RELATIONSHIP BETWEEN HUMOR STYLES AND HEALTH BEHAVIORS IN KOREA AND THE UNITED STATES: A CROSS-CULTURAL COMPARISON

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ABSTRACT

Prior research reveals inconsistent findings regarding the extent to which humor has a beneficial effect on health. Recently, Martin et al. (2003) developed the Humor Style Questionnaire (HSQ) based on a four-fold categorization of humor, including two styles of beneficial humor (affiliative and self-enhancing) and two styles of detrimental humor (aggressive and self-defeating). In the present study, the HSQ and other measures of mood, personality traits, quality of life, and health behaviors were administered to 198 Korean undergraduate students and 180 US undergraduates. The primary purpose of the study was to cross-validate the HSQ in a Korean sample and evaluate the association between the four styles of humor and selected health behaviors. Results indicated a clear four-factor structure that emerged from the factor analysis for the HSQ in the Korean sample. Scale reliabilities were generally acceptable and intercorrelations among the scales were low. Korean participants scored lower than US participants on all four scales of humor, but there were minimal gender differences across cultures. Beneficial styles of humor were significantly correlated with better mood, better quality of life, and higher scores on positive personality traits. In contrast, detrimental styles of humor were significantly correlated with worse mood, lower quality of life, and lower scores on positive personality traits. Also, results indicated that beneficial styles of humor were associated with better health-promoting behaviors such as sleep and dental hygiene, physical activity and doctor visits, and less health-damaging behaviors such as smoking,
alcohol, and substance use. In contrast, detrimental styles of humor were associated with less health-promoting behaviors and more health-damaging behaviors. Thus, greater endorsement of beneficial styles of humor was associated with health-promoting behaviors, and endorsement of detrimental styles of humor was associated with health-damaging behaviors. Cross-culturally, the US sample engaged in more preventative health behaviors than the Korean sample but reported more alcohol consumption and worse sleep hygiene. Additionally, results showed that health-damaging behaviors such as smoking, alcohol, and drug use were mainly associated with affiliative and aggressive humor in the US but not in Korea. Overall, the findings support the cross-cultural stability of the HSQ as well as the association between styles of humor and health behaviors.
Dedicated to my parents,

Yongsug and Inock

You both once came to this country to pursue a dream

Without any idea of the culture or language

And here I am once again, to follow the same dream
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CHAPTER 1

INTRODUCTION

Humor is a multifaceted concept that can be operationally defined with cognitive, emotional, behavioral, psychophysiological, and social components (Martin, 2000). In the cognitive realm, humor involves processes such as understanding incongruence or reappraising a disastrous situation as funny. The emotional and behavioral components involve feeling positive affect and laughter as a consequence of a humorous experience. Psychophysiological components involve bodily changes associated with laughter and positive affect such as the activation of the sympathetic nervous system. In the social realm, humor can play an important role in interpersonal communication and attraction (Murstein & Brust, 1985).

The beneficial properties of humor have long been a subject of interest to researchers. The Dutch historian Huizinga (1950) labeled humans as “homo ludens” because of our natural tendencies to enjoy “play”, an important dimension that fosters numerous adaptive behaviors. Freud, in his paper “Humor” (Freud, 1928), viewed humor as a means of coming to terms with disappointment, useful for reappraising stressful situations and detaching oneself from failures to alleviate emotional distress. Vaillant (1977), in his longitudinal study of Harvard men, evaluated humor as being “the most
mature of ego defenses” in that laughing at ourselves while undergoing stress can serve to lessen the emotional impact of stressful events. The plethora of research evaluating humor and health can be attributed to the seminal anecdotal account of Norman Cousins (1979) in his book “Anatomy of an Illness” in which he describes his therapeutic experience of recovering from a life-threatening collagen disorder through daily doses of belly laughter and massive doses of vitamin C.

Numerous studies have demonstrated the salubrious effects of humor on psychological and physical health. Exposure to induced humor has been associated with improved mood and reduced anxiety (Danzer, Dale & Klions, 1990; Houston, McKee, Carroll & Marsh 1998; Mannell & McMahon, 1982; Martin et al., 1993; Moran, 1995; Newman & Stone, 1996; White & Winzelberg, 1992). Szabo (2003) evaluated 39 individuals who participated in three 20-minute conditions at weekly intervals: exposure to a humorous video, exercise, and a documentary video. Results revealed that exposure to humor was associated with greater affective benefits than a 20-minute bout of aerobic exercise. More recently, Szabo et al. (2005) extended this work by comparing effects of four 20-minute conditions including stationary cycling at 50% of the participant’s maximal heart rate reserve, watching a humorous video, listening to new-age music, and sitting quietly. Twenty participants completed each condition at weekly intervals. Results indicated that state anxiety was reduced in all four treatments, and negative affect was decreased in all but the control condition. Results were consistent with previous research indicating that a larger effect size for humor than for listening to music or exercise. Sense of humor is also associated with positive traits such as optimism, cheerfulness, and higher
self-esteem which, in turn, are associated with enhanced psychological well-being. (Kuiper et al., 2004).

Humor also may have a beneficial effect on physical health. Several studies have revealed that humor is associated with enhanced immune system functioning, higher pain tolerance, muscle relaxation, better digestion, facilitation of recovery after surgery, reduced blood pressure, and fewer physical illness symptoms (Dillon, Minchoff, & Baker, 1985; Berk et al., 1989; Martin & Dobbin, 1988; Lefcourt et al., 1997; Rotton, 1992; Friedman et al., 1993; Lefcourt & Thomas, 1998; Cogan et al, 1987; Weisenberg et al., 1995).
CHAPTER 2

THEORETICAL MECHANISMS

Several theoretical mechanisms have been proposed to explain the health-enhancing effects of humor. First, various authors have suggested that laughter, a consequence of appreciated humor, is associated with several physiological changes in the body such as relaxation of muscles, improved respiration, better circulation, enhancement of the immune system, increased production of pain-killing endorphins, and decreased production of stress-related hormones (Fry, 1994). Boone et al. (2000) measured the cardiovascular responses of eight college students while they were exposed to a videotape of a comedian, and found significant increases in stroke volume and cardiac output as well as significant decreases in arteriovenous oxygen and total peripheral resistance. They also found a significant decrease in oxygen consumption following laughter. Laughter has been described as a form of "inner jogging" because it triggers a number of sympathetic responses similar to physical exercise such as increased heart rate, blood pressure, and breathing rate without the accompanying muscular activity (Sobel & Ornstein, 2002). In this view, laughter is the essential component of the relationship between humor and health, and merely appreciating humor with the absence of laughter would not lead to health benefits. However, recently, there have been
contrasting results that do not support this perspective. In an experimental study by Zweyer et al. (2004), participants were assigned to one of three conditions while watching a funny film: Cheerful mood without smiling or laughing, extensive smiling and laughing, and production of humorous commentary. Pain tolerance was measured before, immediately after, and twenty minutes after the film. Results indicated similar increases in pain threshold and tolerance immediately after and twenty minutes after the film for all three conditions, suggesting that laughter may not be a crucial component for at least some of the health benefits related to humor.

A second proposed mechanism is that humor may benefit health via positive emotional states that accompany the appreciation of humor (Martin, 2001). This view suggests that humor only renders health benefits when there is an increase in positive mood, and does not require the behavioral component of laughter. If this mechanism is operative, humor could be used as a means of enhancing positive moods in therapeutic interventions to deliver health benefits (Martin, 2004). A study by Houston et al. (1998) demonstrated that a humorous intervention significantly reduced negative affect in older adults. Relatedly, a study by Stone et al. (1987) found that dental students had higher secretory immunoglobulin A (sIgA) antibody levels on days with high positive mood as opposed to days with lower positive mood in response to an oral administration of a harmless protein. Because sIgA has been found to be important in the body’s defense against upper respiratory infections, these data support the idea that increased positive emotional states enhance immune system functioning. Similarly, Bruehl et al. (1993) compared two groups of participants who either received a positive emotion induction intervention or a brief relaxation intervention after undergoing a 6 second finger pressure
trial subsequent to being exposed to the intervention. Results demonstrated that participants in a positive emotion induction intervention reported lower ratings of fear and anxiety and had better control over acute pain compared to participants who received a brief relaxation intervention. Fredrickson and Levenson (1998) demonstrated that participants who watched films eliciting positive emotions had more rapid recovery from the cardiovascular sequelae of negative emotions compared to participants who watched films that elicited neutral or sad emotions. Other studies have shown that higher overall positive affect predicts lower levels of pain for women with chronic pain (Zautra et al., 2005).

The third proposed mechanism is that humor moderates the adverse effects of stress on health. There is considerable research demonstrating the hazardous effects of stress on physical health, giving rise to illnesses such as ulcers, hypertension, high cholesterol, and coronary heart disease associated with the chronic secretion of stress hormones (Gleitman et al., 2000). Stress also causes increases in the secretion of gastric acid, which increases pain and inflammation in preexisting ulcers (Crill & Hak, 1999). Taking a humorous perspective in a stressful situation can serve as an adaptive coping style conducive to enhanced physical health. In a series of studies, humor was positively associated with more active and confrontative coping styles and negatively associated with avoidance and denial (Lefcourt, 2003; Martin & Olinger, 1993). In a study of women with early stage breast cancer, Carver et al. (1993) demonstrated that use of humor was significantly correlated with positive reframing and optimism, and with less distress at presurgery, postsurgery as well as 3-month, 6-month, and 12-month follow-ups in early stage breast cancer patients. Fry (1995) found that humor significantly moderated
the relationship between daily hassles, self-esteem maintenance, emotional exhaustion, and physical illness among women executives.

The Coping Humor Scale (Martin & Lefcourt, 1983) and the Situational Humor Response Questionnaire (Martin & Lefcourt, 1984) are the most widely used assessment tools in studies investigating the moderating effect of humor on stress. Studies have shown a higher correlation between negative life events and mood disturbance among those who scored lower on the CHS and SHRQ compared to those who had higher humor scores, suggesting that people with a greater sense of humor are less adversely affected by stressful experiences (Martin & Lefcourt, 1983). Similarly, Nezu et al. (1988) investigated the moderating effects of humor on life stress, depression, and anxiety. They found that individuals with higher levels of humor maintained their humor regardless of stressful events and were less depressed than individuals who had lower levels of humor. Coping humor has also been found to moderate physiological indicators of stress. Higher CHS scores are associated with higher S-IgA levels, lower systolic blood pressure, and higher pain threshold levels (Dillon et al., 1985; Lefcourt et al., 1997; Martin & Dobbin, 1988). This is consistent with the suggestion that the cognitive components of humor, such as being able to distance oneself from a stressful situation and maintaining a humorous outlook, are the key elements in the health-enhancing effects of humor.

Humor may have an indirect effect on health by increasing social support. Thus, individuals with a sense of humor may possess a greater ability to facilitate interpersonal relationships, resulting in more satisfying social relationships. Hampes (1994) found that individuals high on intimacy had higher humor scores. Also, Bell et al. (1986) found that self-monitoring skills were an important predictor of humor. Thus, results indicated that
individuals with higher self-monitoring skills who used humor were more likely to accurately perceive cues in a social situation and match responses to situational demands, leading to enhanced interpersonal relationships. Additionally, social support may decrease the intensity of physical reactions to a stressor and may influence health by protecting individuals from the pathogenic effects of stressful events (Cohen & Wills, 1985). From this perspective, interpersonal aspects of humor are critical, especially the degree to which an individual is able to use humor to maintain or enhance social relationships.
CHAPTER 3

STYLES OF HUMOR

Although a number of findings support the notion that sense of humor facilitates both physical and psychological health, many studies have produced null findings. Goldstein (1982) suggested that the inconsistent findings across studies may reflect the fact that having a sense of humor does not always indicate that an individual is well-adjusted and healthy. Humor can be used as a means of self-deprecation, hostility, defensiveness, berating another individual with aggressive remarks, or as a tactic of ingratiation or a way to manipulate others. Therefore, it has been suggested that perhaps further investigation is needed into the positive and negative aspects of humor in association with physical and psychological health (Kuiper et al., 2004).

As noted above, the most widely used measures for assessing sense of humor are the CHS and SHRQ, which measure use of humor in various situations or use of humor as a coping strategy when facing adversity. However, recently, researchers have questioned the degree to which these assessment tools adequately tap into the construct of humor (Martin et al., 2003). The relatively weak support of the humor-health relationship is attributed to the fact that these measures only focus on the more adaptive functions of humor and view humor only as a unitary construct. Martin, Puhlik-Doris, Larsen, Gray,
and Weir (2003) have developed a new 32-item measure called the Humor Styles Questionnaire (HSQ), based on a conceptual framework that views humor as a multidimensional construct with both adaptive and maladaptive aspects. This measure distinguishes between (a) the self vs. others and (b) whether the use of humor was benign vs. detrimental. The result is a 2 X 2 conceptualization of daily functions of humor, rendering four different styles, two of which are hypothesized to be conducive to psychological and physical well-being and two possibly deleterious. Each of the four styles is described below.

Affiliative humor (others, benign) is conceptualized as telling jokes, saying funny things, and engaging in spontaneous witty banter for the purpose of amusing others, facilitating interpersonal relationships, and reducing tension. This style of humor can be self-deprecating but only to the degree that the individual maintains a sense of self-acceptance and does not take him/herself overly seriously. Use of this style of humor is non-hostile, and presumably enhances interpersonal cohesiveness and attraction. Affiliative humor is associated with traits such as extraversion.

Self-enhancing humor (self, benign) refers to having a generally humorous and optimistic perspective on life, even when in a stressful or adverse situation. This style of humor is proposed to be the closest to the concept of coping humor (Martin, 1996) and allows one to avoid negative emotions while maintaining a realistic perspective on an aversive situation. As compared to affiliative humor, self-enhancing humor is more intrapsychic than interpersonal, and is strongly associated with traits like self-esteem.

Aggressive humor (others, detrimental) is defined as the use of sarcasm, teasing, derision, and putting others down for the purpose of criticizing or manipulating others,
without having consideration for how others feel. This style of humor is seen as a means of enhancing the self at the expense of hurting or alienating others, and is associated with traits such as hostility and aggression.

Self-defeating humor (self, detrimental) involves attempting to entertain others by doing or saying funny things at one’s own expense, and laughing along with others when being ridiculed or belittled. This style of humor is also thought to use humor as a form of defensive denial and avoiding one’s negative feelings or dealing constructively with problems. This humor is proposed to be associated with an element of emotional neediness, avoidance, and low self-esteem underlying the use of humor.

The HSQ was developed and validated with large Canadian samples representing a wide age range (Martin et al., 2003). The four subscales measuring each style of humor have proven to be relatively independent of one another, and have demonstrated good psychometric qualities. A clear four-factor structure corresponding to the four humor styles has been supported, and has been shown to be correlated with anxiety, depression, hostility, aggression, self-esteem, optimism, well-being, physical symptoms, and social support. Additionally, HSQ scales were also found to be correlated with broader personality traits, such as the five factor model, and also with traits such as masculinity / femininity and communion. The HSQ also demonstrated construct validity when correlated with peer ratings of humor. Examination of gender differences on the HSQ indicated that men scored higher than women on aggressive and self-defeating humor, but not on affiliative and self-enhancing humor (Kazarian & Martin, 2004). Two cross-cultural studies have validated the stability of this measure. Saraglou and Scariot (2002) developed a French version of the HSQ and demonstrated the same factor structure and
necessary psychometric properties for Belgian high school and college students. Their study found that affiliative and self-enhancing humor was associated with personality traits such as extraversion, agreeableness, and openness, and also correlated with measures of self-esteem. High self-defeating humor was associated with low self-esteem, insecurity in relationships, low emotional stability, low conscientiousness, and low school motivation. Individuals scoring high on hostile humor tended to be high on extraversion and self-esteem but low on agreeableness and school motivation. Kazarian & Martin (2004) conducted a cross-cultural study of the HSQ among Lebanese participants and found similar results. The four factor structure was evident, scale reliabilities were acceptable, and inter-correlations between the four factors were low. Results showed that Lebanese participants scored lower than Canadian participants on affiliative and self-enhancing humor and lower than Belgians on affiliative and aggressive humor. Self-defeating humor was found to be predictive of anxious attachment styles in friendship relationships. Affiliative and self-enhancing humor was positively correlated with perceived health, psychological well-being, and life satisfaction. Affiliative humor was negatively correlated with the avoidant style of attachment.
CHAPTER 4

PROPOSED STUDY

The Republic of Korea has shown remarkable economic growth, overcoming the obstacles of Japanese colonization, the Korean War, and political turmoil. However, industrialization of Korea has been accompanied by a change in lifestyle for Koreans, such as an increasing Western diet and decreasing physical activity, which has led to problems such as an increasing trend for obesity and hypertension (Chung et al., 2005). Other negative health behaviors of Korean people living in both South Korea and in the US have been documented. The World Health Organization (2002) indicated a 67% smoking prevalence for Korean men living in Korea, which is significantly higher compared to the 25.2% prevalence rate for the general U.S. male population (CDC, 2003). A survey of the health behaviors of Korean Americans in Alameda County, California, reported that 39% had smoked equal to or more than 100 cigarettes during their lifetime, 21% were current smokers, 47% currently consumed alcohol, 31% had not exercised in the preceding month, 15% did not always use safety belts, and 18% had never had a routine physical examination (CDC, 1997). A study by Sohn (2005) of Korean American women found that 37.1% of their sample had never received a pap smear, 38.3% had never received a physical exam, 31.7% never received a mammogram, 48.4% were not
aware of breast self-exams, and 41.7% had not conducted a breast self-exam within the past 12 months. Statistics show that only 78% of Asian American women ever receive a pap smear, which is significantly lower than the nationwide baseline proportion of 92%. Song et al. (2004) conducted a survey comparing Korean American immigrants and Koreans living in Seoul, Korea. This study reported that Korean American men and women were more likely to exercise than their Seoul counterparts. Korean men in Seoul had a significantly higher rate of smoking prevalence than Korean Americans, and Korean Americans consumed less alcohol than Koreans who lived in Seoul. Another study by Kim et al. (2005) found that hypertensive Korean Americans were less likely to follow a health-promoting lifestyle, such as exercise and reducing salt, compared to Non-Hispanic Whites and Blacks. Overall, there appears to be a lack of awareness in health-promoting behaviors within the Korean population. Although there are numerous studies documenting health disparities in the Korean population, more studies highlighting factors that potentially lead to health-promoting behaviors are needed. These studies may also be valuable in providing culturally competent care for Korean American immigrants, and studying their country of origin can uncover cultural values that may lead to increased awareness of health-promoting behaviors.

A literature search conducted with a database provided by the Korea Education & Research Information Service (KERIS), which included the majority of domestic studies published in most of the major journals in Korea, indicated only four studies with adults relevant to humor. Kim (2000) found that individuals with higher scores on the CHS and the Sense of Humor Questionnaire (SHQ) used more social support coping and hopeful thinking coping compared to individuals who had lower scores on sense of humor.
Hwang (1992) found that individuals who scored higher on the CHS and SHQ relied more on problem-focused coping compared to individuals who had lower scores, but having a sense of humor did not necessarily mean that an individual experienced lower levels of stress. A study done by Kim & Suh (1996) found that scores on the CHS increased among patients suffering from impaired mobility after they were exposed to a humorous videotape. However, the videotape did not have a significant effect on anxiety and depression. Also, a randomized humorous videotape intervention by Yu et al. (1999) for psychiatric inpatients demonstrated that there was a significant improvement in interpersonal relationships following the intervention.

To date, there have been no cross-cultural studies examining humor and health behaviors in Korea, and the studies that have been done in Korea demonstrate mixed results regarding the beneficial properties of humor. Although these studies have shown that having a greater sense of humor can benefit through better coping and problem-solving skills and can enhance interpersonal relationships, humor does not necessarily lead to reduced stress or the alleviation of psychological symptoms such as depression or anxiety. Furthermore, none of these studies have investigated the effects of humor on physical health. One of the main goals of the proposed study is to further investigate the cross-cultural stability of the four HSQ humor styles by examining the factor structure and psychometric properties of the HSQ in samples of Korean university students. Based on the fact that a four-factor structure was found in collectivistic cultures such as Lebanon and Belgium, it is expected that the same four-factor structure will be found in Korea. This will be the first cross-cultural validation of this measure in an Asian country,
and the first study investigating the link between humor and health behaviors in cross-cultural samples.

Additional empirical research has further validated the four humor styles of the HSQ revealing that individuals with a more positive sense of humor showed reduced fear of death and serious disease, focused less on negative bodily aspects of physical health, worried less about illness, and had fewer physical symptoms (Kuiper & Nicholl, 2004). However, there was not a significant relationship between health-related lifestyle and the four styles of humor. In a 3-year longitudinal study of 34 Finnish police officers, Kerkkanen et al., (2004) used the Multidimensional Sense of Humor Scale (Thorson & Powell, 1993) to investigate the degree to which sense of humor influenced physical health via health-related behaviors. Results showed that higher scores on any of the sense of humor dimensions at baseline did not predict lower risk of cardiovascular disease, lower body mass index, reduced smoking, or enhanced well-being at work three years later. Additionally, results also showed that those with greater humor exhibited poorer health-related habits, associated with higher levels of daily smoking after three years. These counter-intuitive results suggest that it may be important to differentiate between objective physical health status and perceptions of physical health. Because research has shown that individuals who implement humor as a coping mechanism may have less negative and more positive cognitive appraisals, they may distance themselves from potentially stressful events and have overly positive health perceptions, leading them to underestimate the risk of potentially health-impairing behaviors and therefore be less vigilant about their health (Kerkkanen et al., 2004; Kuiper & Nicholl, 2004). Past research has demonstrated that extraverted individuals are more likely to drink alcohol,
more likely to smoke, less likely to quit smoking, and more likely to be obese (Haellstroem & Noppa, 1981; Helgeson et al., 1995; Patton et al., 1993). Studies also indicate that cheerful individuals have a higher propensity to smoke (Martin et al., 2002).

Due to the inconsistency of prior studies, another aim of the proposed study is to clarify the relationship among styles of humor and selected health behaviors (e.g., smoking, alcohol consumption, exercise, nutrition, perceptions of health risks). Consistent with the hypothesis that humor has a beneficial effect on health, it is hypothesized that higher scores on affiliative and self-enhancing humor will be more strongly associated with healthier lifestyle behaviors than higher scores on aggressive and self-defeating humor.

An additional aim of the proposed study is to investigate cross-cultural differences in health behaviors, as well as in the correlation between humor styles and health behaviors. Consistent with prior research, it is hypothesized that US students will exhibit healthier lifestyle behaviors compared to Korean students. The cross-cultural differences in the correlation between humor styles and health behaviors are exploratory in nature, as there are no prior studies addressing this question.

**HYPOTHESIS**

It is hypothesized that (a) the four humor styles of the HSQ documented in past research will be replicated among Korean students (b) higher scores on benign humor (e.g. affiliative and self-enhancing humor) will be more strongly associated with healthier lifestyle behaviors than higher scores on more detrimental styles of humor (e.g.
aggressive and self-defeating humor), and (c) there will be a cross-cultural difference in the correlation between humor styles and health behaviors in college students in Korea and in the United States.
CHAPTER 5

METHODS

Participants and Procedure

All participants were undergraduate students of the Ohio State University (OSU) and Korea University (KU). OSU is a public university located in Columbus, Ohio, whereas KU is a private university in which the language of instruction is Korean. Korean participants were recruited from both the main campus located in Seoul, Korea, and from the branch campus of KU, located in Jochiwon, Korea.

For the sample in the United States, a total of 180 undergraduate students who were taking an Introductory Psychology course at OSU were recruited through the Research Experience Program and received extra points towards their final grade after completing the test booklets. For the Korean sample, a total of 198 undergraduate students who were taking Introduction to Humanities at KU were recruited for the study. Because there was no equivalent to the Research Experience Program at KU, names of participants who finished the booklet were entered into a drawing of three prizes equivalent to 50 dollars each.

Participants from OSU signed up to participate in the study through the REP program, which indicates their informed consent. Participants from KU were asked to
sign an informed consent form prior to administration of the measures. After consent, a
standard set of instructions was used to explain how to complete the study materials and
all participants were handed a packet of materials to complete. Participants reported basic
demographic information, information relative to health, and completed a number of
other questionnaires described below.

Translation

Four of the questionnaires used in the study were translated from English to
Korean by the author (HSQ, SSQ, Health Behaviors Inventory, 7-Day Physical Activity
Recall, see below). A back-translation was conducted for the assessment and possible
improvement of the cultural equivalence of all the questionnaires by a second Korean
individual with an excellent command of English. The version of the translation
conducted by the first author and the back-translator was checked for consistency and
accuracy of translation by a third individual and found to be satisfactory.

Materials

The Humor Styles Questionnaire (Martin et al., 2003) is a 32-item measure
assessing four different styles of humor. There are eight items on each of the four style
subscales: Affiliative ("I don't have to work very hard at making other people laugh – I
seem to be a naturally humorous person"), Self-enhancing ("If I am feeling depressed, I
can usually cheer myself up with humor"), Aggressive ("If someone makes a mistake, I
will often tease them about it"), and Self-defeating ("I let people laugh at me or make fun
at my expense more than I should"). Respondents are to indicate the degree to which they

20
agree or disagree with each item on a likert scale of 1 (Totally Agree) to 7 (Totally Disagree) with the scale midpoint option being 4 (Neutral). The HSQ demonstrated good internal reliability for the four subscales (Cronbach’s alpha = .77 - .81). This questionnaire also showed significant construct validity with peer-rating items (r=.22 -.33) and other questionnaires measuring humor such as the SHRQ, CHS, Sense of Humor Questionnaire, Multidimensional Sense of Humor Scale, Humor coping scale of the Coping Orientations to Problems Experienced Scale, and State-Trait Cheerfulness Inventory (r=.47 -.75).

Two self-rated health questions from the Medical Outcomes Study Short Form (SF-36; Ware & Gandek, 1998) were utilized. Items assessed global ratings of health as well as current self-rated health compared to one year earlier. Both questions had scores that ranged from 1 (Excellent) to 5 (Poor).

Five dimensions of health behaviors were taken from the Health Behaviors Inventory, a questionnaire developed at the Ohio State University (Ransom-Flint & Mirels, personal communication): Alcohol, Tobacco and Drug use, Sleep and Relaxation, Visits to the Physician, and Safety and Risk Reduction (See Appendix for specific questions).

Sixteen questions addressed alcohol, tobacco and drug use (e.g. “How many cigarettes do you smoke a day?” “On average, how many cans / bottles of beer do you drink per day?” “Do you smoke marijuana?”). Separate scores were derived for alcohol, tobacco, and drug use. Three questions assessed the amount of alcohol consumed on average in a day, with responses ranging from 0 (I never drink beer / wine / mixed drinks)
to 4 (6 or more beer / wine / mixed drinks a day). A total score was calculated by adding up the score for these three items, with the score ranging from 0 to 12.

For tobacco use, respondents were categorized into one of three groups. Participants who reported any current cigarette use were coded as current smokers, those who reported use at some time in the past but no current smoking were coded as former smokers, and individuals who denied any cigarette use, past or present, were coded as never smokers. For current and former smokers, pack-years (years smoked X packs of cigarettes per day) was calculated to examine smoking exposure.

Two questions assessed substance use. The first item addressed marijuana use, while the second item addressed use of any other illicit drugs (e.g. cocaine, heroin, etc.). The scores ranged from 0 (No, I have never tried marijuana / hard drugs) to 5 (Yes, I use marijuana / hard drugs daily).

Four items addressed sleep hygiene, asking about difficulty with onset of sleep, difficulty with sleep disruption during the night, taking naps during the day, and taking sleep medication. For each item, responses indicated the frequency of occurrence within the prior week with scores ranging from 1 (less than once a week) to 5 (6 – 7 times a week). Total scores for these four items ranged from 4 to 20, with higher scores indicating worse sleep hygiene.

Four questions addressed doctor visits, primarily to serve as an objective measure of physical health. Respondents indicated total number of visits to a doctor or other health professional in the past four months and number of hospitalizations.

Sixteen questions addressed safety and risk reduction, specifically the degree to which individuals engaged in risky health behaviors and their perceptions of health risk.
These questions included tanning, wearing safety belts, scheduling regular medical checkups, dental care (getting semi-annual dental exams, brushing teeth and use of dental floss), practicing safe sex, and conducting monthly breast self-examinations (women), getting PAP tests (women), and practicing testicular self-exams (men).

The 7-Day Physical Activity Recall Questionnaire (Blair, 1984) was used to assess exercise habits and physical fitness. Although the original questionnaire was designed to be interviewer-administered, it was adapted for self-administration in this study. The respondents received a list of activities described as moderate, hard, or very hard activities. Respondents then indicate the average daily number of hours slept, and the average number of daily hours spent in moderate, hard, or very hard activities during the last five weekdays and on weekends. The raw data from the questionnaire (hours in the various categories) are used to calculate weekly energy expenditure in METs.

The Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1971) consists of 30 items with six subscales: Tension-Anxiety, Depression-Dejection, Anger-Hostility, Fatigue, Vigor, and Confusion-Bewilderment. Respondents are asked to rate on a scale of 0 (Not at all) to 4 (Extremely) how they have been feeling during the past week including the day the measure is administered. Internal reliability for the six subscales ranges from .84 to .94, and test-retest reliability ranges from .65 to .74 for the six subscales with an interval or 20 days. Concurrent validity ranged from .52 to .86 with the five subscales associated with negative mood and -.49 to -.21 with the vigor subscale when compared to the Hopkins Symptom Distress Scales. Nearly all of the POMS factors were moderately-to-highly correlated with the three clinically-derived distress scores – Somatization, Anxiety, and Depression.
The Center for Epidemiological Studies Depression Scale (CESD; Radloff, 1977) is a 20-item measure of symptoms of depression including depressed mood, feelings of guilt, worthlessness, helplessness, hopelessness, loss of appetite, and sleep disturbance. Respondents are asked to indicate how they have been feeling during the past week using a scale of 0 (Rarely or none of the time, less than one day) to 3 (Most of or all of the time, five to seven days). The CESD demonstrates internal consistency with $\alpha = .85$ for the general population and $\alpha = .90$ for the psychiatric population. Test-retest reliability ranges from .51 to .67 (tested over two to eight weeks) and .32 to .54 (tested over 3 months to one year). This measure also demonstrates good concurrent validity with other depression and mood scales, and it has been useful in discriminating between clinical and normal populations.

The State-Trait Anxiety Inventory, trait version (STAI-X2; Spielberger, Gorsuch, & Lushene, 1969) is a 20-item measure of trait anxiety. The STAI has been widely used for psychiatric and medical patients. Respondents are asked to answer items on a scale of 1 (almost never) to 4 (almost always). Internal consistency for this measure showed a median coefficient of .90 when administered to samples of working adults, students, and military recruits. Also, test-retest reliability ranged from .70 to .77 when tested with high school and college students with 20 to 104 day intervals. This measure showed high convergent validity, showing a .65 correlation with the State-Trait Anxiety Inventory – State version, and a range of .73 to .83 when correlated with the IPAT Anxiety Scale and the Taylor Manifest Anxiety Scale.

The Multidimensional Health Locus of Control Inventory (MHLC; Wallston & Wallston, 1978) is an 18-item measure of perceived control over one’s health status. This
measure has three subscales: Internal, Powerful Others, and Chance. Respondents answer the items on a scale of 1 (Strongly disagree) to 6 (Strongly agree). Studies show that the MLHC has an internal consistency ranging from .83 to .87, while test-retest reliability ranges from .66 to .73 with a time interval of 4 to 6 months for the three subscales. This measure also showed sound convergent validity of .57, .80, and .28 when compared to the three subscales (Internality, Chance, and Powerful Others) in Levenson’s Locus of Control Scale.

The Revised Life Orientation Test (LOT-R; Scheier & Carver, 1985) is a 13-item measure assessing individual differences in generalized optimism versus pessimism. Respondents are asked to rate their response to items (e.g. “I’m always optimistic about my future”) on a scale of 0 (Strongly Disagree) to 4 (Strongly Agree). Internal consistency for this scale is .78, and the test – retest reliability for this scale ranged from .56 to .70 over an interval of 4 to 28 months. Convergent validity for this measure was demonstrated with correlations of .95 with the original LOT, .48 with the Self-Mastery Scale, and .50 with the Rosenberg Self-Esteem Scale (Scheier et al., 1994).

The Social Support Questionnaire – Short Form (SSQ; Sarason, Sarason, Shearin & Pierce, 1987) is a 6-item questionnaire revised from the original 27-item questionnaire assessing satisfaction with social support received by the respondent across a variety of potentially stressful situations. Respondents list all the people they can count on for help or support in a specific situation and rate the satisfaction level of the overall support level. If a respondent has no support for a situation, they are instructed to check the words “No one” but still rate the level of satisfaction. The internal consistency for the SSQ – Short Form ranged from .90 to .93 for both the Number and Satisfaction scores. The convergent
validity for this measure was .23 to .27 when correlated with the Inventory of Social Supportive Behaviors, and .42 to .58 when correlated with the Perceived Social Support measure. These correlations were not significantly different from the original form of the SSQ.

The Eysenck Personality Questionnaire – Revised Short Scale (EPQ, Eysenck & Eysenck, 1991) is used to assess extraversion with 12 items from the full Extraversion subscale. Respondents are asked to answer “yes” or “no” on items such as “Do you enjoy meeting people?” Studies have shown that this measure demonstrates adequate internal consistency reliabilities ranging from .78 to .87 and a test-retest reliability of .69. The concurrent validity of the extraversion scale ranges from .59 to .95 when correlated with other Eysenck scales (Aluja et al., 2002; Francis, Brown & Philipchalk, 1992; Francis & Pearson, 1988; Hosokawa & Ohyama, 1993; Katz & Francis, 2000).

The Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Mermelstein, 1983) is a 10-item self-report measure assessing the degree to which situations in one’s life are appraised as stressful (e.g. “In the last week, how often have you been upset because of something that happened unexpectedly?”). Respondents are asked to rate each item from a scale of 0 (Never) to 4 (Very often). Higher scores on this measure are indicative of greater perceived stress. The internal consistency for this measure ranges from .84 - .86, while test-retest reliability ranges from .55 to .85 for time intervals ranging from two days to six weeks. Evidence for concurrent validity was found when this measure was correlated with the number and impact of life events, ranging from .24 to .49.

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) consists of ten items, measuring one’s level of self-esteem (“I feel that I have a number of good qualities”, “On
the whole, I am satisfied with myself”). Respondents are asked to rate each item on a 4-point scale, ranging from “strongly agree” to “strongly disagree”. Internal consistency for this measure ranges from .77 to .88, while test-retest reliability ranges from .82 to .85 (Dobson et al., 1979; Fleming & Courtney, 1984; Silber & Tippett, 1965). This measure showed good convergent validity of .72 when correlated with the Lerner Self-Esteem Scale, and a correlation of .65 when correlated with confidence (Lorr & Wunderlich, 1986; Savin-Williams & Jaquish, 1981)

The Korean version of the CESD (Chun et al., 2001) has good internal validity (Cronbach’s alpha = .91). A test for validity with Varimax rotation found four factors explained 62.3% of the variance.

The Korean version of the STAI-X2 (Han et al., 1996) has good internal reliability (Cronbach’s alpha = .90), and test-retest reliability was .41 and .33, with a time interval of 60 and 75 days. This measure showed good convergent validity of .68 and .66 with the Korean version of the Taylor Manifest Anxiety Scale and Eysenck’s Maudsley Medical Questionnaire.

The Korean version of the MHLC (Kim, 1999) was used in a study investigating the relationship between health locus of control and health promotion lifestyle in male office workers. Internal consistency for the three subscales was good (Internal = .88, Chance = .84, and Powerful Others = .80)

The Korean version of the EPQ (Lee, 1985) has good internal reliability (Cronbach’s alpha of .80 in males and .78 in females) for the Extraversion subscale.
The Korean version of the PSS-10 (Ha et al., 1998) has been used in a study investigating the relationship of perceived stress, ways of coping, and stress response of nursing students. Reliability was good (Cronbach’s alpha = .92).

The Korean version of the RSES (Yoon, 1996) has good internal reliability (Cronbach’s alpha = .87), and a test-retest reliability of .85 with a 2-week interval.

The Korean version of the LOT-R (Yoo & Cho, 2003) has been used in a study investigating the relationship between optimism and interpersonal schemas. Internal reliability was acceptable (Cronbach’s alpha = .68).

The Korean version of the POMS (Lee et al., 1999) is reliable (Cronbach’s alpha of .75), and also demonstrated concurrent validity of .30 when Fatigue and Vigor subscales were correlated with the HaeOk Fatigue Behavior Scale.
CHAPTER 6

DATA ANALYSIS

Three sets of analyses were conducted, each addressing a study hypothesis. First, factor analysis using Varimax rotation was conducted on the Korean version of the HSQ to examine the factor structure of this questionnaire. This analysis was followed with a confirmatory factor analysis using maximum likelihood estimation, testing the four-factor model that had been found by the original authors who had developed this scale. Because of likely intercorrelations among the four scales of the HSQ, oblique rotation was conducted to assess goodness of fit of the model to the Korean population. The four styles of humor were correlated with measures of quality of life, mood, and personality traits in the Korean sample using Pearson's correlation coefficient.

Second, the four styles of humor were correlated with health behaviors except smoking using Pearson's correlation coefficient for both the Korean sample and the US sample. For smoking, participants were divided into current, past, and never smokers and a one-way ANOVA was conducted to investigate differences between the four styles of humor among the three smoking groups.

Third, the difference in the magnitude of correlations between cultural groups from the second set of analyses was evaluated with Fisher's $z$ (1921). Smoking was
analyzed with a factorial design, with smoking status and cultural group as between-
subject variables to investigate group differences on the four styles of humor.
CHAPTER 7

RESULTS

Demographic Variables

For the sample in the United States, a total of 180 undergraduate students (men = 68, women = 112, mean age = 18.7, SD = 2.35) participated in the study. 90% of the sample was Caucasian, 4.4% was African American, 2.2% was Hispanic, 2.2% were Asian, and 1.1% of the sample reported they identified with other ethnic groups. For the Korean sample, a total of 198 undergraduate students (men = 102, women = 96, mean age = 20.02, SD = 1.83) were recruited. Age, gender, and Body Mass Index (BMI) were compared between the Korean and US sample with independent t-tests. Results indicated that the two groups were significantly different in terms of age and BMI (both, p < .0001). The mean BMI was 21.02 (SD = 2.67) for the Korean sample and 23.27 (SD = 3.74) for the US sample. Thus, the Korean sample was somewhat older and had a lower BMI than the US sample. A chi-square analysis indicated that gender was significantly different in the two cultural groups (p = .007), with a larger proportion of males in the Korean sample than in the US sample.
Hypothesis I: The four humor styles in the HSQ found by past researchers will be replicated among Korean students

Four separate analyses were used to investigate the first hypothesis. First, exploratory factor analysis using Varimax rotation and confirmatory factor analysis were utilized to investigate the four underlying factors for the HSQ. Second, Pearson’s correlations and reliability analyses were used to investigate the subscale reliabilities and intercorrelations among the four scales. Additionally, means and standard deviations were reported along with a t-test for gender differences in both the Korean sample and the United States sample. Third, Pearson’s correlation coefficient was used to investigate the convergent validity of the HSQ with independent measures of quality of life, mood, and personality traits. Fourth, t-tests were used to evaluate mean differences between the Korean sample and the sample in the United States for the four different styles of humor. Additionally, the means of the four subscales in the HSQ reported from previous cross-cultural studies (Canada, Belgium, Lebanon) were compared with the Korean sample.

1) HSQ Factor Analysis

The HSQ was administered to a total of 198 participants in the Korean sample. Six participants were omitted from analyses because of missing values. Standard deviations for all items were greater than 1.0 (range 1.25 - 1.72), indicating adequate item variance across participants. A factor analysis using Varimax rotation (SAS 9.1) was computed on the 32 items of the measure. An examination of the scree plot yielded an optimal four-factor structure. The first four factors had eigenvalues of 4.83, 3.77, 2.52,
and 2.43, and accounted for 42.3% of the variance. The next three eigenvalues for 5, 6 and 7 factors were 1.61, 1.32, and 1.25.

An examination of the item loadings on each of the four rotated factors demonstrated that most of the items loaded appropriately with the original four scales of the HSQ as expected. With six exceptions, all of the items loaded most highly on their designated scale, suggesting that the theoretical structure of the HSQ that was found in Canada, Belgium, and Lebanon also exists in Korea. Two items from the self-enhancing humor scale ('If I am feeling depressed, I can usually cheer myself up with humor', 'My humorous outlook on life keeps me from getting overly upset or depressed about things') loaded most highly (.62 and .50, respectively) on the factor corresponding to the affiliative humor scale. An item from the aggressive humor scale ('Sometimes I think of something that is so funny that I can't stop myself from saying it, even if it is not appropriate for the situation') loaded most highly (.37) on the self-defeating humor scale. Two items from the self-enhancing humor scale ('If I am feeling sad or upset, I usually lose my sense of humor', 'I don't need to be with other people to feel amused – I can usually find things to laugh about even when I'm by myself') loaded most highly (.22 and .24, respectively) on the aggressive humor scale. One item from the self-defeating humor scale ('If I am having problems or feeling unhappy, I often cover it up by joking around, so that even my closest friends know how I really feel') loaded most highly (.31) on the aggressive humor scale.

A confirmatory factor analysis using maximum likelihood estimation (SYSTAT 11.0) was conducted on the data from the participants that completed all 32 items in the questionnaire. A four-factor model was tested, with eight items as manifest variables
representing the four subscales. To facilitate comparability, the fit index used by Martin et al. (2003) was considered. The model had a root-mean-square error of approximation (RMSEA) of .08. This was higher than .048, which was what Martin et al. found in their original Canadian sample. According to Steiger & Lind (1980), this is still considered a reasonable fit. In addition, because there were some intercorrelations among the four factors, an oblique rotation was also used to assess goodness of fit. The RMSEA with an oblique rotation was .06, which demonstrated a good fit.

2) Scale reliabilities, intercorrelations, and gender differences

Four factor scores were calculated by summing the eight items that corresponded to each of the factors. The reliabilities of the subscales are presented in Table 7.1. The internal consistencies were .80 for the Affiliative humor scale, .65 for the Self-enhancing humor scale, .61 for the Aggressive humor scale, and .80 for the Self-defeating humor scale. Although the internal consistencies for the self-enhancing humor scale and aggressive humor scale are somewhat lower than those reported by Martin et al. (2003), they are comparable to those reported by Sariglou & Scariot (2002) and Kazarian & Martin (2004). A low internal consistency for the aggressive humor scale was also found in the cross-validation of the HSQ in a Lebanese sample. The aggressive and self-enhancing humor scale may not be as coherent a construct in the Korean culture as it is in the United States (Kazarian & Martin, 2004).
Table 7.1. Descriptive statistics and intercorrelations between styles of humor among Korean college students

<table>
<thead>
<tr>
<th>Style</th>
<th>M</th>
<th>SD</th>
<th>Affiliative</th>
<th>Aggressive</th>
<th>Self-defeating</th>
<th>Alphas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliative</td>
<td>41.57</td>
<td>7.36</td>
<td>0.297**</td>
<td>0.023</td>
<td>0.076</td>
<td>0.80</td>
</tr>
<tr>
<td>Self-enhancing</td>
<td>29.00</td>
<td>6.74</td>
<td></td>
<td>0.073</td>
<td>0.157*</td>
<td>0.65</td>
</tr>
<tr>
<td>Aggressive</td>
<td>25.80</td>
<td>6.10</td>
<td></td>
<td>0.220**</td>
<td></td>
<td>0.61</td>
</tr>
<tr>
<td>Self-defeating</td>
<td>25.98</td>
<td>8.03</td>
<td></td>
<td></td>
<td></td>
<td>0.80</td>
</tr>
</tbody>
</table>

*Note. N = 193
** p<0.01, * p<.05

The intercorrelations among the four HSQ scales ranged from 0.023 to 0.297. Similar to the findings of Martin et al. (2003), Sariglou and Scariot (2002), and Kazarian and Martin (2004), positive correlations were found between affiliative and self-enhancing humor, and between aggressive and self-defeating humor. A significant positive correlation was found between self-defeating and self-enhancing humor, which was also present in Belgian and Lebanese samples but not in Canadian samples.

Table 7.2 presents means and standard deviations of each of the four scales for men and women separately for both Korea and the United States. In Korea, men tended to score higher than women in self-enhancing humor (M = 30.03 ± 6.41 vs. M = 27.88 ± 6.93; t(191) = 2.24, p<.05). In the United States, men tended to score higher on aggressive humor than women (M = 32.56 ± 28.61 vs M = 7.47 ± 6.26; t(178) = 3.81, p < .0001).
<table>
<thead>
<tr>
<th>Scale</th>
<th>Culture</th>
<th>Gender</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Affiliative</strong></td>
<td>Korea</td>
<td>Men</td>
<td>41.55</td>
<td>7.17</td>
<td>-.039</td>
<td>ns</td>
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<tr>
<td></td>
<td></td>
<td>Women</td>
<td>41.59</td>
<td>7.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>USA</td>
<td>Men</td>
<td>47.41</td>
<td>6.35</td>
<td>-.110</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>47.51</td>
<td>6.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Self-Enhancing</strong></td>
<td>Korea</td>
<td>Men</td>
<td>30.03</td>
<td>6.41</td>
<td>2.236</td>
<td>.026</td>
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<tr>
<td></td>
<td></td>
<td>Women</td>
<td>27.88</td>
<td>6.93</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>USA</td>
<td>Men</td>
<td>36.84</td>
<td>9.85</td>
<td>-1.52</td>
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<tr>
<td></td>
<td></td>
<td>Women</td>
<td>38.81</td>
<td>7.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aggressive</strong></td>
<td>Korea</td>
<td>Men</td>
<td>25.99</td>
<td>6.51</td>
<td>.465</td>
<td>ns</td>
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<tr>
<td></td>
<td></td>
<td>Women</td>
<td>25.58</td>
<td>5.66</td>
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</tr>
<tr>
<td></td>
<td>USA</td>
<td>Men</td>
<td>32.56</td>
<td>7.47</td>
<td>3.81</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>28.61</td>
<td>6.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Self-Defeating</strong></td>
<td>Korea</td>
<td>Men</td>
<td>25.97</td>
<td>7.59</td>
<td>-.026</td>
<td>ns</td>
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<tr>
<td></td>
<td></td>
<td>Women</td>
<td>26.00</td>
<td>8.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>USA</td>
<td>Men</td>
<td>28.32</td>
<td>8.16</td>
<td>.608</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women</td>
<td>27.59</td>
<td>7.66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7.2. Means and standard deviations for the four Humor Styles Questionnaire scales for participants in both cultural groups, men and women separately (Korea = 93 females, 100 males; USA = 112 females, 68 males)

3a) Quality of Life and Humor Styles

Table 7.3 presents the correlations between the four HSQ scales and each of the quality of life measures, along with multiple correlations between the HSQ scales and other variables in the Korean sample. The PSS-10 score was negatively correlated with affiliative and self-enhancing humor and was positively correlated with self-defeating humor, but not with aggressive humor. Perceived health from the SF-36 was positively correlated with self-enhancing humor.

Two scores were calculated from the SSQ – a number score and a satisfaction score. The number score indicated the number of supportive people, and the satisfaction
score indicated the level of satisfaction with the support. Both components of the SSQ were significantly correlated with affiliative humor. Aggressive humor was negatively correlated with the satisfaction score of the SSQ.

3b) Mood and Humor Styles

For the POMS, six subscales were correlated with the four styles of humor, along with a total mood disturbance score. Beneficial styles of humor were significantly correlated with better mood compared to detrimental styles of humor, which was significantly correlated with worse mood. The total mood disturbance score had a significant negative correlation with affiliative and self-enhancing humor and a significant positive correlation with aggressive humor, as expected. There was no significant correlation found with the total mood disturbance score and self-defeating humor.

Depression, measured by the CESD, was negatively correlated with both affiliative and self-enhancing styles of humor, and positively correlated with aggressive humor. Trait anxiety, measured by the STAI-X2, was negatively correlated with both affiliative and self-enhancing styles of humor.

3c) Personality traits and Humor Styles

Self-esteem (measured by the RSES), optimism (measured by the LOT-R), and extraversion (measured with the EPQ), were all positively correlated with affiliative and self-enhancing humor.
<table>
<thead>
<tr>
<th></th>
<th>Affiliative</th>
<th>Self-Enhancing</th>
<th>Aggressive</th>
<th>Self-Defeating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tension</td>
<td>-.228**</td>
<td>-.081</td>
<td>.293**</td>
<td>.154*</td>
</tr>
<tr>
<td>Depression</td>
<td>-.200**</td>
<td>-.168*</td>
<td>.226**</td>
<td>.157*</td>
</tr>
<tr>
<td>Anger</td>
<td>-.197**</td>
<td>-.063</td>
<td>.373**</td>
<td>.027</td>
</tr>
<tr>
<td>Vigor</td>
<td>.303*</td>
<td>.314**</td>
<td>-.073</td>
<td>.076</td>
</tr>
<tr>
<td>Fatigue</td>
<td>-.162*</td>
<td>-.160*</td>
<td>.258**</td>
<td>.161*</td>
</tr>
<tr>
<td>Confusion</td>
<td>-.144*</td>
<td>-.093</td>
<td>.223**</td>
<td>.205**</td>
</tr>
<tr>
<td>TMD</td>
<td>-.264**</td>
<td>-.203**</td>
<td>.307**</td>
<td>.127</td>
</tr>
<tr>
<td><strong>CESD</strong></td>
<td>-.255**</td>
<td>-.233**</td>
<td>.167*</td>
<td>.072</td>
</tr>
<tr>
<td><strong>STAI-X2</strong></td>
<td>-.294**</td>
<td>-.325**</td>
<td>.107</td>
<td>.034</td>
</tr>
<tr>
<td>SF-1</td>
<td>.098</td>
<td>.152*</td>
<td>-.077</td>
<td>.024</td>
</tr>
<tr>
<td>SF-2</td>
<td>.022</td>
<td>.060</td>
<td>.008</td>
<td>-.116</td>
</tr>
<tr>
<td>RSES</td>
<td>.320**</td>
<td>.209**</td>
<td>-.137</td>
<td>-.057</td>
</tr>
<tr>
<td>LOT-R</td>
<td>.382**</td>
<td>.163*</td>
<td>-.107</td>
<td>-.066</td>
</tr>
<tr>
<td>PSS-10</td>
<td>-.163*</td>
<td>-.226**</td>
<td>.028</td>
<td>.141*</td>
</tr>
<tr>
<td><strong>EPQ</strong></td>
<td>.495**</td>
<td>.315**</td>
<td>.093</td>
<td>.067</td>
</tr>
<tr>
<td><strong>MHLC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>.259**</td>
<td>.185**</td>
<td>-.165*</td>
<td>-.076</td>
</tr>
<tr>
<td>PO</td>
<td>.070</td>
<td>.019</td>
<td>.016</td>
<td>-.033</td>
</tr>
<tr>
<td>Chance</td>
<td>-.134</td>
<td>-.013</td>
<td>.158*</td>
<td>.110</td>
</tr>
<tr>
<td><strong>SSQ-N</strong></td>
<td>.190*</td>
<td>.004</td>
<td>.043</td>
<td>.050</td>
</tr>
<tr>
<td><strong>SSQ-S</strong></td>
<td>.203**</td>
<td>.072</td>
<td>-.173*</td>
<td>-.078</td>
</tr>
</tbody>
</table>

Note. POMS, Profile of Mood States; TMD = Total Mood Disturbance; CESD, Center for Epidemiological Studies Depression Scale; STAI-X2, Stait-Trait Anxiety Inventory—Trait version; SF-1 & 2: Two questions from Medical Outcome Study—Short Form about self-perceived health; RSES, Rosenberg Self-Esteem Scale; LOT-R, Life Orientation Test (optimism)—Revised; PSS-10, Perceived-Stress Scale; EPQ, Eysenck Personality Questionnaire (extraversion); MHLC, Multidimensional Health Locus of Control; SSQ, Social Support Questionnaire, SSQ-N = number of supports, SSQ-S = satisfaction with support

*p<.05, **p<.01

Table 7.3. Correlations between HSQ scales and measures of quality of life, mood, self-perceived health, self-esteem, optimism, psychological well-being, extraversion, locus of control, and social support satisfaction in the Korean sample
4) Table 7.4 presents the cross-cultural data for the different styles of humor. Students in the United States scored significantly higher than students in Korea for all four styles of humor.

<table>
<thead>
<tr>
<th>Humor Style</th>
<th>Culture</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliative</td>
<td>Korea</td>
<td>41.61</td>
<td>7.35</td>
<td>-8.27</td>
<td>.000***</td>
</tr>
<tr>
<td></td>
<td>USA</td>
<td>47.48</td>
<td>6.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Enhancing</td>
<td>Korea</td>
<td>28.76</td>
<td>6.89</td>
<td>-11.77</td>
<td>.000***</td>
</tr>
<tr>
<td></td>
<td>USA</td>
<td>38.07</td>
<td>8.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggressive</td>
<td>Korea</td>
<td>25.78</td>
<td>6.10</td>
<td>-6.41</td>
<td>.000***</td>
</tr>
<tr>
<td></td>
<td>USA</td>
<td>30.10</td>
<td>7.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Defeating</td>
<td>Korea</td>
<td>25.92</td>
<td>8.01</td>
<td>-2.38</td>
<td>.018*</td>
</tr>
<tr>
<td></td>
<td>USA</td>
<td>27.87</td>
<td>7.84</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05, *** p<.0001

Table 7.4. Comparison of different styles of humor between Korea and USA (Korea n=198, USA n = 180)

When other cross-cultural comparisons were conducted, Canadian and Lebanese samples both endorsed more affiliative, self-enhancing, and aggressive humor compared to the Korean sample. The Belgian sample endorsed more affiliative, self-enhancing, and self-defeating humor than did the Korean sample. Table 7.5 presents the comparisons of different styles of humor cross-culturally.
<table>
<thead>
<tr>
<th>Humor Style</th>
<th>Culture (mean)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliative</td>
<td>Canada (46.4)</td>
<td>8.66</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>(Korea = 41.62)</td>
<td>Lebanon (43.2)</td>
<td>2.38</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>Belgium (46.81)</td>
<td>7.56</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Self-Enhancing</td>
<td>Canada (37.3)</td>
<td>13.67</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>(Korea = 28.76)</td>
<td>Lebanon (35.1)</td>
<td>9.12</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>Belgium (33.76)</td>
<td>6.57</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Aggressive</td>
<td>Canada (28.5)</td>
<td>4.19</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>(Korea = 25.78)</td>
<td>Lebanon (28.7)</td>
<td>4.76</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>Belgium (25.16)</td>
<td>-0.86</td>
<td>ns</td>
</tr>
<tr>
<td>Self-Defeating</td>
<td>Canada (25.9)</td>
<td>-0.03</td>
<td>ns</td>
</tr>
<tr>
<td>(Korea = 25.92)</td>
<td>Lebanon (25.5)</td>
<td>-0.60</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Belgium (31.46)</td>
<td>6.90</td>
<td>p&lt;0.05</td>
</tr>
</tbody>
</table>

Table 7.5. Cross-cultural differences in styles of humor compared to Korean students

Table 7.6 presents the cross-cultural differences in mood, personality traits, and quality of life between Korea and the US. Overall, Koreans had significantly higher scores on two of the measures compared to US students (STAI-X2, SF-1). In comparison, US students had significantly higher scores on two of the measures (POMS- Tension /Anger/ Vigor/ Fatigue/ Total Mood Disturbance, RSES). Eight measures did not show differences between the two groups (POMS-Depression / Confusion, CESD, SF-2, LOT-R, PSS-10, EPQ, MHLC, SSQ)
<table>
<thead>
<tr>
<th></th>
<th>Korean mean</th>
<th>USA mean</th>
<th>t-test (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POMS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tension</td>
<td>4.25</td>
<td>6.54</td>
<td>-5.80 (.000)***</td>
</tr>
<tr>
<td>Depression</td>
<td>3.83</td>
<td>4.63</td>
<td>-1.90 (.058)</td>
</tr>
<tr>
<td>Anger</td>
<td>2.94</td>
<td>4.73</td>
<td>-4.81 (.000)***</td>
</tr>
<tr>
<td>Vigor</td>
<td>9.58</td>
<td>10.85</td>
<td>-2.76 (.006)***</td>
</tr>
<tr>
<td>Fatigue</td>
<td>4.83</td>
<td>7.26</td>
<td>-5.70 (.000)***</td>
</tr>
<tr>
<td>Confusion</td>
<td>5.11</td>
<td>5.49</td>
<td>-1.15 (.250)</td>
</tr>
<tr>
<td>TMD</td>
<td>11.23</td>
<td>17.83</td>
<td>-3.61 (.000)***</td>
</tr>
<tr>
<td>CESD</td>
<td>15.05</td>
<td>14.60</td>
<td>.476 (.635)</td>
</tr>
<tr>
<td>STAI-X2</td>
<td>43.24</td>
<td>38.42</td>
<td>5.51 (.000)***</td>
</tr>
<tr>
<td>SF-1</td>
<td>3.72</td>
<td>2.01</td>
<td>20.29 (.000)***</td>
</tr>
<tr>
<td>SF-2</td>
<td>3.14</td>
<td>2.97</td>
<td>1.84 (.066)</td>
</tr>
<tr>
<td>RSES</td>
<td>31.21</td>
<td>33.59</td>
<td>-4.36 (.000)***</td>
</tr>
<tr>
<td>LOT-R</td>
<td>26.75</td>
<td>26.95</td>
<td>-.327 (.744)</td>
</tr>
<tr>
<td>PSS-10</td>
<td>16.98</td>
<td>16.59</td>
<td>.621 (.535)</td>
</tr>
<tr>
<td>EPQ</td>
<td>7.52</td>
<td>9.41</td>
<td>-5.67 (.000)</td>
</tr>
<tr>
<td>MHLC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>27.89</td>
<td>27.43</td>
<td>9.80 (.328)</td>
</tr>
<tr>
<td>PO</td>
<td>20.20</td>
<td>17.21</td>
<td>6.05 (.000)</td>
</tr>
<tr>
<td>Chance</td>
<td>17.77</td>
<td>19.01</td>
<td>-2.88 (.004)</td>
</tr>
<tr>
<td>SSQ-N</td>
<td>3.70</td>
<td>4.67</td>
<td>-4.30 (.000)</td>
</tr>
<tr>
<td>SSQ-S</td>
<td>4.94</td>
<td>5.49</td>
<td>-5.93 (.000)</td>
</tr>
</tbody>
</table>

* p<.05, ** p<.01, *** p<.0001

7.6. Cross-cultural differences in mood, personality traits, and quality of life between Korea and USA
Hypothesis II. Higher scores on benign humor (e.g. affiliative and self-enhancing humor) will be more strongly associated with healthier lifestyle behaviors than higher scores on more detrimental styles of humor (e.g. aggressive and self-defeating humor) in both Korea and the United States.

Health behaviors were divided into seven categories – smoking, alcohol use, substance use, safety behaviors, sleep, physical activity, and doctor visits. The means for each of the health behaviors across cultures can be found in Table 7.7.

<table>
<thead>
<tr>
<th>Health Behavior</th>
<th>US Mean (SD)</th>
<th>Korea Mean (SD)</th>
<th>t-test (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pack-Year</td>
<td>.25 (1.62)</td>
<td>.52 (1.58)</td>
<td>1.62 (.106)</td>
</tr>
<tr>
<td>Alcohol Use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount consumed</td>
<td>2.07 (1.58)</td>
<td>1.66 (1.51)</td>
<td>-2.58 (.01)**</td>
</tr>
<tr>
<td>Substance Use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marijuana Use</td>
<td>.84</td>
<td>.01</td>
<td>-8.6 (.000)***</td>
</tr>
<tr>
<td>Hard Drugs</td>
<td>.19</td>
<td>0</td>
<td>-3.25 (.001)***</td>
</tr>
<tr>
<td>Risky/Preventative Health Behaviors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tanning</td>
<td>1.38</td>
<td>.07</td>
<td>-10.86 (.000)***</td>
</tr>
<tr>
<td>Seat Belt Usage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Driver</td>
<td>4.74</td>
<td>4.5</td>
<td>-2.875 (.004)**</td>
</tr>
<tr>
<td>- Passenger</td>
<td>4.29</td>
<td>4.56</td>
<td>-3.85 (.000)***</td>
</tr>
<tr>
<td>Frequency of Medical Check-ups</td>
<td>2.8 (1.2)</td>
<td>.27 (.82)</td>
<td>-24.02 (.000)***</td>
</tr>
<tr>
<td>Dental Care</td>
<td>1.87 (.69)</td>
<td>1.25 (.49)</td>
<td>-9.93 (.000)***</td>
</tr>
<tr>
<td>Sexual Behavior</td>
<td>4.27 (1.13)</td>
<td>2.61 (1.42)</td>
<td>-7.22 (.000)***</td>
</tr>
<tr>
<td>Sleep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hours Slep</td>
<td>6.6 (1.07)</td>
<td>6.88 (1.08)</td>
<td>2.54 (.01)**</td>
</tr>
<tr>
<td>Sleep Hygiene</td>
<td>7.56 (2.9)</td>
<td>6.91 (2.34)</td>
<td>-2.37 (.02)*</td>
</tr>
<tr>
<td>Physical Activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily Energy Expenditure</td>
<td>55.97 (23.43)</td>
<td>51 (19.19)</td>
<td>-2.26 (.024)*</td>
</tr>
<tr>
<td>Doctor Visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventative</td>
<td>.74 (.85)</td>
<td>.19 (.54)</td>
<td>-7.52 (.000)***</td>
</tr>
<tr>
<td>Intervention</td>
<td>.84 (1.87)</td>
<td>.46 (.90)</td>
<td>2.50 (.013)*</td>
</tr>
</tbody>
</table>

* p<.05, ** p<.01, *** p<.001

Table 7.7. Comparison of means for health behaviors across culture
<table>
<thead>
<tr>
<th>Styles of Humor</th>
<th>Smoking (pack/year)</th>
<th>Alcohol</th>
<th>Sleep</th>
<th>Sleep Hygiene</th>
<th>Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliative</td>
<td>.127 (.077)</td>
<td>-.028 (.702)</td>
<td>-.033 (.651)</td>
<td>-.126 (.083)</td>
<td>.093 (.197)</td>
</tr>
<tr>
<td>Self-Enhancing</td>
<td>.082 (.251)</td>
<td>-.061 (.394)</td>
<td>.119 (.098)</td>
<td>-.172* (.016)</td>
<td>.166* (.019)</td>
</tr>
<tr>
<td>Aggressive</td>
<td>.003 (.970)</td>
<td>-.021 (.767)</td>
<td>-.022 (.755)</td>
<td>.041 (.566)</td>
<td>.111 (.118)</td>
</tr>
<tr>
<td>Self-Defeating</td>
<td>-.051 (.479)</td>
<td>-.039 (.583)</td>
<td>-.010 (.894)</td>
<td>-.022 (.763)</td>
<td>.003 (.963)</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

Table 7.8. Correlations between humor styles and health behaviors in Korea

<table>
<thead>
<tr>
<th>Styles of Humor</th>
<th>Medical Check-ups</th>
<th>Dental Hygiene</th>
<th>Sexual Health</th>
<th>Preventative Doctor Visits</th>
<th>Remedial Doctor Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliative</td>
<td>-.058 (.423)</td>
<td>.059 (.422)</td>
<td>.115 (.545)</td>
<td>-.119 (.101)</td>
<td>.001 (.988)</td>
</tr>
<tr>
<td>Self-Enhancing</td>
<td>.071 (.325)</td>
<td>.093 (.199)</td>
<td>-.230 (.221)</td>
<td>-.172* (.016)</td>
<td>-.070 (.329)</td>
</tr>
<tr>
<td>Aggressive</td>
<td>.109 (.129)</td>
<td>.036 (.617)</td>
<td>.096 (.615)</td>
<td>-.142* (.047)</td>
<td>-.235** (.001)</td>
</tr>
<tr>
<td>Self-Defeating</td>
<td>-.080 (.269)</td>
<td>-.059 (.419)</td>
<td>-.178 (.356)</td>
<td>-.082 (.256)</td>
<td>-.058 (.427)</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

Table 7.9 Correlations between humor styles and health behaviors in Korea, cont’d
### Table 7.10 Correlations between humor styles and health behaviors in the US

<table>
<thead>
<tr>
<th>Styles of Humor</th>
<th>Smoking (pack year)</th>
<th>Alcohol Use</th>
<th>Marijuana Use</th>
<th>Illicit Drug Use</th>
<th>Sleep Use</th>
<th>Sleep Hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Affiliative</strong></td>
<td>-.117 (.119)</td>
<td>-.041 (.582)</td>
<td>-.062 (.409)</td>
<td>-.177*.018</td>
<td>-.097 (.196)</td>
<td>.000 (.998)</td>
</tr>
<tr>
<td><strong>Self-Enhancing</strong></td>
<td>-.202** (.119)</td>
<td>-.017 (.824)</td>
<td>-.043 (.564)</td>
<td>-.083 (.270)</td>
<td>.069 (.362)</td>
<td>-.195** (.009)</td>
</tr>
<tr>
<td><strong>Aggressive</strong></td>
<td>.046 (.544)</td>
<td>-.240** (.001)</td>
<td>.212** (.004)</td>
<td>.128 (.088)</td>
<td>-.007 (.929)</td>
<td>.134 (.074)</td>
</tr>
<tr>
<td><strong>Self-Defeating</strong></td>
<td>-.020 (.792)</td>
<td>-.168 (.024)</td>
<td>.079 (.294)</td>
<td>.064 (.392)</td>
<td>-.044 (.562)</td>
<td>.230** (.002)</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.05 level

Table 7.11. Correlations between humor styles and health behaviors in the US, cont’d

<table>
<thead>
<tr>
<th>Styles of Humor</th>
<th>Medical Checkups</th>
<th>Physical Activity</th>
<th>Dental Hygiene</th>
<th>Sexual Health</th>
<th>Preventative Doctor Visits</th>
<th>Remedial Doctor Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Affiliative</strong></td>
<td>.035 (.637)</td>
<td>.068 (.365)</td>
<td>.093 (.217)</td>
<td>.056 (.576)</td>
<td>.007 (.930)</td>
<td>.029 (.700)</td>
</tr>
<tr>
<td><strong>Self-Enhancing</strong></td>
<td>.114 (.128)</td>
<td>.074 (.323)</td>
<td>.183* (.014)</td>
<td>.086 (.392)</td>
<td>.079 (.297)</td>
<td>-.094 (.212)</td>
</tr>
<tr>
<td><strong>Aggressive</strong></td>
<td>-.038 (.617)</td>
<td>-.011 (.888)</td>
<td>-.027 (.716)</td>
<td>.077 (.443)</td>
<td>-.142 (.060)</td>
<td>.027 (.719)</td>
</tr>
<tr>
<td><strong>Self-Defeating</strong></td>
<td>.038 (.616)</td>
<td>-.060 (.427)</td>
<td>.070 (.352)</td>
<td>.017 (.869)</td>
<td>-.007 (.923)</td>
<td>.092 (.221)</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level
1) Smoking

The participants were divided into three groups – current smokers, past smokers, and never smokers, according to their self-reported smoking status. In the Korean sample, 80.3% (n = 159) were categorized as never smokers, 15.7% (n = 31) were categorized as current smokers, and 4% (n = 8) were categorized as past smokers. In the US sample, 83.2% (n = 149) were categorized as never smokers, 13.8% (n = 23) were categorized as current smokers, and 3.9% (n = 7) were categorized as past smokers. Gender differences were evident in the prevalence of smoking in Korea but not in the US. In Korea, 29 of the 31 current smokers were males (93.6%), while only 2 were females (6.4%). Also, 5 of the 8 past smokers were males (62.5%), while only 3 were females (37.5%). In the US, 14 of the 23 current smokers were males (60.9%), while 9 were females (39.1%). Also, 3 out of the 7 past smokers were males (42.86%), while 4 were females (57.14%).

A one-way ANOVA was conducted to compare the mean scores of the four humor scales between the three groups for both students in Korea and the United States. Tukey’s post-hoc analysis was implemented to clarify any differences among the three groups. In the Korean sample, a significant between-group difference was found in affiliative humor style [F(1, 194) = 3.69, p = 0.02]. Post-hoc analysis indicated that current smokers scored significantly higher in affiliative humor than never smokers (p = .02). Additional analyses indicated that this could be explained by a gender effect. Korean men who were current smokers had significantly higher scores on affiliative humor than never smokers or past smokers [F(2, 101) = 4.25, p=.01]. There were no differences in affiliative humor scores between smoking status in Korean women. In contrast, for the US sample, there was a significant between-group difference for scores
in aggressive humor \([F(1, 178) = 3.28, p = 0.04]\) and self-defeating humor \([F(1, 178) = 3.90, p = 0.02]\). Post-hoc analysis indicated that current smokers had significantly higher scores than never smokers on both aggressive humor \((p = 0.03)\) and self-defeating humor \((p = 0.04)\). Additionally, current smokers reported using more self-defeating humor than past smokers \((p = 0.05)\). Gender differences were not found in humor styles and smoking status in the US sample.

Exposure to cigarettes by current and past smokers was calculated in pack-year units (i.e., number of packs of cigarettes smoked per day \(\times\) the number of years the person smoked). Pack-year history was then correlated with the four different styles of humor using Pearson’s correlation coefficient. There was no significant correlation of pack-year history with humor styles in the Korean sample. For the US sample, there was a significant negative correlation of pack-year history with self-enhancing humor \((r = -0.20, p = 0.007)\).

2) Alcohol Use

There was no significant correlation between alcohol use and styles of humor in the Korean sample. In contrast, alcohol use was correlated with both aggressive humor \((r = 0.24, p = 0.001)\) and self-defeating humor in the US students \((r = 0.17, p = 0.02)\).

3) Substance use

For the Korean sample, only 1\% \((n = 2)\) reported past experience with marijuana but did not currently use it. The rest of the sample denied any use of marijuana. This suggests that perhaps use of marijuana is less common in Korea and might not be a good
index of health behaviors for future research. In contrast, in the US sample, 42.2% of the sample reported they had had experience with marijuana. Specifically, 5% of this sample reported daily use of marijuana, 2.2% reported weekly use of marijuana, 6.7% reported monthly use of marijuana, 2.2% reported they used marijuana 3 – 4 times per year, and 26.1% reported past experience with marijuana. Correlational analyses indicated that marijuana use was associated with aggressive humor ($r = 0.21, p = 0.004$) in the US sample.

All Korean participants denied use of hard drugs (e.g., cocaine, heroin, speed). In contrast, for the US sample, 7.2% admitted having experience with hard drugs. Specifically, 2.2% reported daily use of hard drugs, 0.6% reported monthly use of hard drugs, 1.7% reported using hard drugs 3 – 4 times per year, and 2.8% reported having experience with hard drugs in the past. Hard drug use was negatively correlated with affiliative humor ($r = -.18, p = 0.02$).

4) Risky / Preventative health behaviors

Five types of risky / preventative health behaviors were investigated in the questionnaires – Tanning, seat belt usage, medical check-ups, dental care, and sexual health behavior.

Tanning. Two questions addressed whether participants engaged in tanning behavior and the frequency of this behavior. In Korea, only 2% ($n = 4$) of the participants reported using tanning beds. Only 1% ($n=2$) of these people responded that they used tanning beds on a daily basis. In contrast, 49.4% ($n = 89$) of the participants from the US sample reported using tanning beds. Among the respondents who use tanning beds, 2.2%
indicated daily use, 11.1% indicated weekly use, 14.4% reported monthly use, 16.7%
reported 4 – 6 times per year, and 5% indicated 1 – 3 times per year. There was no
correlation between frequency of tanning behavior and humor styles.

Seat belt use. Two questions addressed the use of seat belts while in an
automobile as a driver or as a passenger. In Korea, 40.9% of the sample replied that
using seat belts as a driver did not apply to them because they did not have a driver’s
license, 36.9% indicated that they always used seat belts, 10.1% reported using seat belts
most of the time, 5.1% reported using seat belts half of the time, and 2.5% reported
seldom using seat belts. Nine individuals did not answer this question. On the contrary, in
the US sample, 78.9% reported always using seat belts as a driver, 12.2% reported using
seat belts most of the time, 5% reported using seat belts half of the time, and 3.3%
reported seldom using safety belts. One individual did not answer this question. In
contrast to the Korean sample, apparently all of the US students had a driver’s license.
Regarding seat belt use when riding as a passenger, 31.3% of the Korean sample reported
always wearing seat belts, 18.7% reported wearing seat belts most of the time, 11.6%
reported wearing seat belts half of the time, 13.6% reported seldom wearing seat belts,
and 2.5% reported never wearing seat belts. Forty-four individuals did not answer this
question. For the US sample, 59.4% reported always wearing seat belts, 32.8% reported
wearing seat belts most of the time, 4.4% reported wearing seat belts half of the time,
2.2% reported seldom wearing seat belts, and 0.6% reported never wearing seat belts.
One individual did not answer this question. There was no correlation between humor
styles and seat belt use.
**Frequency of medical checkups.** In the Korean sample, 10.1% (n = 20) reported receiving regular medical checkups. Among the participants who answered positively to this item, 0.5% (n = 1) answered they receive medical checkups more than once a year, 6.1% (n = 12) replied they received medical checkups once a year, 2.5% (n = 5) receive medical checkups once every two years, and 2% (n = 4) receive medical checkups less than once every two years. In contrast, 88.9% (n = 160) of the US sample reported receiving regular medical checkups. Among the participants who answered positively to this item, 27.8% (n = 50) receive medical checkups more than once a year, 50.6% (n = 91) receive medical checkups once a year, 6.7% (n = 12) receive medical checkups once every two years, and 4.4% (n = 8) receive medical checkups less than once every two years. Humor styles were not correlated with frequency of medical checkups in the Korean sample. In contrast, for the US students, number of medical checkups was negatively correlated with aggressive style of humor (r = -.15, p = .04).

**Dental Care.** Three items addressed whether participants received semi-annual dental exams, engaged in brushing teeth daily and used dental floss. A total score ranging from 0 - 3 was derived from these items. In the Korean sample, 2% (n = 4) answered “no” to all of these items. An analysis of the three items revealed that 68.7% (n = 136) answered yes to one item, 25.8% (n = 51) answered yes to two items, and 0.5% (n = 1) answered yes to all three items. For the US sample, 2.8% (n = 5) answered no to all items, 22.8% (n = 41) answered yes to one item, 58.9% (n = 106) answered yes to two items, and 15.6% (n = 28) answered yes to all three items. Total scores were correlated with the four styles of humor using Pearson’s correlation coefficient. Total dental score and
humor styles were not correlated in the Korean sample. In the US sample, dental care was positively correlated with self-enhancing humor ($r = 0.18, p = 0.01$).

Sexual behavior. In the Korean sample, 19.2% ($n = 38$) reported they were sexually active. Among these respondents, 29% reported always practicing safe sex, 26% reported practicing safe sex most of the time, 13% reported practicing safe sex half of the time, 19% reported seldom practicing safe sex, and 13% reported never practicing safe sex. In the US sample, 57.2% ($n = 103$) reported being sexually active. Among these respondents, 60% reported practicing safe sex, 23% reported practicing safe sex most of the time, 4% reported practicing safe sex half of the time, 9% reported seldom practicing safe sex, and 4% reported never practicing safe sex. The frequency of practicing safe sex was not correlated with the four styles of humor in either the Korea or US sample.

5) Sleep

Correlation of the average number of hours slept per night with the four different types of humor revealed no significant associations in either sample.

The sleep hygiene score was correlated with the four humor styles using Pearson’s correlation coefficient. In the Korean sample, poor sleep hygiene was negatively correlated with self-enhancing humor ($r = -0.17, p = 0.02$). In contrast, in the US sample, poor sleep hygiene was negatively correlated with self-enhancing humor ($r = -0.20, p = 0.009$), and positively correlated with self-defeating humor ($r = 0.23, p = 0.002$).
6) Physical Activity

Daily energy expenditure METs was associated with self-enhancing humor \( (r = 0.17, p = 0.02) \) in the Korean sample. There were no significant correlations in the US sample.

7) Doctor Visits

The number of doctor visits was divided into preventative and intervention visits, as reported by the participant. Preventative doctor visits included getting medical checkups or receiving routine shots. Intervention doctor visits included seeing a doctor for a physical complaint. In the Korean sample, preventative medical visits were negatively correlated with both self-enhancing \( (r = -0.17, p = 0.02) \) and aggressive \( (r = -0.14, p = 0.05) \) styles of humor. The number of intervention hospital visits was negatively correlated with aggressive style \( (r = -0.24, p = 0.001) \) of humor. There were no significant correlations between medical visits and humor styles in the US sample.

**Hypothesis III.** There will be a cross-cultural difference in the correlation between humor styles and health behaviors in college students in Korea and in the United States.

Two statistical analyses were implemented to compare the association between humor and health behaviors across cultures. Smoking, which was analyzed as a categorical variable, was analyzed in a factorial design, with humor styles and smoking status as between-subject variables. Because the difference between two independent
correlation coefficients does not follow a normal distribution, the correlation coefficient was transformed for all the other variables so that the new sampling statistic followed a normal distribution (Fisher, 1921; Howell, 2002). Each health behavior was investigated, with the exception of marijuana use, illicit drug use, tanning behavior, and use of safety belts when in an automobile. The latter behaviors were excluded due to extremely low frequencies in the Korean sample. The transformed correlation coefficients and test statistic are included in Table 7.12.
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<tr>
<th>Humor Style</th>
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<th>Correlation (Korea)</th>
<th>Correlation (US)</th>
<th>Z statistic</th>
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<td></td>
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</table>

* p<.05

Table 7.12. Transformed correlation coefficients and z statistic for Korea and the US
1) Smoking

A factorial design was implemented with smoking status (3 levels) and cultural group (2 levels) as between-subject variables to investigate the difference of the six groups on the four styles of humor.

For aggressive humor, there was a significant culture by smoking status interaction (p = 0.03). Post-hoc analyses indicated that American never smokers endorsed significantly more aggressive humor than Korean never smokers (p<.001) and Korean current smokers (p = .004), and American current smokers endorsed more aggressive humor than Korean never smokers (p<.001) and Korean current smokers (p<.001).

For self-defeating humor, there was a significant culture by smoking status interaction (p = 0.04). Post hoc analyses revealed that American current smokers endorsed significantly more self-defeating humor than Korean current smokers (p = .02).

Additionally, correlations of humor styles and pack-year for current and past smokers were compared across cultural groups, using the method proposed by Fisher. None of the differences were significant at the 0.05 level.

2) Alcohol use

Correlation of humor styles and amount of alcohol consumed was compared across cultural groups. Results indicated a stronger association between aggressive humor and amount of alcohol consumption for US students than for Korean students.
3) Risky / Preventative Health Behaviors

Only three safety behaviors were investigated – number of medical check-ups, dental hygiene, and sexual health behavior. Correlations between humor styles and preventative health behaviors were not significantly different in the two cultural groups.

4) Sleep

Amount of sleep and sleep hygiene was investigated. Correlation of sleep hygiene and self-defeating humor was significantly larger for individuals in the US than for individuals in Korea.

5) Physical Activity

Correlation of humor styles and physical activity did not differ across the two groups.

6) Doctor Visits

The correlation of number of intervention doctor visits and aggressive humor were significantly different across the two groups but the remaining correlations between styles of humor and doctor visits were not significantly different. Correlations of aggressive humor and remedial medical visits were significantly higher among individuals in the US than among individuals in Korea.
CHAPTER 8

DISCUSSION

This is the first study cross-validating the HSQ in an Asian country, and one of very few psychological studies of humor in Korea. Results indicate that in the Korean sample, the four-factor structure of the HSQ is similar to that conceptualized by Martin et al. (2003). The HSQ resulted in four 8-item scales with good reliabilities (internal consistency coefficients ranged from .61 to .80). Although a clear four-factor structure emerged from the factor analysis, six items failed to load on the expected factors. There are two possible reasons for this. First, several items in the measure may not have translated directly from English to Korean and may not have captured the nuance that the original authors had intended in the US. Second, it is possible that humor may be experienced differently in Korea than in Western cultures. It has been suggested in past research by Kitayama et al. (2000) that general positive emotions in collectivistic cultures such as Japan are closely related to interpersonally engaged positive emotions that are shared with others. This is in contrast to an individualistic culture such as the US where positive emotions are usually generated through interpersonally disengaged emotions and are independent of other people. Five of the six items that failed to load on the appropriate factors were items from the “self-focused” scales (i.e. self-enhancing, self-
defeating) that loaded on the “other-focused” scales. Thus, it is possible that humor that is considered “self-focused” in the US may be more consistent with other-focused humor in Korea. Further studies are needed to investigate whether modifications to the translation of the HSQ or additional factors are needed to explain the aberration from the expected results. This will help clarify whether the structure and function of humor in Korea differs from the US.

Measures of quality of life, mood, personality traits, and perceived health were associated with styles of humor, providing convergent validity for the HSQ in the Korean sample. These associations also revealed several interesting results that may prove to be relevant avenues for further research. Affiliative humor and self-enhancing humor were strongly associated with positive measures of mood / stress (POMS, CESD, STAI-X2, PSS), positive personality traits (self-esteem, optimism, extraversion, internal health locus of control), and greater satisfaction with social support and better self-rated health. Aggressive humor was associated with negative mood (POMS, CESD, Chance health locus of control, Internal health locus of control) and lower levels of satisfaction with social support. Self-defeating humor was associated with negative mood (POMS) and quality of life (perceived stress). Thus, beneficial styles of humor (e.g. affiliative and self-enhancing humor) were more strongly correlated with positive mood, personality traits, and quality of life, whereas detrimental styles of humor (e.g. aggressive and self-defeating humor) were primarily associated with negative measures of mood. Overall, the correlation between the four styles of humor and mood suggests the importance of further exploring causal relationships between humor styles and mood. Specifically, it may be useful to determine whether inducing humor can improve mood and quality of
life for individuals who are suffering from a physical or mental illness, and whether an increase in humor has long-term effects.

Overall, participants in the US had higher humor scores for all four styles of humor. A comparison of responses on other measures of mood, personality traits, and quality of life revealed that Korean students did not consistently score lower on all measures. On the contrary, Korean students scored higher or had significantly different scores compared to the US students on these measures. This suggests that the pattern of higher scores across all four humor styles was not likely to be the result of a response bias. Based on these data, humor of all kinds appears to be utilized more in the US than in Korea. Similarly, data from other Western samples reflect higher scores than the Korean sample. Canada, Lebanon, and Belgium all had higher affiliative and self-enhancing humor styles than the Korean sample. Aggressive and self-defeating styles of humor were more similar across cultural groups. There were minimal gender differences found in humor styles for either culture. Self-enhancing humor was greater for Korean men than Korean women, while US men endorsed more aggressive humor than US women. The tendency for men to show greater use of aggressive humor is consistent with previous studies. One proposed explanation is that use of humor among men may be more directly related to their social status, and using aggressive humor may be seen as an attempt to enhance and assert one’s status relative to others (Kazarian & Martin, 2004).

One of the key findings of this study was that several health behaviors were associated with humor styles. Specifically, beneficial styles of humor were associated with less health-damaging behaviors and more health-promoting behaviors, while the opposite effects were found in detrimental styles of humor. This may help explain the
equivocal relationship between humor and health in past studies, and it suggests two important implications for future research. First, differentiating styles of humor may be important in understanding how humor may be beneficial for health. Further studies investigating causal direction and health outcomes for beneficial and detrimental styles of humor should be conducted. Furthermore, if use of beneficial styles of humor is associated with positive health outcomes, future studies could evaluate the effect of humor on health behaviors. Second, investigating humor styles may be useful in modifying health prevention programs to the degree that health behaviors lead to better health outcomes, as humor may be an important factor influencing health outcomes via improved health behavior.

Cross-culturally, students in the US reported more preventative health behaviors than students in Korea. This is consistent with past cross-cultural studies in Korea that indicate Koreans and Korean Americans have lower rates of practicing preventative health behaviors. Specifically, US students showed more physical activity, better dental care and practice of safe sex, more frequent medical checkups, and higher frequency of seat belt use. However, students in the US also reported more alcohol consumption, more illicit drug use, and poorer sleep hygiene compared to Korean students.

Unfortunately, several of the health behaviors assessed in this study did not appear to be good proxies for a health-promoting lifestyle in the Korean sample. For example, in Korea, women value pale skin because it reflects higher social status (i.e., she is not performing labor in the sun). In contrast, a “tanned” complexion may be viewed more favorably by contemporary women in the US. This might render “tanning” behavior more frequent in the US compared to Korea and therefore not a very good
representation of the link between humor styles and health behaviors. Also, there was a very low frequency of seat belt use for Korean students when compared to US students. This appeared to reflect the fact that most students in Seoul use public transportation rather than driving their own vehicle.

Although beneficial styles of humor were associated with healthier lifestyle behaviors in the US and Korea, it is interesting that health-damaging behaviors such as smoking, alcohol, marijuana use, and hard drug use were mainly correlated with “other” focused humor styles (affiliative humor, aggressive humor) in the US, while these correlations only existed for smoking in Korea. One possible explanation for this is that health-damaging behaviors may serve different functions in Korea than in the US. For example, alcohol use or illicit drug use may serve as a facilitator and medium for enhancing interpersonal group cohesiveness in the US. On the other hand, behaviors such as smoking or alcohol use may be ancillary (i.e. less central) to enhancing social cohesiveness in a collectivistic culture such as Korea. This is partially supported by the higher magnitude of correlations between humor styles and health behaviors in the US, especially a stronger association between alcohol use and aggressive humor. Thus, it is possible that alcohol may serve a more central role in interpersonal relationships among college students in the US. Further evaluations of correlates of health-damaging behaviors across cultures may indicate targets of intervention for modifying health behaviors. When health-damaging behaviors serve different purposes across cultural groups, treatment strategies should be modified accordingly.

The relatively low prevalence of smoking in the Korean sample was surprising. Past studies have reported that Korean men are more likely to smoke than Korean-
American immigrants or individuals living in the US. However, this study indicated no
difference in the amount of smoking between US and Korea college students. There may
be two possible explanations for this. First, studies show that Korean American women
smoke three times more than Korean women living in Seoul (Song et al., 2004).
Therefore, it is possible that smoking is much more acceptable for women in the US,
whereas until recently it was illegal for women in Korea to smoke outdoors. This
explanation is supported by the gender difference found in smoking prevalence in the
Korean sample but not in the US sample. A second explanation may be that the majority
of men in the Korean sample were freshman in college. In Korea, many men start
smoking while they are serving two years of mandatory military service. Usually, men
get drafted at age 19 to 21, and the military provides cigarettes for the soldiers. Because
most men in the Korean sample had not yet served in the army, it is possible that the
smoking behavior was unusually low in the Korean sample.

This study is limited by the use of participants who were primarily young, healthy
college students, preventing generalization of results to the Korean population for use of
the HSQ, and making it difficult to determine whether the association between humor
styles and health behaviors is reflected in other age groups. One future direction of study
may be extending the investigation of humor and health behaviors to a clinical population
and comparing to the general population to investigate if there is a difference in use of
humor styles.

A second limitation is that it could not be concluded whether the six items on the
HSQ that loaded on unexpected factors did so because of lack of precision in translation
or because humor was structured differently in Korea than in Western cultures.
Modifications of the translation followed by administration of the HSQ to additional Korean samples may be helpful in addressing this question.

Another limitation was the correlational nature of this study, which prevented whether engaging in a more beneficial humor style leads to better health outcomes, or engaging in a more detrimental humor style leads to negative health outcomes. Experimental studies would help disentangle the direction of causality between humor and health. In addition, because validity of self-report measures such as the HSQ may be compromised by social desirability among respondents, additional humor measurement approaches should be considered, such as temperament-based measures of humor appreciation and physiological measures of mood. Future studies could include interviews of friends or family members of participants as well as objective measures of physical health to minimize the influence of social desirability on health measures.

In summary, this study adds to the cross-cultural validity of the HSQ by demonstrating that the four humor styles found in Western cultures also exists among Korean college students. These results provide additional evidence that humor should be viewed as a multidimensional construct in future studies, which may help clarify some of the inconsistent findings between humor and health. Additionally, beneficial and detrimental styles of humor were associated with the practice or absence of various health behaviors, suggesting that style of humor may play an important role in the realm of health behaviors. Future studies should focus on evaluating causal links between humor and health behaviors. The higher prevalence of practicing preventative health behaviors among US students in contrast to students in Korea may suggest the need for better understanding of practicing health behaviors among ethnic minorities living in the US. In
addition, identifying cultural factors that impede the practice of health behaviors should be a focus of research in the future.
BIBLIOGRAPHY


Ransom-Flint, T. M., H. (personal communication). Health Behaviors Inventory. Department of Psychology. Columbus, OH, Ohio State University.


APPENDIX A

QUESTIONNAIRES USED IN THE U.S.
Demographic Information

Date of Birth: _____ / _____ / ______ (dd/mm/yyyy)

Please circle one numbered response for each of the questions below.

1. What is your gender?  
   a. Male   
   b. Female

2. With what ethnic group do you primarily identify?  
   a. White  
   b. Black  
   c. Hispanic  
   d. Asian  
   e. American Indian  
   f. Other (Please list) ______________________

3. Have you ever lived in a non-English speaking foreign country?  
   a. Yes  
   b. No  
   If so, specify the number of years you have lived outside of the US? _______ years

4. What is your marital status?  
   a. Single, never married  
   b. Married  
   c. Divorced / Separated  
   d. Widowed

5. What are your living arrangements?  
   a. Living alone  
   b. Living with spouse or “significant other”  
   c. Living with children  
   d. Living with children and spouse or “significant other”  
   e. Living with parents  
   f. Living with friend(s)

6. What is your current height? _________

7. What is your current weight? _________
The MOS 36-ITEM SHORT-FORM HEALTH SURVEY (SF-36)

INSTRUCTIONS: This survey asks for your views about health. This information will help keep track of how you feel and how well you are able to do your usual activities. Answer every question by marking the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

(Circle One)

Excellent.................................................................1
Very Good...............................................................2
Good.................................................................3
Fair........................................................................4
Poor.................................................................5

2. Compared to one year ago, how would you rate your health in general now?

(Circle One)

Excellent.................................................................1
Very Good...............................................................2
Good.................................................................3
Fair........................................................................4
Poor.................................................................5
Directions: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate answer to the right of the statement to indicate how you GENERALLY feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel pleasant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I tire quickly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I feel like crying</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I wish I could be as happy as others seem to be</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I am losing out on things because I can’t make up my mind soon enough</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I feel rested</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I am “calm, cool, and collected”</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I feel that difficulties are piling up so that I cannot overcome them</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I worry too much over something that really doesn’t matter</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. I am happy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I am inclined to take things hard</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. I lack self-confidence</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. I feel secure</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. I try to avoid facing a crisis or difficulty</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. I feel blue</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. I am content</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. Some unimportant thought runs through my mind and bothers me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. I take disappointments so keenly that I can’t put them out of my mind</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. I am a steady person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. I get in a state of tension or turmoil as I think over my recent concerns and interests</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
POMS

Below is a list of words that describe feelings people have. Please read each one carefully. Then fill in ONE circle under the answer to the right which best describes HOW YOU HAVE BEEN FEELING DURING THE PAST WEEK INCLUDING TODAY.

The numbers refer to these phrases.
① = Not at all
② = A little
③ = Quite a bit
④ = Extremely

7. Sad ①②③④  18. Muddled ①②③④  29. Forgetful ①②③④
9. Grouchy ①②③④  20. Anxious ①②③④
11. Unworthy ①②③④  22. Sluggish ①②③④

*MAKE SURE YOU HAVE ANSWERED EVERY ITEM.*
INSTRUCTIONS: Please answer each question by putting a circle around the “YES” or the “NO” following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the questions.

PLEASE REMEMBER TO ANSWER EACH QUESTION

1. Are you a talkative person? ...................................................... YES NO
2. Are you rather lively? .............................................................. YES NO
3. Do you enjoy meeting new people? ......................................... YES NO
4. Can you usually enjoy a lively party? ...................................... YES NO
5. Do you usually take initiative in meeting new friends? .............. YES NO
6. Can you easily put some life into a dull party? ......................... YES NO
7. Do you like mixing with people? ............................................. YES NO
8. Can you get a party going? ..................................................... YES NO
9. Do other people think of you as being very lively? .................... YES NO
10. Do you like plenty of bustle and excitement around you? .......... YES NO
11. Do you tend to keep in the background on social occasions? ....... YES NO
12. Are you mostly quiet when you are with other people? ............ YES NO
For each of the following statements, write the appropriate answer to the right of the statement to indicate how you GENERALLY feel. There are no right or wrong answers.

**Please answer every question.**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally Disagree</td>
<td>Moderately Disagree</td>
<td>Slightly Disagree</td>
<td>Neutral</td>
<td>Slightly Agree</td>
<td>Moderately Agree</td>
<td>Totally Agree</td>
<td></td>
</tr>
</tbody>
</table>

1. I usually don’t laugh or joke around with other people.  
2. If I am feeling depressed, I can usually cheer myself up with humor.  
3. If someone makes a mistake, I will often tease them about it.  
4. I let people laugh at me or make fun at my expense more than I should.  
5. I don’t have to work very hard at making other people laugh – I seem to be a naturally humorous person.  
6. Even when I’m by myself, I’m often amused by the absurdities of life.  
7. People are never offended or hurt by my sense of humor.  
8. I will often get carried away in putting myself down if it makes my family or friends laugh.  
9. I rarely make other people laugh by telling funny stories about myself.  
10. If I am feeling upset or unhappy I usually try to think of something funny about the situation to make me feel better.  
11. When telling jokes or saying funny things, I am usually not very concerned about how other people are taking it.  
12. I often try to make people like or accept me more by saying something funny about my own weaknesses, blunders, or faults.  
13. I laugh and joke a lot with my closest friends.  
14. My humorous outlook on life keeps me from getting overly upset or depressed about things.  
15. I do not like it when people use humor as a way of criticizing or putting someone down.  
16. I don’t often say funny things to put myself down.  
17. I usually don’t like to tell jokes or amuse people.  
18. If I’m by myself and I’m feeling unhappy, I make an effort to think of something funny to cheer me up.  
19. Sometimes I think of something that is so funny that I can’t stop myself from saying it, even if it is not appropriate for the situation.  
20. I often go overboard in putting myself down when I am making jokes or trying to be funny.  
21. I enjoy making people laugh.
22. If I am feeling sad or upset, I usually lose my sense of humor.

23. I never participate in laughing at others even if all my friends are doing it.

24. When I am with friends or family, I often seem to be the one that other people make fun of or joke about.

25. I don't often joke around with my friends.

26. It is my experience that thinking about some amusing aspect of a situation is often a very effective way of coping with problems.

27. If I don't like someone, I often use humor or teasing to put them down.

28. If I am having problems or feeling unhappy, I often cover it up by joking around, so that even my closest friends don't know how I really feel.

29. I usually can't think of witty things to say when I'm with other people.

30. I don't need to be with other people to feel amused — I can usually find things to laugh about even when I'm by myself.

31. Even if something is really funny to me, I will not laugh or joke about it if someone will be offended.

32. Letting others laugh at me is my way of keeping my friends and family in good spirits.
7-Day Recall

**Moderate Activities**
*Occupational Tasks:* Delivering mail or patrolling on foot, House painting, Truck driving, making deliveries, lifting and carrying light objects  
*Household Activities:* Raking the lawn, sweeping and mopping, mowing the lawn with a power mower, cleaning windows  
*Sports activities (actual playing time):* Volleyball, Ping Pong, Brisk walking for pleasure or to work (3mph or 20 min/mile), Golf (Walking and pulling or carrying clubs), Calisthenic exercises

**Hard Activities**
*Occupational Tasks:* Heavy carpentry, construction work, doing physical labor  
*Household Tasks:* Scrubbing floors  
*Sports activities (actual playing time):* Doubles tennis, Disco, Square, or Folk Dancing

**Very Hard Activities**
*Occupational Tasks:* Very hard physical labor (digging or chopping with heavy tools), carrying heavy loads, such as bricks or lumber  
*Sports activities (actual playing time):* jogging or swimming, singles tennis, racquetball, soccer

1. **On the average,** how many hours did you sleep each night during the last 5 weekday nights (Sunday – Thursday)? 
   
2. **On the average,** how many hours did you sleep each night last Friday and Saturday nights? 
   
3. How many **total** hours did you spend during the last five weekdays doing moderate activities or others like them as listed above? 
   
4. Last Saturday and Sunday, how many hours did you spend on moderate activities? 
   
5. How many **total** hours did you spend during the last 5 weekdays doing hard activities or others like them as listed above? 
   
6. Last Saturday and Sunday, how many hours did you spend on hard activities? 
   
7. What activities did you do and how many **total** hours did you spend during the last 5 weekdays doing very hard activities or others like them? 
   
8. Last Saturday and Sunday, how many hours did you spend on very hard activities?
HBI-1

1. Do you smoke cigarettes now?  
   1... Yes (Continue)  2... No (Skip to #6)

2. On the average, how many cigarettes do you smoke a day?
   1... Less than a pack a week  2... ½ a pack a day or less
   3... 1 pack a day  4... 1 ½ pack a day
   5... 2 packs a day  6... 2 ½ packs a day
   7... 3 or more packs a day

3. How many years have you smoked this amount? ________ years

4. How strongly do you desire to quit smoking now? (Circle one number)
   1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7
   Not at all  Very, very much

5. How likely is it that you will actually quit if you make a serious attempt? (circle one number)
   1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7
   Not at all  Very, very much

6. Have you ever used cigarettes on a regular basis? (If you checked “Yes” on question 1, check “No” and skip to question 10)
   1... Yes (continue)  2... No (skip to #10)

7. Prior to quitting, on the average, how many cigarettes did you smoke a day?
   1... Less than a pack a week  2... ½ a pack a day or less
   3... 1 pack a day  4... 1 ½ pack a day
   5... 2 packs a day  6... 2 ½ packs a day
   7... 3 or more packs a day

8. How many years did you smoke? ____________ years

9. How long has it been since you quit smoking? ____________ years

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10. Do you ever drink alcohol?  

1... YES  2... NO

11. On average, how many cans / bottles of beer per day?

0... I never drink beer  1... 1 or less cans / bottles a day
2... 2 - 3 cans / bottles a day  3... 4 - 5 cans / bottles a day
4... 6 or more cans / bottles a day

12. On average, how much wine per day?

0... I never drink wine  1... 1 glass or less a day
2... 2 - 3 glasses a day  3... 4 - 5 glasses a day
4... 6 or more glasses a day

13. On average, how many mixed drinks per day?

0... I never drink hard liquor  1... 1 or less mixed drinks a day
2... 2 - 3 mixed drinks a day  3... 4 - 5 mixed drinks a day
4... 6 or more mixed drinks a day

14. Do you use smokeless tobacco such as chewing tobacco, snuff, etc.?

0... No, I have never used smokeless tobacco
1... No, I used to, but I don’t know
2... Yes, less than one can / pouch per week
3... Yes, more than one can / pouch per week

15. Do you smoke marijuana?

1... Yes, I smoke marijuana daily
2... Yes, I smoke marijuana weekly
3... Yes, I smoke marijuana 1 – 2 times per month
4... Yes, I smoke marijuana 3 – 4 times per year
5... Yes, I have smoked marijuana, but not now
0... No, I have never tried marijuana

16. Do you use other illicit drugs? (e.g., cocaine, heroin…)

1... Yes, I use these drugs daily
2... Yes, I use these drugs weekly
3... Yes, I use these drugs monthly
4... Yes, I use these drugs 3 – 4 times per year
5... Yes, I have used these drugs in the past, but do not use them now
0... No, I have never tried hard drugs
HBI-2

1. Do you avoid direct and prolonged exposure to the sun?
   1...ALWAYS (100% of the time)  2... OFTEN (75%)
   3... OCCASIONALLY (50%)  4...Seldom (25%)  5... NEVER (0%)

2. Do you use tanning beds?  1... YES  2... NO

3. If you answered “YES” to Question #2, how often do you use tanning beds?
   If you answered “NO” to Question #2, circle response “6 – Does not apply”.
   1... DAILY  2... WEEKLY  3... MONTHLY
   4... 4-6 TIMES PER YEAR  5... 1-3 TIMES PER YEAR  6... DOES NOT APPLY

4. When driving an automobile, do you wear a safety belt?
   1...ALWAYS (100% of the time)  2... OFTEN (75%)
   3... OCCASIONALLY (50%)  4...Seldom (25%)  5... NEVER (0%)

5. When riding as a passenger in an automobile, do you wear a safety belt?
   1...ALWAYS (100% of the time)  2... OFTEN (75%)
   3... OCCASIONALLY (50%)  4...Seldom (25%)  5... NEVER (0%)

6. Do you have medical checkups?  1... YES  2... NO

7. If you answered “YES” to question #7, indicate below how often you have medical checkups:  If you answered “NO” to question #7, skip to question #8.
   1... More than once a year  2... Once a year
   3... Every two years  4... Less than every two years

8. Do you have regular eye examinations?  1... YES  2... NO

9. Do you have semi-annual (i.e., 2 times per year) dental exams and cleaning?
   1... YES  2... NO

10. Do you brush your teeth at least 2 times per day?  1... YES  2... NO

11. Do you use dental floss daily?  1... YES  2... NO
12. **Females only:** Do you practice monthly breast self-examinations?

1...ALWAYS (100% of the time)  2... OFTEN (75%)
3... OCCASIONALLY (50%)  4... Seldom (25%)  5... NEVER (0%)

13. **Females only:** How often do you have a PAP test?

1... More than once a year  2... Once a year
3... Every two years  4... Less than every two years

14. **Males only:** Do you practice testicular self-exams?

1...ALWAYS (100% of the time)  2... OFTEN (75%)
3... OCCASIONALLY (50%)  4... Seldom (25%)  5... NEVER (0%)

15. Are you sexually active?  1... YES  2... NO

16. If you answered “YES” to question #16, do you practice safe sex?
If you answered “NO” to question #16, circle response “6—DOES NOT APPLY”

1...ALWAYS (100% of the time)  2... OFTEN (75%)
3... OCCASIONALLY (50%)  4... Seldom (25%)  5... NEVER (0%)
6... DOES NOT APPLY

**HBI-3**

1. On average, how many hours of sleep do you get per night? _____________
2. Do you typically feel rested upon waking in the morning?
   1...YES  2... NO

3. How often do you have trouble falling asleep?

   1... Less than once a week  2... Once a week
   3... 2 – 3 times a week  4... 4 – 5 times a week
   5... 6 – 7 times a week

4. How often do you have problems waking up during the night or before it is time for you to get up for the day?

   1... Less than once a week  2... Once a week
   3... 2 – 3 times a week  4... 4 – 5 times a week
   5... 6 – 7 times a week
5. How often do you take naps during the day or in the evening before it is time to go to bed?

1... Less than once a week
2... Once a week
3... 2 – 3 times a week
4... 4 – 5 times a week
5... 6 – 7 times a week

6. How often do you take medication – either prescription drugs or over-the-counter drugs – to help you get to sleep or stay asleep?

0... Never
1... Less than once a week
2... Once a week
3... 2 – 3 times a week
4... 4 – 5 times a week
5... 6 – 7 times a week

HBI-4

1. Not counting any care you may have received while you were an inpatient in a hospital, how many times altogether did you go to a doctor or other health professional in the past four months?

________________________ total visits (if 0, skip to question #2)

PLEASE GIVE REASON FOR EACH VISIT IN THE PAST FOUR MONTHS AND CHECK EITHER CHECKUP / PREVENTATIVE (e.g., routine physical, flu shot) OR PHYSICAL COMPLAINT.

<table>
<thead>
<tr>
<th>REASON FOR VISIT</th>
<th>ROUTINE CHECKUP / PREVENTATIVE</th>
<th>PHYSICAL COMPLAINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit #1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit #2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit #3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit #4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit #5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. How many times in the last 4 months did you stay overnight in a hospital?
_______________ admissions (if 0, go on to next page)

3. Altogether how many nights did you stay in the hospital during the past 4 months?
_______________ nights

4. What was the primary problem for which you were admitted to the hospital?

   Admission #1: __________________________________________
   Admission #2: __________________________________________
   Admission #3: __________________________________________
**CES-D**

Circle the number for each statement which best describes how often you felt or behaved this way — DURING THE PAST WEEK.

<table>
<thead>
<tr>
<th>DURING THE PAST WEEK:</th>
<th>Rarely or none of the time (less than 1 day)</th>
<th>Some or a little of the time (1 – 2 days)</th>
<th>Occasionally or a moderate amount of time (3 – 4 days)</th>
<th>Most of or all of the time (5 – 7 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I was bothered by things that usually don’t bother me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. I did not feel like eating; my appetite was poor.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. I felt that I could not shake off the blues even with help from my family or friends.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. I felt that I was just as good as other people.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. I had trouble keeping my mind on what I was doing.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. I felt depressed.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. I felt that everything I did was an effort.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. I felt hopeful about the future.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. I thought my life had been a failure.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. I felt fearful.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. My sleep was restless.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. I was happy.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. I talked less than usual.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. I felt lonely.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. People were unfriendly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. I enjoyed life.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. I had crying spells.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. I felt sad.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. I felt that people disliked me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. I could not get “going”.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
### RSES

**Instructions:** Indicate your degree of agreement or disagreement with each statement by placing a check on the appropriate line.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel that I am a person of worth at least on an equal plane with others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I feel that I have a number of good qualities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. All in all, I am inclined to feel that I am a failure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I am able to do things as well as most people</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I feel I do not have much to be proud of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I take a positive attitude toward myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. On the whole, I am satisfied with myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I wish I could have more respect for myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I certainly feel useless at times</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. At times I think I am no good at all.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**LOT-R**

**Instructions:**
Please answer the following questions about yourself by indicating the extent of your agreement with each statement. Be as honest as you can throughout, and try not to let your responses to one question influence your response to other questions. There are no right or wrong answers.

<table>
<thead>
<tr>
<th>Circle the appropriate number</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In uncertain times, I usually expect the best.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. It’s easy for me to relax.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. If something can go wrong for me it will.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I’m always optimistic about my future.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I enjoy my friends a lot.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. It’s important for me to keep busy.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I hardly ever expect things to go my way.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I don’t get upset too easily.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I rarely count on good things happening to me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. Overall, I expect more good things to happen to me than bad.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
INSTRUCTIONS:

The following questions ask about people in your environment who provide you with help or support. Each question has two parts. For the first part, list all the people you know, including yourself, whom you can count on for help or support in the manner described. Give the person’s initials and their relationship to you (see example). Do not list more than one person next to each of the letters beneath the question. For the second part, circle how satisfied you are with the overall support you have. If you have no support for a question, check the words “No one,” but still rate your level of satisfaction. Do not list more than nine persons per question. Please answer all questions as best you can. All your responses will be kept confidential.

EXAMPLE:

Who do you know whom you can trust with information that could get you in trouble?

<table>
<thead>
<tr>
<th>No one</th>
<th>1) T.N. (brother)</th>
<th>4) T. N. (father)</th>
<th>7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2) L.M (friend)</td>
<td>5) L. M. (employer)</td>
<td>8)</td>
</tr>
<tr>
<td></td>
<td>3) R.S. (friend)</td>
<td>6)</td>
<td>9)</td>
</tr>
</tbody>
</table>

How satisfied?

- 6 – very satisfied
- 5 – fairly satisfied
- 4 – a little satisfied
- 3 – a little dissatisfied
- 2 – fairly dissatisfied
- 1 – very dissatisfied

1. Whom can you really count on to distract you from your worries when you feel under stress?

<table>
<thead>
<tr>
<th>No one</th>
<th>1)</th>
<th>4)</th>
<th>7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2)</td>
<td>5)</td>
<td>8)</td>
</tr>
<tr>
<td></td>
<td>3)</td>
<td>6)</td>
<td>9)</td>
</tr>
</tbody>
</table>

How satisfied?

- 6 – very satisfied
- 5 – fairly satisfied
- 4 – a little satisfied
- 3 – a little dissatisfied
- 2 – fairly dissatisfied
- 1 – very dissatisfied

2. Whom can you really count on to help you feel more relaxed when you are under pressure or are tense?

<table>
<thead>
<tr>
<th>No one</th>
<th>1)</th>
<th>4)</th>
<th>7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2)</td>
<td>5)</td>
<td>8)</td>
</tr>
<tr>
<td></td>
<td>3)</td>
<td>6)</td>
<td>9)</td>
</tr>
</tbody>
</table>

How satisfied?

- 6 – very satisfied
- 5 – fairly satisfied
- 4 – a little satisfied
- 3 – a little dissatisfied
- 2 – fairly dissatisfied
- 1 – very dissatisfied
### 3. Who accepts you, including both your worst and best points?

<table>
<thead>
<tr>
<th>No one</th>
<th>1)</th>
<th>4)</th>
<th>7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2)</td>
<td>5)</td>
<td>8)</td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td>6)</td>
<td>9)</td>
<td></td>
</tr>
</tbody>
</table>

*How satisfied?*

| 6 – very satisfied | 5 – fairly satisfied | 4 – a little satisfied | 3 – a little dissatisfied | 2 – fairly dissatisfied | 1 – very dissatisfied |

### 4. Whom can you really count on to care about you, regardless of what is happening to you?

<table>
<thead>
<tr>
<th>No one</th>
<th>1)</th>
<th>4)</th>
<th>7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2)</td>
<td>5)</td>
<td>8)</td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td>6)</td>
<td>9)</td>
<td></td>
</tr>
</tbody>
</table>

*How satisfied?*

| 6 – very satisfied | 5 – fairly satisfied | 4 – a little satisfied | 3 – a little dissatisfied | 2 – fairly dissatisfied | 1 – very dissatisfied |

### 5. Whom can you really count on to help you feel better when you are feeling generally down-in-the-dumps?

<table>
<thead>
<tr>
<th>No one</th>
<th>1)</th>
<th>4)</th>
<th>7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2)</td>
<td>5)</td>
<td>8)</td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td>6)</td>
<td>9)</td>
<td></td>
</tr>
</tbody>
</table>

*How satisfied?*

| 6 – very satisfied | 5 – fairly satisfied | 4 – a little satisfied | 3 – a little dissatisfied | 2 – fairly dissatisfied | 1 – very dissatisfied |

### 6. Whom can you count on to console you when you are very upset?

<table>
<thead>
<tr>
<th>No one</th>
<th>1)</th>
<th>4)</th>
<th>7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2)</td>
<td>5)</td>
<td>8)</td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td>6)</td>
<td>9)</td>
<td></td>
</tr>
</tbody>
</table>

*How satisfied?*

| 6 – very satisfied | 5 – fairly satisfied | 4 – a little satisfied | 3 – a little dissatisfied | 2 – fairly dissatisfied | 1 – very dissatisfied |

94
PSS-10

The questions in this scale ask you about your feelings and thoughts during the past week. In each case, please indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don’t try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

**Circle the appropriate number.**

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Fairly Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the last week, how often have you been upset because of something that happened unexpectedly?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. In the last week, how often have you felt that you were unable to control the important things in your life?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. In the last week, how often have you felt stressed?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. In the last week, how often have you felt confident about your ability to handle your personal problems?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. In the last week, how often have you felt that things were going your way?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. In the last week, how often have you found that you could not cope with all the things that you had to do?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. In the last week, how often have you been able to control irritation in your life?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. In the last week, how often have you felt that you were on top of things?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. In the last week, how often have you been angered because of things that happened that were outside of your control?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. In the last week, how often have you felt difficulties were piling up so high that you could not overcome them?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
MHLC

READ EACH STATEMENT CAREFULLY. INDICATE HOW YOU FEEL ABOUT EACH STATEMENT BY ENTERING THE APPROPRIATE NUMBER BELOW.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

1. If I get sick, it is my own behavior which determines how soon I get well again.
2. No matter what I do, if I am going to get sick, I will get sick.
3. Having regular contact with my physician is the best way for me to avoid illness.
4. Most things that affect my health happen to me by accident.
5. Whenever I don’t feel well, I should consult a medically trained professional.
6. I am in control of my health.
7. My family has a lot to do with my becoming sick or staying healthy.
8. When I get sick I am to blame.
9. Luck plays a big part in determining how soon I will recover from an illness.
10. Health professionals control my health.
11. My good health is largely a matter of good fortune.
12. The main thing which affects my health is what I myself do.
13. If I take care of myself, I can avoid illness.
14. When I recover from an illness, it’s usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.
15. No matter what I do, I’m likely to get sick.
16. If it’s meant to be, I will stay healthy.
17. If I take the right actions, I can stay healthy.
18. Regarding my health, I can only do what my doctor tells me to.
APPENDIX B

QUESTIONNAIRES USED IN KOREA
연구 참여 동의서 - 오하이오 주립대 (OSU)

프로토콜 제목: 미국과 한국 학생의 유머 스타일과 건강 행동방식의 관계에 대한 비교 연구

프로토콜 번호: 2005B0290

연구자: Dr. Charles F. Emery

나는 오하이오 주립대의 심폐 행동의학 연구소 (Cardiopulmonary Behavioral Medicine Library)에서 하는 실험이나 참가자를 동의합니다.

연구자들은 실험의 목적, 연구 절차, 그리고 소요되는 시간에 대해 설명을 했습니다. 나는 실험에 참여함으로 않을 수 있는 이익과 위험요소에 대해 이해합니다.

실험 참가자 동의하게되면, 나는 내가 원한다면 아무런 법칙 없이 내가 원하는 시점에서 실험이 중단할 수 있다는 것을 이해합니다.

나는 실험이나 관리 질문이 있으면 질문의 답변을 받을 수 있습니다. 나는 콜럼버스에 있는 오하이오 주립대에 614-688-3895 로 전화를 하거나 한국에 있는 서류 상부 교수님을 041-860-1254 로 전화할 수 있습니다.

이 실험이나 참여자로서의 권리나 실험이나 관련 질문 혹은 허의가 있다면 나는 이 연구와 관련이 없는 사람에게 질문을 할 수 있습니다. 나는 윤리위원회 (Office of Responsible Research Practices)에 있는 Ms. Sandra Meadows 를 1-800-678-6251 에 연락을 할 수 있습니다.

참여자

나는 이 서류를 읽었거나 다른 사람이 나에게 읽어주었으며 나는 실험이나 참여에 요청받고 있다는 것을 알고 있습니다. 나는 질문을 할 기회가 있습니다. 나는 나의 자의로 실험이나 참여하기를 동의합니다.
 나는 이 서류에 서명함으로서 나의 법적 권리를 포기하지 않습니다. 나는 이 서류의 복사본을 받을 것입니다.

<table>
<thead>
<tr>
<th>참여자 이름</th>
<th>참여자 서명</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>am / pm</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>참여자 책임자</th>
<th>참여자 책임자 서명</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>날짜</td>
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</table>

<table>
<thead>
<tr>
<th>참여자와의 관계</th>
</tr>
</thead>
<tbody>
<tr>
<td>날짜</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>연구자 / 연구팀</th>
</tr>
</thead>
<tbody>
<tr>
<td>나는 참여자 혹은 참여자 책임자에게 이 연구에 관해 서명을 받기 전에 서명을 했습니다. 이 서류에는 빈칸이 없습니다. 서명한 복사본은 참여자 혹은 참여자 책임자에게 주어졌습니다.</td>
</tr>
<tr>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>연구자 이름</th>
<th>연구자 서명</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>am / pm</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>연구자 이름</th>
<th>연구자 서명</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>am / pm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>중인 - 윤리위원회에서 지시하지 않으면 빈칸으로 남겨도 상관 없습니다.</th>
</tr>
</thead>
<tbody>
<tr>
<td>중인 이름</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>중인 서명</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>날짜</th>
</tr>
</thead>
</table>

99
인적사항, SF-36

생년월일: ________/______/______(년/월/일)

당신의 일반적 사항에 관한 질문입니다.

1. 성별?
   a. 남자  b. 여자

2. 해외 거주 경험이 있습니까?
   a. 있다  b. 없다
   만약 있다면 몇 년간 거주하셨습니까? ______ 년

3. 결혼은?
   a. 미혼  b. 기혼  c. 이혼  d. 사별

4. 현재 누구와 살고 계십니까?
   a. 혼자  b. 배우자 또는 이성친구
   c. 아이들  d. 아이들, 그리고 배우자 또는 이성친구
   e. 부모님  f. 친구(들)

5. 현재 키? __________ cm

6. 현재 몸무게? __________ kg

7. 일반적으로 나의 건강은?
   (답에 O 표 하세요)
   매우 좋다.................................................................1
   좋다.........................................................................2
   괜찮다.....................................................................3
   그저 그렇다.............................................................4
   매우 나쁘다............................................................5

8. 일년전과 비교하였을 때 일반적으로 당신의 건강을 어떻게 평가하시겠습니까?
   (답에 O 표 하세요)
   일년전보다 훨씬 낫다.................................................1
   일년전보다 다소 낫다...............................................2
   일년전과 똑같다....................................................3
   일년전보다 다소 나쁘다..........................................4
   일년전보다 훨씬 나쁘다.........................................5
## STAI-T

아래 문장은 사람들이 자신을 표현할 때 사용하는 말입니다. 각 문장을 읽고 각 문장 오른편에 있는 빈 개의 항목 중 당신이 일상생활에서 느끼고 있는 바를 가장 잘 나타내 주고 있다는 생각되는 번호를 하나 골라 O 표 해주십시오. 어느 한 문장에 너무 오래 머무르지 말고, 당신이 일반적으로 느끼고 있는 상태를 즉각적으로 틀어오르는 인상에 따라 표기해 주십시오.

<table>
<thead>
<tr>
<th>번호</th>
<th>문장</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>나는 기본이 좋다.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>3</td>
<td>나는 울고 싶은 심정이다.</td>
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<td>4</td>
<td>나는 다른 사람들처럼 행복했으면 한다.</td>
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<td>5</td>
<td>나는 마음을 빨리 정하지 못해서 일을 망친다.</td>
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<td>6</td>
<td>나는 마음이 놓인다.</td>
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<td>7</td>
<td>나는 차분하고 침착하다.</td>
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<td>8</td>
<td>나는 너무 많은 어려운 문제가 밀어 덤벼서 극복할 수 없을 것입니다.</td>
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<td>9</td>
<td>나는 하찮은 일에 너무 걱정을 많이 한다.</td>
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<td>11</td>
<td>나는 무언 일이건 힘들게 생각한다.</td>
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<td>나는 자신감이 부족하다.</td>
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<td>13</td>
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<td>나는 원망이나 어려움을 피하려고 애쓴다.</td>
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<td>16</td>
<td>나는 만족스럽다.</td>
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<td>17</td>
<td>사소한 생각이 나를 피롭힌다.</td>
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<td>나는 실패를 지나치게 예민하게 받아들이기 때문에 머리 속에서 지워버릴 수가 없다.</td>
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<td>나는 철저한 사람이다.</td>
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<td>20</td>
<td>나는 요즘을 걱정거리나 관심거리로 생각만하면 긴장되거나 어저할 바를 모른다.</td>
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POMS

아래에 열거된 항목들은 당신의 기분을 나타내는 단어들입니다. 각 항목을 읽고 
현재 당신의 기분을 가장 잘 표현하는 날에 아래와 같이 응답하여 주십시오.

<table>
<thead>
<tr>
<th>번호</th>
<th>항목</th>
<th>전혀</th>
<th>약간</th>
<th>보통</th>
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<th>아주많이</th>
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당신은 말이 많은 편입니까?

예 아니오

당신은 활기가 넘치니까?

예 아니오

당신은 새로 사람을 만나는 것이 즐겁습니까?

예 아니오

당신은 평소에 즐겨온 파티에 가면 즐길 수 있습니까?

예 아니오

당신은 새로 친구를 사귈 때 보통 주로 원을 갖고 있습니까?

예 아니오

당신은 지루한 파티에 쉽게 활기를 불어넣을 수 있습니까?

예 아니오

당신은 사람들과 사귀는 것을 좋아합니까?

예 아니오

당신은 모임을 이끌어 나갈 수 있습니까?

예 아니오

다른 사람들이 당신처럼 생기가 넘친다고 합니다?

예 아니오

당신은 소란스럽고 떠들썩한 것을 좋아합니까?

예 아니오

당신은 사교장소에서도 못자리만 차지하는 편입니까?

예 아니오

당신은 다른 사람들과 함께 있을 때 주로 말이 없는 편입니까?

예 아니오
HSD

아래 문항에 대해 당신이 일반적으로 어떻게 느끼는지 1~7 중 한 숫자를 오른쪽에 표기해 주세요. 옵고 그른 답은 없습니다. 모든 문항에 답해 주시기 바랍니다.

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<td>보통</td>
<td>약간</td>
<td>많이</td>
<td>아주 많이</td>
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<td>안그렇다</td>
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<td>그렇다</td>
<td>그렇다</td>
<td>그렇다</td>
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</tr>
</tbody>
</table>

1. 나는 보통 잘 웃지도 않고 다른 사람과 놀다도 하지 않는다.
2. 나는 우울할 때 대체적으로 유머를 통해 기본적으론 할 수 있다.
3. 나는 누가 실수를 하면 그 사람을 웃 늘리는 편이다.
4. 나는 과하게 싫을 정도로 사람들이 나를 놀리는 것을 허용한다.
5. 나는 풍부한 유머감각을 타고나서 특별히 노력하지 않아도 주변 사람들이 웃음에 터뜨린다.
6. 혼자 있을 때 조차도 잔소리의 소스이 나를 즐겁게 한다.
7. 사람들등 나의 유머 감각 때문에 봉쇄하하거나 감정이 상한 적이 없다.
8. 나는 내 가족과 친구들을 웃길 수 있다면 스스로 과하다 싶을 정도로 내 자신을 갖게 내린다.
9. 내 자신에 대한 우스운 이야기를 통해 나는 다른 사람들들을 웃긴 적이 거의 없다.
10. 나는 속상하거나 불행하다고 느끼면 내가 처한 상황의 유머리스한 면을 생각해서 내 자신을 위로한다.
11. 나는 농담을 하거나 우스운 이야기를 할 때 다른 사람들의 입장을 주로 고려하지 않는 편이다.
12. 다른 사람들이 나에게 더 호감을 갖게 하기 위해 나는 자주 내 자신의 약점, 실수, 혹은 단점에 대해 농담을 한다.
13. 나는 가장 친한 내 친구들과 자주 웃고 농담을 한다.
14. 유머가 풍부한 나의 인생관은 내가 지나치게 속상해하거나 우울해지는 것을 방지해준다.
15. 나는 다른 사람들이 유머를 통해 누군가 비난하거나 깔보는 것을 싫어한다.
16. 나는 내 자신을 낳추는 농담은 자주 하지 않는다.
17. 나는 농담을 하거나 다른 사람들을 웃기는 것을 대체적으로 좋아하지 않는다.
18. 나는 혼자 있고 속상하면 일부러 웃기는 일을 떠올려 기본적으론 한다.
19. 나는 가끔 너무 우스운 농담을 떠올리 그 상황에 적합하지 않더라도 그 농담을 꼭 하고 만다.
20. 나는 농담을 하거나 다른 사람들과 옷기려 할 때
내 자신을 지나치게 납출 때가 있다.

21. 나는 다른 사람들과 옷기려 할 때
내 자신을 지나치게 납출 때가 있다.

22. 나는 우울하거나 숙상하면 유머감각을 잃게 된다.

23. 모든 친구들이 누구를 농릴 때에도 나는 거기에
절대 동참하지 않는다.

24. 나는 가족이나 친구들과 있을 때 농담감이 될 때가 많다.

25. 나는 친구들과 자주 농담을 하지 않는다.

26. 나는 어떤 문제에 부딪혔을 때 상황의 우스운 면을 생각하는 것이
그 문제에 대처하는 가장 효과적인 방법이라고 생각한다.

27. 나는 누구를 좋아하지 않으면 농담감으로 만들어 그를 무시한다.

28. 나는 문제가 있거나 숙상하면 나의 가장 친한 친구들조차
내 기분을 알 수 없도록 농담을 한다.

29. 나는 다른 사람과 있을 때 재치 있는 말을 생각해내기가 어렵다.

30. 나는 혼자 있어도 주로 웃음을 거리를 찾고, 나를 즐겁게 하기
위해 꼭 다른 사람을 필요로 하지 않는다.

31. 나는 스스로 매우 우스우다 생각해도 다른 사람이 기분 상해할 것
함께 그것에 대해 농담을 하거나 웃지 않는다.

32. 가족과 친구들이 나를 농담감으로 삼는 것을 허용함으로써 나는
그들의 기분을 복돋워준다.
### 7-Day Recall

<table>
<thead>
<tr>
<th>보통 수준의 활동</th>
<th>격렬한 활동</th>
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<tbody>
<tr>
<td>노동 관련: 편지를 배달하거나 걸어 다니면서 경비 서는 것, 집 페인트 칠, 트렁 운전, 물품 배달, 가벼운 물건을 들어 올리거나 운반하는 일</td>
<td>노동 관련: 목수 일, 공사관에서 막노동, 육체적 노동</td>
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<tr>
<td>집안일 관련: 방 매기, 대결레질, 비결, 잔디 깎는 기계로 잔디 깎기, 창문 닦기</td>
<td>집안일 관련: 바다 걸레질</td>
</tr>
<tr>
<td>스포츠 (실제 운동하는 시간): 배구, 탐구, 빠른 걸음으로 걷기 (5km/시 혹은 1km 당 12분), 골프 (잡거나 골프채 뻗거나 들고 다니기), 미용 체조</td>
<td>스포츠 (실제 운동하는 시간): 복식 테니스, 디스코 춤, 스웨어 댄스 혹은 민속춤</td>
</tr>
</tbody>
</table>

### 주의사항

1. 평균적으로 지난 평일 5 일동안 메일 발 및 시간 주무셨습니까? (일 - 목요일)  
   ┌────────────────────────────┐
   │                          │
   │ ____________  시간          │
   └────────────────────────────┘

2. 평균적으로 지난 금요일과 토요일 메일 발 및 시간 주무셨습니까?  
   ┌────────────────────────────┐
   │                          │
   │ ____________  시간          │
   └────────────────────────────┘

3. 지난 평일 5 일동안 위에 적힌 것과 비슷한 "보통 수준의 활동"을 올 협해서 몇 시간 하셨습니까?  
   ┌────────────────────────────┐
   │                          │
   │ ____________  시간          │
   └────────────────────────────┘

4. 지난 토요일과 일요일, "보통 수준의 활동"을 올 협해서 몇 시간 하셨습니까?  
   ┌────────────────────────────┐
   │                          │
   │ ____________  시간          │
   └────────────────────────────┘

5. 지난 평일 5 일동안 위에 적힌 것과 비슷한 "격렬한 활동"을 올 협해서 몇 시간 하셨습니까?  
   ┌────────────────────────────┐
   │                          │
   │ ____________  시간          │
   └────────────────────────────┘

6. 지난 토요일과 일요일, "격렬한 활동"을 올 협해서 몇 시간 하셨습니까?  
   ┌────────────────────────────┐
   │                          │
   │ ____________  시간          │
   └────────────────────────────┘

7. 지난 평일 5 일동안 위에 적힌 것과 비슷한 "매우 격렬한 활동"을 올 협해서 몇 시간 하셨습니까?  
   ┌────────────────────────────┐
   │                          │
   │ ____________  시간          │
   └────────────────────────────┘

8. 지난 토요일과 일요일, "매우 격렬한 활동"을 올 협해서 몇 시간 하셨습니까?  
   ┌────────────────────────────┐
   │                          │
   │ ____________  시간          │
   └────────────────────────────┘
HBI-1

1. 현재 담배를 피우십니까? (1) 예 (2) 아니오
2. 평균적으로 하루에 담배를 얼마나 피우십니까?
   (1) 일주일에 한 갑 이하 (2) 하루에 반 갑 이하 (3) 하루에 한 갑
   (4) 하루에 한 갑 반 (5) 하루에 두 갑 (6) 하루에 두 갑 반
   (7) 하루에 세 갑 이상
3. 위와 같은 담배의 양을 피운지 몇 년 되셨습니까? ___________년
4. 현재 담배를 얼마나 길고 싶습니까? (해당되는 답에 O 표 하세요)
   1. 전혀 길고 싶지 않다 2. 끔찍하게 싶다
5. 만약 마음 먹고 담배를 길으려고 하면 실제로 길을 확률은 얼마나 됩니다?
   1. 몇을 확률이 아주 낮다 2. 몇을 확률이 아주 높다
6. 과거에 담배를 정기적으로 피운 적이 있으십니까?
   (1) 예 (7번 문항으로) (2) 아니오 (10번 문항으로)
7. 긴기 전 평균적으로 담배를 얼마나 피우셨습니까?
   (1) 일주일에 한 갑 이하 (2) 하루에 반 갑 이하 (3) 하루에 한 갑
   (4) 하루에 한 갑 반 (5) 하루에 두 갑 (6) 하루에 두 갑 반
   (7) 하루에 세 갑 이상
8. 위와 같은 담배의 양을 몇 년이나 피우셨습니까? ___________년
9. 담배를 몇 년 째 피우십니까? ___________년
10. 술을 마신 적이 있으십니까? (1) 예 (2) 아니오
11. 평균적으로 하루에 맥주를 몇 병/캔 마실니까?
   (0) 전혀 마시지 않는다 (1) 하루 한 병/캔 이하 (2) 하루 2~3 병 / 캔
   (3) 하루 4~5 병 / 캔 (4) 하루 6 병 / 캔 이상
12. 평균적으로 하루에 와인은 몇 잔 마실니까?
   (0) 전혀 마시지 않는다 (1) 하루 한 잔 이하 (2) 하루 2~3 잔
   (3) 하루 4~5 잔 (4) 하루 6 잔 이상
13. 평균적으로 하루에 양주/소주/맥주/매실주/청주 종류의 술은 얼마나
    마실니까?
   (0) 전혀 마시지 않는다 (1) 하루 한 잔 이하 (2) 하루 2~3 잔
   (3) 하루 4~5 잔 (4) 하루 6 잔 이상
14. 섭는 당배 혹은 코 담배를 사용하실니까?
   (0) 사용한 적 없다  (1) 사용한 적 있지만 지금 안 사용한다
   (2) 일주일에 한 장/파우치 이하  (3) 일주일에 한 장/파우치 이상

15. 대마초를 피하시니까?
   (0) 피운 적 없다  (1) 피워본 적 있지만 지금 안 피운다
   (2) 일년에 3 ~ 4 번  (3) 한 달에 1 ~ 2 번
   (4) 매주마다 피운다  (5) 매일 피운다

16. 불법 마약을 사용하실니까? (예, 헥토任何形式, 코카인…)
   (0) 사용해 본 적 없다  (1) 사용한 적 있지만 지금 안 사용한다
   (2) 일년에 3 ~ 4 번  (3) 매달 사용한다
   (4) 매주 사용한다  (5) 매일 사용한다

HBI-2

1. 직접 햇볕을 오래 졌는 것을 피하시니까?
   (1) 항상 (100%)  (2) 자주 (75%)  (3) 가끔 (50%)
   (4) 거의 그렇지 않다 (25%)  (5) 절대 그렇지 않다 (0%)

2. 일광욕용 베드를 사용하실니까?
   (1) 예  (2) 아니오

3. 만약 2번 문항에 “예”라고 답하셨다면 얼마나 자주 사용하실니까?
   (1) 매일 사용한다  (2) 매주 사용  (3) 매달 사용한다
   (4) 일년에 4 ~ 6 번  (5) 일년에 1 ~ 3 번  (6) 해당사항이 없다

4. 자동차를 운전할 때 안전벨트를 매실니까?
   (1) 항상 (100%)  (2) 자주 (75%)  (3) 가끔 (50%)
   (4) 거의 그렇지 않다 (25%)  (5) 절대 그렇지 않다 (0%)

5. 자동차에 승객으로 탔을 때 안전벨트를 매실니까?
   (1) 항상 (100%)  (2) 자주 (75%)  (3) 가끔 (50%)
   (4) 거의 그렇지 않다 (25%)  (5) 절대 그렇지 않다 (0%)

6. 정기적으로 건강검진을 받으실니까?  (1) 예  (2) 아니오

7. 만약 6번 문항에 “예”라고 답하셨다면 얼마나 자주 건강검진을 받는지
   표기하시오. 만약 “아니오”라고 답하셨다면 8번 문항으로 가세요.
   (1) 일년에 한 번 이상  (2) 일년에 한 번  (3) 2년에 한 번  (4) 2년에 한 번 이하

8. 정기적으로 안과 검사를 받으실니까?  (1) 예  (2) 아니오

9. 정기적으로 2년에 한 번씩 치아 검사와 스케일링을 받으실니까?
   (1) 예  (2) 아니오
10. 하루에 치아를 두 번 이상 닦으십니까?  
(1) 예  (2) 아니오

11. 매일 치실을 사용하십니까?  
(1) 예  (2) 아니오

12. 여성만 대답해요: 매 달마다 스스로 유방암 검사를 하십니까?  
(1) 항상 (100%)  (2) 자주 (75%)  (3) 가끔 (50%)  
(4) 거의 그렇지 않다 (25%)  (5) 절대 그렇지 않다 (0%)

13. 여성만 대답해요: 자궁경부세포검사 (pap smear)을 얼마나 자주 받으십니까?  
(1) 일년에 한 번 이상 (2) 일년에 한 번 (3) 2년에 한 번 (4) 2년에 한 번 이하

14. 남성만 대답해요: 암 예방을 위해 스스로 고환 검사를 하십니까?  
(1) 항상 (100%)  (2) 자주 (75%)  (3) 가끔 (50%)  
(4) 거의 그렇지 않다 (25%)  (5) 절대 그렇지 않다 (0%)

15. 현재 성생활을 하고 계십니까?  
(1) 예  (2) 아니오

16. 만약 15번 문항에 "예"라고 답하셨다면 성병 예방용 피임 도구를 사용하십니까?  
만약 "아니오"라고 대답하셨다면 6번에 O 표 하세요.  
(1) 항상 (100%)  (2) 자주 (75%)  (3) 가끔 (50%)  
(4) 거의 그렇지 않다 (25%)  (5) 절대 그렇지 않다 (0%)  
(6) 해당사항 없다

HBI - 3

1. 평균적으로 하루에 몇 시간 주무십니까? ___________ 시간

2. 아침에 일어날 때 충분히 숙면했다고 느끼십니까?  
(1) 예  (2) 아니오

3. 잠이 드는데 어려움을 얼마나 자주 느끼십니까?  
(1) 일주일에 1회 이하  (2) 일주일에 한 번  
(3) 일주일에 2 - 3회  (4) 일주일에 4 - 5회  
(5) 일주일에 6 - 7회

4. 일이나야 할 시간 전에 밤중에 깨거나 일이나야 할 시간 전에 얼마나 자주 깨실니까?  
(1) 일주일에 1회 이하  (2) 일주일에 한 번  
(3) 일주일에 2 - 3회  (4) 일주일에 4 - 5회  
(5) 일주일에 6 - 7회

5. 밤에 잠자리에 들기 전에 낮잠을 몇 번 주무십니까?  
(1) 일주일에 1회 이하  (2) 일주일에 한 번  
(3) 일주일에 2 - 3회  (4) 일주일에 4 - 5회  
(5) 일주일에 6 - 7회
6. 임시로 임원한 경우로 향후 임원 후의 보건소에 몇 번이나 가셨습니까? 총 ___________번 (만약 많다면 2번 이상으로 가세요)

HBI-4

1. 임원에 임원한 경우를 제외하고 지난 4개월간 병원 혹은 보건소에 몇 번이나 가셨습니까? 총 ___________번 (만약 많다면 2번 이상으로 가세요)

   **병원에 간 이유** | **정기 건강검진/예방진찰** | **신체적 불편**
   ----------------- | --------------------------- | ------------------------
   첫번째 방문 | ___________________________ | ______________________ |
   두번째 방문 | ___________________________ | ______________________ |
   세번째 방문 | ___________________________ | ______________________ |
   네번째 방문 | ___________________________ | ______________________ |
   다섯번째 방문 | ___________________________ | ______________________ |

2. 지난 4개월간 병원에 몇 번 입원하셨습니까?
   ___________번 (만약 많으시다면 다음 장으로 가세요)

3. 총 합해서 병원에 여러 입원하셨습니까? ________일

4. 병원에 입원하신 주 이유가 무엇이었습니까?
   첫번째 입원: __________________________________________________________________
   두번째 입원: __________________________________________________________________
   세번째 입원: __________________________________________________________________

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CES-D

아래에 적혀 있는 문항을 잘 읽으신 후, 지난 1주 동안 당신이 느끼시고 행동하신 것을 가장 잘 나타낸다고 생각되는 숫자에 O 표 하시기 바랍니다.

<table>
<thead>
<tr>
<th>나는 지난 1주일 동안......</th>
<th>극히 가끔</th>
<th>자주</th>
<th>거의 대부분</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 평소에 아무렇지도 않던 일들이 귀찮게 느껴졌다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>2. 먹고 싶지 않았다; 일말이 없었다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>3. 가족이나 친구가 도와주더라도 온적한 기분을 떨어뜨릴 수 없었다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>4. 다른 사람들만큼 능력이 있다고 느꼈다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>5. 무슨 일을 하든 정신을 집중하기가 힘들었다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>6. 우울했다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>7. 하루 일어나도 혼들게 느껴졌다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>8. 미래에 대하여 화망적으로 느껴졌다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>9. 내 인생은 실패작이라는 생각이 들었다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>10. 두려움을 느꼈다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>11. 잠을 챙겼다; 잠을 이루지 못했다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>12. 행복했다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>13. 평소보다 말을 적게 했다; 말수가 줄었다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>14. 세상에 흥미 있는 듯한 의료를 느꼈다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>15. 사람들이 나에게 차갑게 대하는 것 같았다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>16. 생활이 즐거웠다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>17. 갑자기 울음이 나왔다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>18. 슬픔을 느꼈다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>19. 사람들이 나를 실례하는 것 같았다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
<tr>
<td>20. 도무지 무엇을 시작할 기운이 나지 않았다</td>
<td>0</td>
<td>1</td>
<td>2 3</td>
</tr>
</tbody>
</table>
RSES

아래의 문항들은 ‘여러분이 자신을 어떻게 보느냐’하는 자신에 대한 생각을 나타내는 문항입니다. 여러분의 생각을 잘 나타내 주는 난에 O 표를 해주시기 바랍니다.

대체로 보통 대체로 향상
그렇지 않다 이다 그렇다 그렇다

1. 나는 내가 다른 사람들처럼 가치있는 사람이라고 생각한다
   1 2 3 4
2. 나는 좋은 성품을 가졌다고 생각한다
   1 2 3 4
3. 나는 대체적으로 실패한 사람이라는 느낌이 든다
   1 2 3 4
4. 나는 대부분의 다른 사람들과 같이 일을 잘할 수가 있다
   1 2 3 4
5. 나는 자랑할 것이 별로 없다
   1 2 3 4
6. 나는 내 자신에 대하여 공정적인 태도를 가지고 있다
   1 2 3 4
7. 나는 내 자신에 대하여 대체로 만족한다
   1 2 3 4
8. 나는 내 자신을 좀더 존경할 수 있으면 좋겠다
   1 2 3 4
9. 나는 가끔 내 자신이 졸리 있는 사람이라는 느낌이 든다
   1 2 3 4
10. 나는 때때로 내가 좋지 않은 사람이라고 생각한다
    1 2 3 4

LOT-R

각각의 질문들은 독립된 것이니 하나의 대답이 다른 대답들에 영향을 받지 않게 그 질문 사항만 생각하고 대답해 주십시오.

전혀 그렇지 않다 그렇지 모르다 그렇다 매우 그렇다

1. 불확실한 때, 나는 대체로 최상을 기대한다
   0 1 2 3 4
2. 나에게 있어 긴장을 풀는 것은 쉽다
   0 1 2 3 4
3. 만약 나에게 무엇이 잘못될 수 있다면, 그럴게 될 것이다
   0 1 2 3 4
4. 나는 언제나 내 미래에 대해 낙관적이다
   0 1 2 3 4
5. 나는 친구를 매우 좋아한다
   0 1 2 3 4
6. 계속 바쁜 것이 내게는 중요하다
   0 1 2 3 4
7. 내가 원하는대로 일이 될 거라고 거의 기대하지 않는다
   0 1 2 3 4
8. 나는 그리 쉽게 화내지 않는다
   0 1 2 3 4
9. 나는 나에게 좋은 일들이 일어날 것이라고 거의 기대하지 않는다
   0 1 2 3 4
10. 전반적으로, 나에게 나쁜 일보다는 좋은 일이 더 많이 일어날 거라고 기대한다
    0 1 2 3 4

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다음 문항들은 당신 주위에 도움을 주거나 격려를 해주는 사람들에 관한 것입니다.
각 질문은 두 개의 부분으로 나뉘어집니다. 첫 번째 부분은 설명된 상황에 자신을 포함해
당신에게 도움을 주거나 격려를 해줄 수 있는 모든 사람을 적는 부분입니다. 두 번째 부분은
당신이 당신과 어떤 관계인지 쓰세요 (예: 참고). 각 문항 밑에 있는 숫자 옆에 한 사람
이상 쓰지 마십시오.

두 번째 부분은 현재 받고 있는 도움과 격려에 대체적으로 얼마나 만족하시는지 대답하시는
부분입니다. 만약 그 문항에 해당되는 사람이 없다면 "아무도 없다"에 표기를 하시고 거기에
해당되는 만족도에도 표기를 해주시기 바랍니다. 각 문항마다 어음 명 이상 쓰지 말아 주십시오.

모든 문항을 성실성의 기록 해주시기 바랍니다. 모든 답은 익명성이 보장됩니다.

예시: 알려지면 나에게 해가 될 수도 있는 정보를 밝힐 수 있을 정도로 믿음이 가는 사람은
누구입니까?
아무도 없다 1) LSY (여동생) 4) LHS (아버지) 7) JIO (후배)
2) ASJ (친구) 5) CLS (친구) 8) KBH (사촌)
3) KJH (아마니) 6) SJM (선배) 9) KBO (이모)

 얼마나 만족하실니까?
6) 매우 5) 만족스러운 4) 조금 3) 조금 2) 다소 1) 매우
만족스럽다 편이다 만족스럽다 불만족스럽다 불만족스럽다 불만족스럽다

1. 당신이 스트레스를 받고 있는 상황에서 당신의 근심격정을 참시 잇게 해줄 수
있는 사람이라고 확신이 가는 사람은 누구입니까?
아무도 없다 1) 4) 7)
2) 5) 8)
3) 6) 9)

 얼마나 만족하실니까?
6) 매우 5) 만족스러운 4) 조금 3) 조금 2) 다소 1) 매우
만족스럽다 편이다 만족스럽다 불만족스럼다 불만족스럽다 불만족스럽다

2. 당신이 심리적 압박을 받고 있거나 간절하고 있을 때 긴장을 완화시켜 줄 수
있다고 확신하는 사람이 있습니까?
아무도 없다 1) 4) 7)
2) 5) 8)
3) 6) 9)

 얼마나 만족하실니까?
6) 매우 5) 만족스러운 4) 조금 3) 조금 2) 다소 1) 매우
만족스럽다 편이다 만족스럽다 불만족스럼다 불만족스럽다 불만족스럽다

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3. 당신의 장점과 단점을 모두 있는 그대로 받아들일 수 있는 사람은 누구입니까?
아무도 없다 1) 4) 7) 
2) 5) 8) 
3) 6) 9) 

 얼마나 만족하십니까?
6) 매우 5) 만족스러운 4) 조금 3) 조금 2) 다소 1) 매우
만족스럽다 편이다 만족스럽다 불만족스럽다 불만족스럽다

4. 당신에게 그 어떤 일이 힘들어도 항상 당신을 돕볼 수 있는 사람은 누구입니까?
아무도 없다 1) 4) 7) 
2) 5) 8) 
3) 6) 9) 

 얼마나 만족하십니까?
6) 매우 5) 만족스러운 4) 조금 3) 조금 2) 다소 1) 매우
만족스럽다 편이다 만족스럽다 불만족스럽다 불만족스럽다

5. 당신이 좌절했을 때 당신의 기분을 전환시켜줄 수 있는 사람은 누구입니까?
아무도 없다 1) 4) 7) 
2) 5) 8) 
3) 6) 9) 

 얼마나 만족하십니까?
6) 매우 5) 만족스러운 4) 조금 3) 조금 2) 다소 1) 매우
만족스럽다 편이다 만족스럽다 불만족스럽다 불만족스럽다

6. 당신이 굉장히 속상했을 때 당신을 위로할 수 있는 사람은 누구입니까?
아무도 없다 1) 4) 7) 
2) 5) 8) 
3) 6) 9) 

 얼마나 만족하십니까?
6) 매우 5) 만족스러운 4) 조금 3) 조금 2) 다소 1) 매우
만족스럽다 편이다 만족스럽다 불만족스럽다 불만족스럽다
아래 문항들은 지난 달 동안 당신이 가졌던 느낌이나 생각을 얼마나 자주 가졌는지에 대한 질문입니다. 그 중 일부 질문은 내용이 흩어져 보이지만, 그 나름대로 차이점은 가지고 있습니다. 따라서 당신은 각 질문을 별개의 것으로 인식하고 답해 주십시오. 그러기 위해서 각 질문을 정확하게 빠리 잊고, 각 질문에 대해 아래 보기 중 하나를 선택하여 답하시면 됩니다.

<table>
<thead>
<tr>
<th>내용</th>
<th>한 번도 거의 가끔 비교적 매우 없다 없다 있다 자주 있다 자주 있다</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 지난 달 생각지도 않게 갑자기 생각 일 때문에 당황하신 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>2. 지난 달 귀하의 생활속에서 일어난 중요한 일들을 직접 해결할 수 없다고 느낀 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>3. 지난 달 불안하다거나 스트레스 받는다고 느낀 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>4. 지난 달 개인적인 문제를 다루는 능력에 대해 자신감을 가졌던 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>5. 지난 달 일들이 자신의 뜻대로 되고 있다고 느낀 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>6. 지난 달 귀하가 해야할 일들을 모두 감당할 수 없다고 생각했던 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>7. 지난 달 생활 속에서 생각하는 자체를 조절할 수 있다고 생각했던 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>8. 지난 달 모든 일에서 최고라고 느꼈던 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>9. 지난 달 귀허의 능력밖에 일이 일어나서 화가 난던 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>10. 지난 달 장애가 너무 많아서 극복할 수 없다고 느낀 적이 있습니까?</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
</tbody>
</table>
MHLC
다음은 건강에 대해서 귀하가 느끼고 계신 점을 나타낸 것입니다. 귀하의 생각을 가장 잘 나타낸 번호를 아래에 기입하여 주십시오.

<table>
<thead>
<tr>
<th>전혀 않다</th>
<th>많이</th>
<th>약간</th>
<th>많이</th>
<th>아주 많다</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. 내가 병에 걸렸을 때 얼마나 빨리 회복될 수가 있는가는 나하기에 달려있다.
2. 내가 아무리 조심도 해도 병이 생길 것이다.
3. 의사에게 정기적으로 진찰을 받는 것은 내가 병에 걸리지 않는 가장 좋은 방법이다.
4. 내 건강에 영향을 미치는 일들은 유연히 일어난다.
5. 몸이 아프면 언제나 정문 의료인을 찾아가야 한다.
6. 내 건강을 지키는 것은 나 자신이다.
7. 내가 얻게 되거나 또는 건강을 유지하는 것은 식구들이 어떻게 해주느냐에 달려있다.
8. 나는 내가 아프면 내 뒷이라고 생각한다.
9. 병이 얼마나 빨리 회복되느냐 하는 것은 운에 달려있다.
10. 내 건강을 다스리는 것은 전문 의료인에게 달려있다.
11. 내가 건강한 것은 내가 운이 좋기 때문이다.
12. 내 건강에 중요한 영향을 미치는 것은 내가 나 자신을 어떻게 하느냐에 달려있다.
13. 나 자신이 내 몸을 잘 돌보면 병에 걸리지 않을 것이다.
14. 내가 병에서 회복되는 것은 다른 사람 (의사, 간호사, 가족, 친구)들이 나를 잘 돌보아 주었기 때문이다.
15. 나는 병에 잘 걸리는 것 같다.
16. 건강하게 살도록 타고 난으면 나는 건강한 것이다.
17. 내가 적절한 조치를 취하면 나는 아프지 않을 것이다.
18. 나는 아프지 않기 위해 의사가 하라는 것만 한다.