depression scores.

The second main purpose and unique feature of the present study was to explore in greater detail the relationship between depression and humor. Previous research examining humor as a stress moderator has conceptualized

depression as a global concept. In addition, these studies have been criticized for examining only one particular element of humor as opposed to both a number of different elements of humor and an overall sense of humor. Therefore, the present study examined both the relationship of various humor elements with overall depression and the relationship of various elements of depression with an overall sense of humor.

In examining the relationship of various humor elements (humor creativity, use of humor as a coping mechanism, attitudes toward humor, and humor appreciation) with overall depression it was found that each of these aspects of humor was significantly negatively related to depression. However, none of these variables provided any unique contribution towards the prediction of depression scores.

The explanation of this finding can be seen in the relationship amongst the humor variables and also between the humor variables and the overall humor score. In the present sample each of the humor elements was strongly related to the other ones and even more strongly related to the overall humor score. The humor elements did not seem to be contributing anything unique over and beyond the overall humor score. In addition the reliabilities of two of the humor subscales, attitudes towards humor and humor appreciation, for the present sample were somewhat low.

These results were somewhat disappointing because the measure chosen to assess humor, the Multidimensional Sense of Humor Scale (Thorson &

Powell, 1993a), reportedly allowed for both an overall humor score and scores on four relatively independent elements of a sense of humor. As previously discussed it seems that a more sensitive overall sense of humor score was achieved than had been with previous measures, however, in the present sample the different elements of overall humor were not unique and simply reflected the overall humor score. For this reason no independent effects of the various humor elements were observed.

This finding points to a general limitation of the area of humor research. It seems that the question "What is humor?" is still a difficult question to answer and emphasizes the point made by a number of researchers (Ruch & Hehl, 1983, Thorson & Powell, 1991; Yovetich, Dale, & Hudak, 1990) regarding the difficulty of measuring elements of a sense of humor. Perhaps this point is best illustrated by examining the various aspects of humor that have been tested by various researchers: propensity to laugh in certain situations (Martin and Lefcourt, 1983); humor appreciation by rating funniness of jokes (Ruch & Hehl, 1983, 1986), humorous essays (Powell, 1986), and cartoons (Terry & Ertel, 1974); ability to perceive humor and value one places on humor (Svebak, 1974); humor production (Derks & Hervas, 1988), humor as a coping mechanism (Martin & Lefcourt, 1984; Prerost, 1987); and a combination of these approaches (Thorson & Powell, 1993c). More research is required in terms of developing a good measure of the concept of humor. Future researchers developing such scales that attempt to tap various aspects of

humor should take care to ensure that these scales have a greater independence from each other that evidenced in the present sample.

Until such time as a comprehensive humor measure is developed, perhaps it would prove more fruitful to measure specific aspects of a sense of humor when conducting research in this area. For example, one could study humor creativity by asking subjects to create a humorous dialogue based on few items in front of them (Turner, 1980), or humor appreciation by asking them to rate the funniness of captioned cartoons (Overholser, 1992), or study humor coping by a scale, such as the Coping Humor Scale (Martin & Lefcourt, 1984) that specifically asks how often humor is used as a coping mechanism. Perhaps such an approach, as opposed to trying to capture all these elements in one measure, would shed more light on what specific aspects of humor are related to depression. The present study seems to provide some justification for such an approach in that the various humor elements were significantly negatively related to depression.

The relationship between overall humor and a number of different elements of depression, including: cognitive difficulty; guilt; social introversion; irritability; learned helplessness; instrumental helplessness, low energy, low self-esteem; pessimism; and sad mood were examined. With the exception of instrumental helplessness, learned helplessness, and pessimism, all of the depression variables were significantly negatively related to overall sense of humor. Only social introversion contributed independently to the prediction of

overall humor score. This subscale independently accounted for 10% of the variation in humor scores. In other words, people who reported being more socially introverted had less of a sense of humor than those who did not report being socially introverted. Perhaps the findings regarding the relationship between humor and the various depression subscales was minimized by the fact that the present sample has a limited range with regards to self-report of depression.

Nevertheless, these results imply that an important element to the adaptiveness of an overall sense of humor is its interpersonal nature. A closer look at the social introversion subscale revealed the items were worded in a way that was face-valid. For example "I usually wish people would leave my by myself" and "I am a loner". A person scoring high on this subscale is likely to feel socially withdrawn and isolated. Chapman (1976) recognized the importance of the interpersonal aspects of humor stating that humor "...is a means of gaining social approval, bolstering group cohesiveness and signalling our affiliative motives. It is also used in maintaining the flow of interaction in our daily encounters." (p. 95).

Though a large body of literature has linked the personality trait of introversion with depression (Barnett & Gotlib, 1988; Deaner & McConatha, 1993; Hill, 1986; Lacy, 1990; Lester, 1991; Roy, 1991; Willner, 1984) very little has been done in examining the relationship between introversion and humor. Ruch (1994) used Eysenck's PEN system of personality, comprising the factors

psychoticism, extroversion, and neuroticism, to locate different humor related traits. He found that extroversion appeared to be relevant for the location of the various humour traits and that extroverts' sense of humor seemed to be characterized by their greater tendency for positive affect, smiling, laughing, entertaining others, and their lower degree of seriousness. Ziv & Gadish (1990) found that gifted adolescents that were rated as humorless by their peers were more introverted and spent much of their time in extracurricular learning activities. Whereas gifted adolescents rated as humorous were more extroverted, more creative, and lower in their needs for social approval. Finally, Deaner and McConatha (1993) examined the relationship between humor, depression, and personality. They found that subjects who scored lower on depression tended to score higher on coping humor, extroversion, and neuroticism. Also subjects scoring higher on the humor scales tended to score higher on extroversion and emotional stability. The results of the present study are consistent with these findings and in fact extend the findings of Deaner and Mcconatha (1993) in that a relationship was found between humor and introversion where introversion was a measure of depression. Future research should further investigate and clarify the relationship between the extroversion-introversion personality factor and humor and how this relationship can effect depression. A possible limitation of this finding is the fact that the various depression subscales are moderately to strongly related to one another. Though only social introversion was independently predictive

of overall humor scores, all the depression subscales taken together also accounted for a portion of the variation in overall humor scores. For this reason, perhaps future research may use specific scales to assess these various aspects of depression, e.g. the short form of Eysenck's Introversion-Extroversion scale (1958) to measure social introversion or the Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974) to assess pessimism, and see how they relate to humor. This may allow for the unique expression of these depression variables and minimize the overlap between them, which is more likely to occur when using depression subscales of a single measure.

In summary a number of conclusions can be drawn from the results of the present study. First, the present study found no evidence for the stress moderating effects of humor on depression that have been reported by a number of different researchers in this area. Although the results of the present study did not support the stress moderator hypothesis, a direct relationship between humor and depression was found: that being subjects with higher humor scores reported significantly less depression than did those with lower scores.

The divergence of findings provides new avenues of research to pursue. Is there a difference in the way humor operates between being in a depressed state as opposed to depression as a stable trait? Previous findings used measures of humor that only tapped on particular element of a sense of humor, such as coping, whereas the present study attempted to get at an overall sense

of humor. Perhaps only some specific elements of humor act as a moderator to stress while other's do not. Future research may seek to find out what these specific elements may be. In addition, a strength of the present study was that it explored uncharted waters by examining how specific depression variables related to overall humor and how specific humor variables related to overall depression. Though no specific humor variables were found to be independently predictive of overall depression, the strong relationships between these variables in the present study suggest that future research aim at examining specific humor elements with a greater concern to their independence. Finally, of all the depression variables only social introversion scores was strongly and independently predictive of overall humor scores. This finding implies that the interpersonal aspects of depression are very important in terms of it's relationship with the ameliorating effects of humor and supports the sparse amount of literature that has investigated the relationship between humor and introversion-extroversion. In addition this finding poses new questions. What exactly is the relationship between these two variables? Is it usually crucial for humor to be interpersonal for it to be effective in ameliorating depression? How might humor relate to other possible interpersonal moderators, such as social support? The present study revisited a relatively new area of research by examining the relationship between depression, humor, and stress. However, it also turned a new page by examining these relationships in more detail than has been done before.



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**APPENDIX A**  
**RECRUITMENT FORM**

**Psychology Students,**

I am conducting my research in the area of humor, stress, and health. In order to so I need your participation. You will be required to answer a number of true-false and rating questionnaires which will involve approximately 1 to 1 1/2 hours of your time and will be completed at the university. You will be awarded **1 bonus points** for your participation.

If you would like to participate, please print your name and phone number in the space provided below so that I may contact you to discuss testing arrangements.

**Name:****Telephone number (best time to call)**

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

4. \_\_\_\_\_

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5. \_\_\_\_\_

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6. \_\_\_\_\_

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7. \_\_\_\_\_

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11. \_\_\_\_\_

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12. \_\_\_\_\_

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13. \_\_\_\_\_

\_\_\_\_\_

14. \_\_\_\_\_

\_\_\_\_\_

15. \_\_\_\_\_

\_\_\_\_\_

**APPENDIX B**  
**CONSENT FORM**



## Informed Consent Form

### Purpose:

The purpose of this research is to examine the relationship between humor and stress reactions. Specifically, does humor help prevent the negative consequences of stressors we encounter in our daily lives?

### Procedure:

This is not an experiment and you will not be placed in a stressful situation. This project will require you to answer a number of questionnaires that will ask you about stressors you have encountered and your reaction to them. Some of the questions will be true-false questions and others will ask you to give an answer on a scale (e.g. -1=disagree, 0=neutral, +1=agree). The questions will take approximately 30-45 minutes to complete. Your responses will be kept strictly confidential. Your name or any other form of identifying information will not be placed on any of the materials except this consent form, which will be kept separate from all other materials. Although you will not be placed in a stressful situation, there is a minimal risk that some unpleasant thoughts will be provoked by these questions. In the unlikely event that this does occur, there will be a sheet of therapist referrals available upon request. Your participation in this project is completely voluntary and you may withdraw at any time, without explanation or penalty. You will receive one bonus point for your participation.

I will be available to discuss questions or concerns regarding your participation in this project.

### Feedback:

If you would like to receive a copy of the study results, please contact the Principal Investigator (Mohsan Beg) after the study has been completed. Individual feedback on the forms you will fill out cannot be shared with you because no records are kept as to which are your forms in order to guarantee the confidentiality of individual responses.

This research has been reviewed by the Ethics Committee of the Psychology Department at the University of Windsor. Any ethical concerns about the study may be addressed to that committee (Ethics Committee Chair: Dr. Sylvia Voelker, 253-4232, ext. 2249)

Lastly, this project is in partial fulfillment of a Master's degree at the University of Windsor, Department of Psychology.

If you have any other questions or concerns about the study, please contact either myself, or my advisor, Dr. William Balance.

William Balance, Ph.D.  
University of Windsor  
Department of Psychology  
253-4232 ext. 2227

Mohsan Beg, B.Sc.  
University of Windsor  
Department of Psychology  
253-4232 ext. 2217

I, \_\_\_\_\_ (name, please print),  
have read this consent form and agree for myself to participate in this project.

Signature \_\_\_\_\_

Date \_\_\_\_\_

APPENDIX C  
RELIABILITY TABLES FOR MEASURES USED

**Table 8****Internal Consistency Reliabilities for the Multiscore Depression Inventory and Subscales**

<b>Scale</b>	
Low Energy Level	.91
Cognitive Difficulty	.79
Guilt	.77
Low Self-Esteem	.73
Social Introversion	.78
Pessimism	.69
Irritability	.86
Sad Mood	.81
Instrumental Helplessness	.79
Learned Helplessness	.72
<b>Full Scale MDI</b>	<b>.94</b>

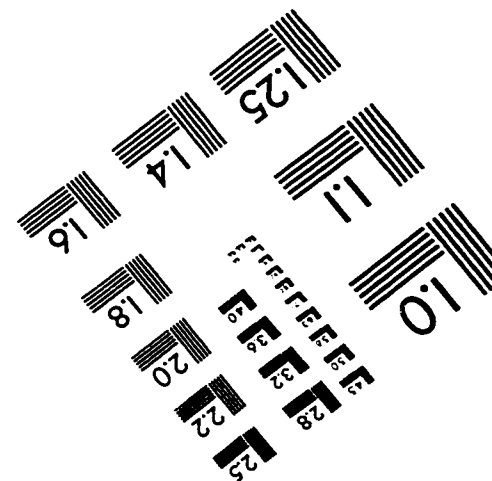
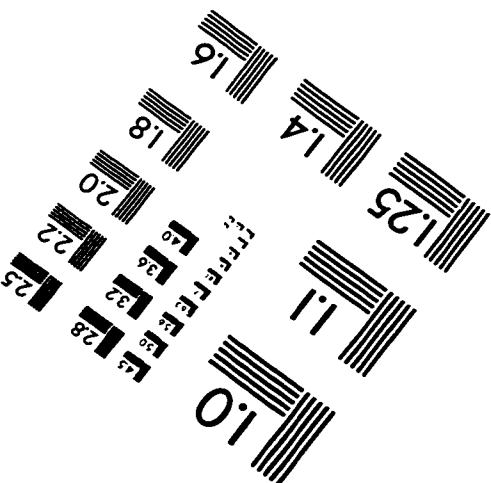
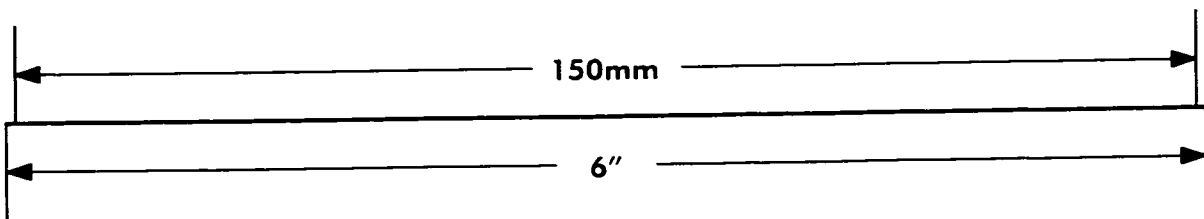
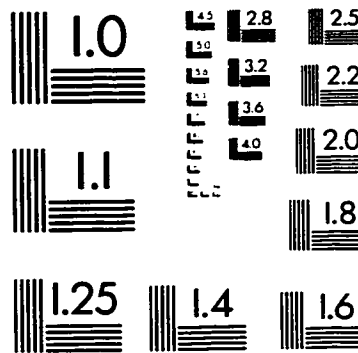
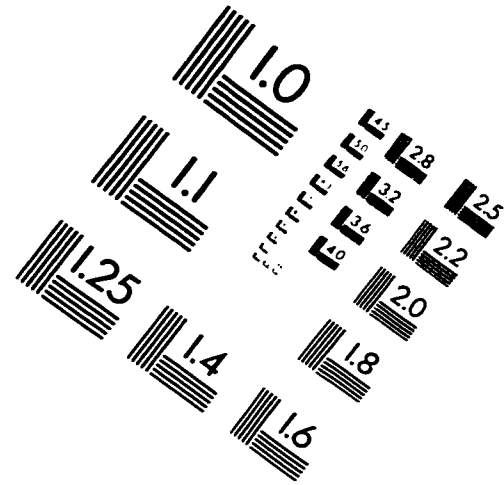
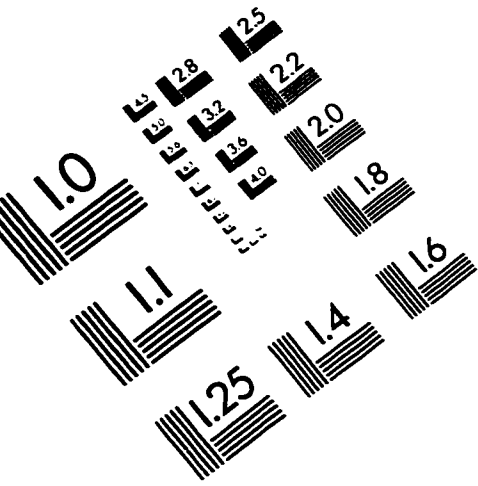
**Table 9****Internal Consistency Reliabilities for the Multidimensional Sense of Humor Scale and Life Experiences Survey**

<b>Scale</b>	
Humor Creativity	.92
Coping Humor	.72
Attitudes to Humor	.60
Humor Appreciation	.51
<b>Full Scale MSHS</b>	<b>.91</b>
<b>Life Experiences Survey</b>	<b>.92</b>

### **VITA AUCTORIS**

Mohsan Beg was born on Oct. 3rd, 1968 in Toronto, Ontario. In June 1987, he received his High School Diploma from Albert Campbell Collegiate Institute. In June 1992, he graduated from the University of Toronto with a Bachelor of Science degree, major in Psychology. From 1992 to 1994 he worked as a Crisis Intervention Worker with the Scarborough Mobile Crisis Program. Since the fall of 1994, he has been enrolled in the Doctoral programme in Adult Clinical Psychology at the University of Windsor. He spent the summer of 1995 as a practicum student in the Forensics Division at the Clarke Institute in Toronto. He obtained a Master of Arts degree in the fall of 1996 from the University of Windsor.

# IMAGE EVALUATION TEST TARGET (QA-3)



APPLIED IMAGE, Inc.  
1653 East Main Street  
Rochester, NY 14609 USA  
Phone: 716/482-0300  
Fax: 716/288-5989

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