

RELATIONS OF HUMOR WITH PERCEPTIONS OF STRESS¹

MATTHEW MAURIELLO AND JASMIN TAHMASEB McCONATHA

West Chester University of Pennsylvania

Summary.—Humor has cognitive, emotional, and behavioral components but may be conceptualized as a multidimensional personality trait, comprised of both negative and positive dimensions and styles. Sense of humor may influence other evaluations of life, including perception of stress. Analysis of responses from 51 community adults and 131 undergraduates in psychology, nonrepresentative, random samples, indicated that styles of humor were correlated with self-perception of perceived stress; the largest correlations account for less than 50% of the common variance. Results are discussed in terms of their theoretical links to coping literature, potential for therapeutic interventions, and areas for research.

Humor is a multidimensional phenomenon linked to emotions, cognitions, and behavior. Humor has had positive effects on physiological states, like respiratory functioning (Celso, Ebener, & Burkhead, 2003). Humor can relieve stress and enhance mood, as can physical exercise. For example, people watching humorous films reported decreases in state-anxiety equal or greater than those individuals who also jogged for an equal amount of time (Szabo, 2003). This study focused on the relationship of style of humor with perceptions of stress.

A relationship between humor and perception of stress was proposed by Lazarus and Folkman (1984). For example, humor may provide a temporary time-out from having to cope with impending stress. This reprieve can be instrumental in re-appraising a stressful situation by allowing time to consider a more problem-focused solution to stress (Straub, 2002). People who have a well-developed sense of humor are better able to distance themselves from stress-related problems and engage in more varied coping mechanisms, such as active problem-solving. Finding humor in stressful circumstances may also serve as a buffer to distress. In addition, a sense of humor has been associated with a more positive appraisal of negative life situations (Abel, 2002).

Researchers have also identified a positive relationship between humor and social relationships (Karademas, 2006). People who use humor in communication tend to adapt their communication styles more readily to various social situations. With such adaptability, humor-oriented individuals may be better able to anticipate and ease tense social situations (Wanzer, Booth-Butterfield, & Booth-Butterfield, 2005). These individuals also have a ten-

¹Address correspondence to J. T. McConatha, Ph.D., Department of Psychology, West Chester University, West Chester, PA 19383-2145.

dency to cope in a proactive manner, as they have a more positive view of self, are more satisfied with their relationships, and feel a greater sense of mastery over their environment (Kirsh & Kuiper, 2003).

The American Psychiatric Association (2000) categorized humor as a highly adaptive coping skill, which maximizes gratification, balances conflicting situations, and maintains awareness. Humor is defined as a coping skill by which the user reduces emotional distress from conflict by emphasizing the ironies of a stressor. Like other high-adaptive coping skills, humor is often utilized when stress is confronted in the absence of cognitive and social supports. Thus, humor can be used to reduce distress, conflict, or cognitive dissonance during a sudden change in internal or external reality (Vaillant, 2000).

Recently, researchers have begun to look at the relationship between worrying and humor. Worrying, which is related to psychological stress, may be conceptualized as a person's beliefs that situations are dangerous and that they cannot find and implement solutions to dangerous situations (Kelly & Miller, 1999). Research has shown that those with a greater sense of humor have been shown to be less likely to worry. The use of humor also indicates a greater likelihood of taking positive risks, such as joke telling and other forms of humor production (Kelly & Miller, 1999). If humor can be conceptualized as a mature defense mechanism, as proposed by the American Psychiatric Association (2000), with which one may balance conflict and lead to a reduction in worry, then humor may have practical use, as in therapeutic relationships. Offering absurdity in lieu of positive reassurance or rational deduction may have the paradoxical effect of stimulating insight into distorted thoughts or behaviors (Yonkovitz & Matthews, 1998). Integrating humor could be beneficial to those with psychosis. As a therapeutic technique, the absurdity inherent in joking may draw attention to the unreality and function better than reasoning. Furthermore, the sharing of positive affect between clients and clinicians can have marked benefits for a client's functioning (Martens, 2004).

There is, however, no universal implementation of humor without consideration of individual differences, for humor use can also have negative consequences. For example, although those who make use of humor as a coping mechanism score lower on depression and anxiety, people who use humor negatively, whether directed against themselves or others, tend to be at a greater risk for interpersonal difficulties, lower self-efficacy and self-esteem, and a host of other pathological symptoms (Kuiper, Grimshaw, Leite, & Kirsh, 2004).

Sex and Age Differences in Humor

Researchers have reported that both men and women tend to identify a

sense of humor as a desirable characteristic, especially in romantic relationships. However, several studies indicate that men are not romantically attracted to humorous women. It appears that women find men attractive who both produce humor and appreciate humor, while men only find humor attractive in women when women appreciate humor produced by men. This relationship stays relatively constant across several types of relationships but is particularly pronounced for men in sexual or romantic relationships (Bressler & Martin, 2006). Researchers have indicated that humor appreciation and production is different for men and women, especially when exposed to stressful or anxiety inducing situations (Abel & Maxwell, 2002).

Both younger and older adults perceive laughter and humor as important components of health and well-being; however, age differences in use of humor have also been identified. Younger adults appear to endorse uninhibited laughter that is loud and active, while older adults tend to prefer an "appropriate social context" of humor (Mahony, Burroughs, & Lippman, 2002). Research conducted in Norway (Mahony, *et al.*, 2002) supported these age differences. Older adults in general laughed less, and the men showed a more rapid age reduction in the humor use (Svebak, Martin, & Holman, 2004).

Dimensions of Sense of Humor

One way to conceptualize sense of humor is by its function or use. Martin, Puhlik-Doris, Larsen, Gray, and Weir (2003) divided style of sense of humor into four dimensions, Affiliative humor (i.e., using humor to enhance relationships), Self-enhancing humor (i.e., using humor to boost oneself without attacking others), Aggressive humor (i.e., using humor to boost self at others' expense), and Self-deprecating humor (i.e., using humor to enhance relations at one's own expense). These dimensions have been related to personality factors such as extraversion in positive styles and neuroticism in negative styles. Affiliative humor and Self-enhancing humor are considered positive uses. They do not involve malicious use of humor against others or maladaptive use of humor against the self. Both are related to several positive psychological, personality, and social constructs. Affiliative humor, for example, was positively correlated with intimacy in relationships, satisfaction in relationships, extraversion, openness to experience, self-esteem, and other measures of well-being. Similarly, Self-enhancing humor is related to these positive psychological constructs, as well as coping humor (Martin, *et al.*, 2003).

Negative dimensions of humor (aggressive and self-defeating), by contrast, have been positively related to scores on neuroticism and negatively related to those on conscientiousness and agreeableness personality constructs. Self-defeating humor, in particular, was significantly inversely related to mea-

asures of well-being and self-esteem. Also, this dimension was not significantly related to coping well as measured by the Coping Humor Scale, despite an individual's proclivity to use humor as a social lubricant or coping skill (Martin, *et al.*, 2003). In addition, these individuals tend to be less extraverted and are more likely to show signs of insecurity and indecisiveness in present and past relationships (Saroglou & Scariot, 2002). The purpose of this study was to explore the relationship between perceptions of stress and styles of humor use.

METHOD

Participants

Participants included undergraduate students at a medium-sized suburban university and a convenient sample of adults living in the surrounding community. Adults were selected via the snowball sampling method (Denzin, 1978) and totaled 51 participants. Psychology students comprised the remaining 131 participants. Students volunteered to participate and received research credit for their participation. Of the 182 participants, the majority were women (62.1%); most identified themselves as Euro-Americans (84.1%). They ranged in age from 18 to 79 years, with a mean age of 23.9 yr. for the men and 23.0 yr. for the women. Overall age mean for both sexes was 25.2 yr. ($SD = 11.5$).

Materials

Participants were administered a survey, which included demographic questions, and inventories to measure ways of coping with humor, styles of humor use, as well as perceptions of stress. They completed the survey individually or in a small group. To measure effect of coping humor by participants in stressful situations, the Coping Humor Scale (Martin & Lefcourt, 1983) was included. This scale includes seven items, each scored on four points of a Likert-format scale (e.g., 1 = Strongly disagree, 4 = Strongly agree). An example would be "I can usually find something to laugh or joke about even in trying situations." The scale has been shown to be reliable enough for research, with Cronbach alpha ranging between .60 and .70. In addition, its validity was based on likelihood of using humor as a coping skill.

The Humor Styles Questionnaire (Martin, *et al.*, 2003) was selected to measure how participants use humor with four scales (i.e., Affiliative, Self-enhancing, Aggressive, and Self-deprecating). Each scale contains eight items. Each item is scored on a 7-point Likert-format scale (1 = Strongly disagree, 7 = Strongly agree). Each scale showed adequate reliability with Cronbach alphas as follows: Affiliative (.80), Self-enhancing (.81), Aggressive (.77), and Self-deprecating (.80), and test-retest reliabilities ranging from .80 to .85 ($p < .001$). Correlations among the four scales were low, with the highest being

between Affiliative and Self-enhancing humor. Evidence of the validity has also been described in detail by Martin, *et al.* (2003). Sample items from each scale include "I enjoy making other people laugh" (Affiliative), "My humorous outlook on life keeps me from getting overly upset or depressed about things" (Self-enhancing), "If someone makes a mistake, I will often tease them about it" (Aggressive), and "I let people laugh at me or make fun at my expense more than I should" (Self-deprecating).

The Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) was used to assess participants' perceptions of stress. This measure consists of 14 items scored on a 5-point Likert-format (e.g., 0=Never, 4=Very often). An example item would be "In the last month, how often have you found that you could not cope with all the things that you had to do?" This scale has shown acceptable reliability with Cronbach alphas between .84 and .86 and test-retest reliabilities from .55 to .85. Validity is indicated by scale correlations with behavioral and self-report measures of negative symptomatology (e.g., depression).

RESULTS

Pearson-product correlations were computed among measures of coping humor, perception of stress, and four styles of humor. In addition, internal consistency (α) calculated for these scales were as follows: Satisfaction with Life Scale ($\alpha=.82$), Coping Humor Scale ($\alpha=.64$), and the Perception of Stress Scale ($\alpha=.87$). Table 1 presents Pearson correlations. Significant relationships were obtained for scores of the Humor Styles Questionnaire Self-enhancing humor, the Humor Styles Questionnaire Affiliative humor, and the Humor Styles Questionnaire Aggressive scale with those on the Coping Humor Scale.

TABLE 1
INTERCORRELATIONS AMONG HUMOR SCALES ($N=182$)

Variable	1	2	3	4	5
1. Coping Humor Scale Humor Styles Questionnaire					
2. Affiliative humor	.52*				
3. Self-enhancing humor	.65*	.48*			
4. Aggressive humor	.16†	.11	-.01		
5. Self-deprecating humor	.03	-.03	-.07	.38*	

* $p < .001$. † $p = .03$.

Table 2 displays t ratio tests with independent samples separately by sex of participants. Significant differences identified were noted on the Coping Humor Scale and Aggressive humor scale, with men scoring higher than women. To articulate better possible sex differences, each correlation for

both sexes was compared for significance utilizing Fisher z_r transformation (Sheskin, 2004). To keep Type I error at $\alpha = .05$ for all 21 correlations, the .05 level was divided by all correlations to obtain a critical z value of 2.72. The z scores ranged from .00 to 2.07 ($p > .003$), indicating that the correlations in Table 3 were not statistically different from one another.

TABLE 2
INDEPENDENT SAMPLE t RATIOS FOR SEX DIFFERENCES

Scale	M	SD	t	p	η^2
Coping Humor Scale					
Men	20.5	3.5	3.03	<.001	.04
Women	19.0	3.1			
Perception of Stress Scale					
Men	25.4	8.1	1.48	.14	na
Women	27.3	8.4			
Humor Styles Questionnaire					
Affiliative humor					
Men	46.0	8.0	0.12	.91	na
Women	46.1	6.9			
Self-enhancing humor					
Men	38.1	8.8	1.90	.06	na
Women	35.8	7.6			
Aggressive humor					
Men	28.1	7.3	2.00	.05	.02
Women	25.9	7.2			
Self-deprecating humor					
Men	25.6	8.1	0.58	.56	na
Women	27.3	8.4			

Results displayed in Table 3 represent the correlations between the four scales of the Humor Styles Questionnaire and the Coping Humor Scale. Perception of stress was significantly related to all but one of the scales for both men and women; however, no relationship was uncovered between the Affiliative humor scale and the Perception of Stress Scale.

TABLE 3
PEARSON CORRELATIONS BETWEEN MEN ($n = 68$) AND WOMEN ($n = 113$)
FOR SCORES ON STYLE AND WELL-BEING ($N = 181$)

Variable	Perception of Stress		
	Men	Women	Both
Humor Styles Questionnaire			
Affiliative humor	-.18	-.12	-.14
Self-enhancing humor	-.24*	-.38‡	-.33‡
Aggressive humor	.36*	.36‡	.34‡
Self-deprecating humor	.30*	.26†	.26‡
Coping Humor Scale	-.26*	-.16	-.22†

* $p < .05$. † $p < .01$. ‡ $p < .001$.

Analysis indicated age was negatively related to scores on both Affiliative humor and Aggressive humor (see Table 4). Internal consistency for the Humor Styles Questionnaire was also evaluated via Cronbach alpha, these values being Affiliative (.85), Self-enhancing (.83), Aggressive (.66), and Self-deprecating (.82). These reliabilities are higher than those reported by Martin, *et al.* (2003), with the exception of that for Aggressive humor, which in this sample (.66) was lower than the .77 reported by Martin, *et al.* (2003). While better reliability is preferable, inclusion of this style of humor is still worthy of consideration.

TABLE 4
PEARSON CORRELATION COEFFICIENTS BETWEEN AGE AND SCALES (N = 182)

Scale	<i>r</i>	<i>p</i>
Coping Humor Scale	.10	.19
Perception of Stress Scale	-.14	.06
Humor Styles Questionnaire		
Affiliative humor	-.22	<.01
Self-enhancing humor	.11	.15
Aggressive humor	-.24	<.01
Self-deprecating humor	-.02	.79

DISCUSSION

The purpose of this study was to investigate the associations among styles of humor and ways of coping with stress. A review of the literature indicated positive styles of humor were inversely related to perceptions of stress, while negative styles of humor were positively related to perceptions of stress. The results appear to support this assumption; they also confirm previous findings of Martin, *et al.* (2003), with one major deviation. In this study Affiliative humor was not significantly related to perceptions of stress, perhaps being a function of cultural differences between this study's American participants versus the Canadian sample studied by Martin, *et al.* (2003). Although there are significant similarities between the two nations, cultural differences may need to be explored.

Furthermore, Martin, *et al.* (2003) reported that scores on Affiliative humor correlated with Aggressive humor, which may have accounted for Affiliative humor's lack of relations to perceptions of stress in this study. Also, Affiliative humor as a construct may be too broad, as it may overlap with other styles of humor. However, it is difficult to draw conclusions given that a correlation was found between Affiliative and Aggressive humor for the women but not the men. Affiliative humor's function in building social relationships may not be a strong buffer against the perception of stress and negativity in life.

In this study, higher scores for Aggressive humor were significantly correlated with higher scores for perception of stress for both men and women, indicating that Aggressive humor may be associated with less positive appraisals of life. Despite the low magnitude of correlations, Self-enhancing humor showed the most consistent and strongest values across sex. Consistent with previous research (Martin, *et al.*, 2003), Self-enhancing humor is related to higher scores on the Coping Humor Scale, as well as Affiliative humor. Thus, it appears that there is some theoretical overlap between these constructs. Finally, evaluating the relationship of age and humor, only two significant correlations emerged, and these accounted for only 9% of the variance. This significant relationship is likely related to the large sample with a very wide age range. It appears that as individuals age, there is a drop in the use of both Aggressive and Affiliative humor, raising a question about a relationship between them.

The findings have several implications. From a theoretical perspective, these findings suggest possible directions for research into sex differences. If men and women use humor differently, especially in terms of coping with their environment, style of humor could indicate a role of gender socialization in perception of a social situation, stress, and subjective well-being. Also, age differences in humor identified by this study may also reinforce previous research on social behavior in older adults seeking closer, more emotionally gratifying social relationships (e.g., Carstensen, Fung, & Charles, 2003). Considering humor's association with positive aspects of thought and behavior, these results have implications for better understanding areas of well-being and positive psychology.

From a clinical perspective, humor may be negatively related to higher scores on measures of depression, such as scores on the Inventory to Diagnose Depression (e.g., Deaner & McConatha, 1993); these styles of humor may represent a specific mechanism by which humor ameliorates such symptoms. In a recent study of the positive dimensions of the Humor Styles Questionnaire higher scores on Affiliative humor and Self-enhancing humor were related to lower scores of dysphoria and depression (Olson, Hugelshofer, Kwon, & Reff, 2005). These results are somewhat conflicted by the current results; however, Olson, *et al.* (2005) did note the use of Self-enhancing humor, even among individuals who report maladaptive worry, can offer relief. Perhaps Self-enhancing humor acts as a more potent buffer against distress than Affiliative Humor.

If Self-enhancing humor could be facilitated via paradoxical interventions, it may be an important skill clients in psychotherapy could acquire to buffer against symptoms of depression. Clients whose cognitive style includes exaggerations, chronic worry (e.g., Kelly, 2002), or excessive fixation on being helpless in stressful situations (e.g., Olson, *et al.*, 2005) may benefit from

therapeutic interventions focused on the absurdity of such cognitive distortions. It should be emphasized that in this study the sample was nonclinical, so further exploration is needed.

Present results should be viewed tentatively given several limitations. Causation cannot be based on correlations. Also, data were self-reported and may not be accurate representations of the participants' behaviors or attitudes. Also, the analysis shows several relationships, which, although significant, do not account for much common variance. In addition, the sample was composed of mainly volunteer undergraduate students and was not random like the remaining nonstudent sample. Data were sampled via snowball method (Denzin, 1978). Thus, the sample cannot be said to be representative of the population. Researchers should include a more diverse sample with regard to age, socioeconomic status, and ethnicity (which this study lacked). Also, given the universal nature of humor, researchers should explore samples from non-Western cultures (i.e., collectivist cultures) to assess whether the styles are present in other cultures and, if so, their effects on coping and components of well-being.

Despite the limitations discussed and the need for further investigation, this study has documented some correlations, which may stimulate further empirical work focused on humor and well-being. This early study of correlations for styles of humor and perception of stress is consistent with appraisal theories of stress as self-enhancing humor was negatively related to perceptions of stress (e.g., Lazarus & Folkman, 1984). In addition, similarities and differences in how men and women utilize specific styles of humor may have been identified. In studying humor, one must remember it is a multidimensional concept and is implicated in both positive and negative psychological outcomes.

REFERENCES

- ABEL, M. H. (2002) Humor, stress, and coping. *Humor*, 15, 365-381.
- ABEL, M. H., & MAXWELL, D. (2002) Humor and affective consequences of a stressful task. *Journal of Social and Clinical Psychology*, 21, 165-190.
- AMERICAN PSYCHIATRIC ASSOCIATION. (2000) *Diagnostic and statistical manual of mental disorders*. (4th ed., Text Rev.) Washington, DC: Author.
- BRESSLER, E. R., & MARTIN, R. A. (2006) Production and appreciation of humor as sexually selected traits. *Evolution and Human Behavior*, 27, 121-130.
- CARSTENSEN, L. L., FUNG, H. H., & CHARLES, S. T. (2003) Socioemotional selectivity theory and the regulation of emotion in the second half of life. *Motivation and Emotion*, 27, 103-123.
- CELSO, B. G., EBENER, D. J., BURKHEAD, E. J. (2003) Humor coping, health status, and life satisfaction among older adults residing in assisted living facilities. *Aging & Mental Health*, 7, 438-445.
- COHEN, S., KAMARCK, T., & MERMELSTEIN, R. (1983) A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.
- DEANER, S. L., & MCCONATHA, J. T. (1993) The relation of humor to depression and personality. *Psychological Reports*, 72, 755-763.
- DENZIN, N. K. (1978) *The research act*. New York: McGraw-Hill.

- KARADEMAS, E. C. (2006) Self-efficacy, social support and well-being: the mediating role of optimism. *Personality and Individual Differences*, 40, 1281-1290.
- KELLY, W. E. (2002) An investigation of worry and sense of humor. *The Journal of Psychology*, 136, 657-666.
- KELLY, W. E., & MILLER, R. B. (1999) A discussion of worry with suggestions for counselor. *Counseling and Values*, 44, 55-66.
- KIRSH, G. A., & KUIPER, N. A. (2003) Positive and negative aspects of sense of humor: associations with the constructs of individualism and relatedness. *Humor*, 16, 33-62.
- KUIPER, N., GRIMSHAW, M., LEITE, C., & KIRSH, G. (2004) Humor is not always the best medicine: specific components of sense of humor and psychological well-being. *Humor: International Journal of Humor Research*, 17, 135-168.
- Stress, appraisal, and coping. New York: McGraw-Hill.
- MAHONY, D. L., BURROUGHS, W. J., & LIPPMAN, L. G. (2002) Perceived attributes of health-promoting laughter: a cross-generational comparison. *Journal of Psychology: Interdisciplinary and Applied*, 136, 171-181.
- MARTENS, W. H. J. (2004) Therapeutic use of humor in antisocial personalities. *Journal of Contemporary Psychotherapy*, 34, 351-361.
- MARTIN, R. A., & LEFCOURT, H. M. (1983) Sense of humor as a moderator of the relation between stressors and moods. *Journal of Personality and Social Psychology*, 45, 1313-1324.
- MARTIN, R. A., PUBLIK-DORIS, P., LARSEN, G., GRAY, J., & WEIR, K. (2003) Individual differences in uses of humor and their relation to psychological well-being: development of the Humor Styles Questionnaire. *Journal of Research in Personality*, 37, 48-75.
- OLSON, M. L., HUGELSHOFER, D. S., KWON, P., & REFF, R. C. (2005) Rumination and dysphoria: the buffering role of adaptive forms of humor. *Personality and Individual Differences*, 39, 1419-1428.
- SAROGLU, V., & SCARIOT, C. (2002) Humor Styles Questionnaire: personality and educational correlates in Belgian high school students and college students. *European Journal of Personality*, 16, 43-54.
- SHESKIN, D. J. (2004) *Handbook of parametric and nonparametric statistical procedures*. Boca Raton, FL: Chapman & Hall/CRC.
- STRAUB, R. O. (2002) *Health psychology*. New York: Worth Publ.
- SVEBAK, S., MARTIN, R. A., & HOLMAN, J. (2004) The prevalence of sense of humor in a large, unselected county population in Norway: relations with age, sex, and some health indicators. *Humor: International Journal of Humor Research*, 17, 121-134.
- SZABO, A. (2003) The acute effects of humor and exercise on mood and anxiety. *Journal of Leisure Research*, 35, 152-162.
- VAILLANT, G. E. (2000) Adaptive mental mechanisms: their role in positive psychology. *American Psychologist*, 55, 89-98.
- WANZER, M., BOOTH-BUTTERFIELD, M., & BOOTH-BUTTERFIELD, S. (2005) "If we didn't use humor, we'd cry": humorous coping communication in health care settings. *Journal of Health Communications*, 10, 105-125.
- YONKOVITZ, E. E., & MATTHEWS, W. J. (1998) The potential for strategic therapeutic humor in fostering self-observation: using both retrospective and concurrent client amusement. *Journal of Systemic Therapies*, 17, 45-57.

Accepted November 12, 2007.