
Psychological Health and Sense of Humor



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Scores on the Multidimensional Sense of Humor Scale (MSHS) are shown to be related positively to a number of factors associated with psychological health, such as optimism and self esteem, and negatively with signs of psychological distress such as depression. Humor is a multidimensional construct that seems to be intimately related to quality of life. © 1997 John Wiley & Sons, Inc. *J Clin Psychol* **53**: 605-619, 1997.

A continuing research interest has been the adaptation that individuals are able to make to critical life problems. Many older people, for example, are apparently successful in adapting to serious losses of vigor, health, economic well-being, companionship, social status, and other changes in life that for some might be seen as catastrophic. Life satisfaction and morale have been extensively researched, but there remains a lacuna in the research on the psychology of aging: why are some individuals able to face life with equanimity, indeed serenity, despite the thousand natural shocks associated with getting old?

Looking at ways people cope, it is apparent that there is no one formula for satisfaction over the course of life. However, it is of interest to us as researchers to investigate *means* of coping, mechanisms that people use in successfully adapting to the problems they confront.

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This has led us to articles (Thorson, 1985, 1993) that directed our thinking to the potent coping skills of people blessed with a rich personal sense of humor.

To be facing death on a daily basis yet still able to laugh at one's own petty finiteness was, Freud suggested, the application of philosophical thinking (1916). Vaillant has described humor as among the most mature, and the most elegant, of the defense mechanisms (1977). Our research has shown that those nearest death, the aged, fear it the least (Thorson & Powell, 1993a, 1993b, 1993c). Why is this? Perhaps humor is among the adaptive mechanisms that the most successful older people have as a resource to draw upon.

A research direction seemed to be quite clear: to determine if sense of humor is a correlate of positive adaptation in later life, or, conversely, if it is a negative correlate of poor adaptation.

This led us to a methodological difficulty. Reviewing the psychological literature, it seemed to us that existing scales to assess sense of humor were either unidimensional, cumbersome for testing large samples, or not apt for one reason or another. As an example, one scale often used as a humor measure, Martin and Lefcourt's (1984) Situational Humor Response Questionnaire, an instrument designed to assess the behavioral response of laughter, measures only likelihood to laugh. We published a research note (Thorson, 1990) asking if propensity to laugh was in any way equivalent to sense of humor. It seemed to us that it was not, that there may be many nervous people who appear to be laughing almost constantly; however, whether they *get* the joke or ever make one would seem to be more central to the issue of sense of humor.

We then published a factor analysis of three widely-used scales designed to assess sense of humor that seemed problematic for one reason or another (Thorson & Powell, 1991). We suggested, rather than combining a number of existing scales that might not really go together and call what they measured sense of humor—a common practice (Lefcourt & Martin, 1986)—that an intentional approach should be made to design a genuinely multidimensional sense of humor scale. It should be brief and easy to use with large samples, easy to score, and it should include the following elements that seemed to us to be central to the basic concept of sense of humor: humor production, the creative ability to in fact *be* humorous, make the *bon mot*, identify the funny thing in a situation, create and relate that which amuses others; a sense of playfulness or whimsy, the ability to have a good time, being good-natured; the ability to use humor to achieve social goals, to use humor as a social lubricant, as a means of easing the tense situation, enforcing social norms, enhancing the solidarity of the in-group, or skewering the puffed-up or the pompous; a personal recognition of humor, of life's absurdities, and recognition of the self as humorous; appreciation of humor, of humorous people and humorous situations, and, use of humor as an adaptive mechanism, being able to laugh at problems or to master difficult situations through the uses of humor (1991, p. 701).

We began the construction of such a scale by brainstorming a total of 124 self-descriptive items around these conceptual themes. We reasoned that self-descriptive statements on a Likert agree/disagree format would be not only simple to score (as opposed to scales that might involve judges or interrater reliability problems), but would also be easy to understand on the respondents' part and thus inherently more reliable. These are important issues among researchers who do survey research with older populations. The process of the development of the scale through administration of various iterations of it to three large samples, and the subsequent factor analysis and discarding of items, is described elsewhere in the literature (Thorson & Powell, 1993a).

The factor structure of the MSHS with the largest sample tested so far, 612 respondents aged 17 to 92 (mean = 43.3 years, $SD = 26.9$) is found in Table 1, a Varimax rotated factor matrix reporting items loading at .50 or higher. The first 11 items of the MSHS have consistently formed a first factor in each of the studies done with the scale. Note that it is of the nature of factor analysis for concepts to merge somewhat. This is the case with Factor I reported in Table 1: It would appear that many of the "I can" items cluster. More importantly, the concepts

Table 1. Varimax Rotated Factor Matrix, Multidimensional Sense of Humor Scale (MSHS) for 301 Males and 311 Females, Ages 17 to 92

Item	Factor			
	I	II	III	IV
1. I can often crack people up with the things I say.	.80			
2. Other people tell me that I say funny things.	.78			
3. I'm regarded as something of a wit by my friends.	.80			
4. I can say things in such a way as to make people laugh.	.81			
5. Sometimes I think up jokes or funny stories.	.74			
6. My clever sayings amuse others.	.80			
7. I'm confident that I can make other people laugh.	.80			
8. People look to me to say amusing things.	.80			
9. I use humor to entertain my friends.	.75			
10. I can ease a tense situation by saying something funny.	.75			
11. I can actually have some control over a group by my uses of humor.	.75			
12. People who tell jokes are a pain in the neck.			.67	
13. Calling somebody a "comedian" is a real insult.			.67	
14. I like a good joke.				.67
15. I'm uncomfortable when everyone is cracking jokes.			.60	
16. I dislike comics.			.63	
17. I appreciate those who generate humor.				.79
18. Uses of humor help to put me at ease.				.70
19. I can use wit to help adapt to many situations.	.57			
20. Trying to master situations through uses of humor is really dumb.			.56	
21. Humor helps me cope.		.72		
22. Humor is a lousy coping mechanism.		.51	.56	
23. Uses of wit or humor help me master difficult situations.		.80		
24. Coping by using humor is an elegant way of adapting.		.72		
Percentage of variance	36.2	13.2	6.5	4.8
Eigenvalue	8.7	3.2	1.6	1.2

behind these first-factor items can be identified: the elements of humor creativity and social uses of humor are found here. The second factor (items 21 through 24) clusters those items dealing with the concept of coping and uses of coping humor. Factor III items deal with attitudes toward humorous people, and Factor IV items deal with attitudes toward humor itself.

RELATIONSHIPS OF SENSE OF HUMOR AND DEMOGRAPHIC VARIABLES

Age

The development of humor across the life span is an interesting issue. We have some evidence that sense of humor as measured by the MSHS differs between the young and the old, or at least that it is understood differently by the young and the old. In one comparison, a sample of 199 young adults (94 males and 105 females) aged 17 to 21 years (Mean = 19.5 years, $SD = 1.0$) completed the MSHS. Those data are compared to that of a sample of 214 older persons, 123 males and 91 females, aged 65 to 92 (mean = 77.9 years, $SD = 7.4$). The mean MSHS score for the younger sample (66.6, $SD = 11.7$) was much higher than that achieved by the older respondents (57.2, $SD = 14.6$), a difference that was highly significant ($t = 7.1, p < .0001$). The older respondents' scores, as might have been anticipated, had a higher standard deviation. This is understandable. For one thing, they had an age spread of 27 years, compared to an age spread

of only four years for the younger sample. They were by their nature a more diverse group. A prevailing concept in the field of gerontology is that people become more heterogeneous as they get older. The Cronbach α of reliability for the younger and older groups (.898 and .891, respectively), however, were practically identical, which is some evidence that within groups the subjects had a similar understanding of the scale items. Not only does total MSHS score differ by age, but there is also evidence upon which to conclude that younger and older persons construe sense of humor differently. Tables 2 and 3, for example, give Varimax rotated factor matrices for these two groups. While the first factor, Items #1–11, was essentially similar for both groups, the remaining factor matrices for the two samples were quite different. The younger subjects, for example, had a four-factor solution; the older respondents a six-factor solution. After the principal factor, there was quite a lot of difference between groups in the ways that the items loaded. Appreciation of humor and coping humor sorted out differently for the older people, while these were fairly uniform constructs with the younger respondents.

A hypothesis based on this analysis might be that sense of humor, rather than developing in a linear fashion over the course of the life span (or, in essence, as a series of parallel continua over time), becomes more diverse. This would make some sense. Other abilities become more diverse in later life, and there is no reason to think that sense of humor should be any different. Differences in physical and mental abilities become broader as individuals age. And, the kinds of things measured by the MSHS, humor creativity, coping, appreciation of humor, and appreciation of humorous people, theoretically are all developmental, depending on certain things.

Table 2. *Varimax Rotated Factor Matrix, MSHS Items, for 199 Persons Aged 17 to 21 Yrs*

Item	Factor			
	I	II	III	IV
1. I can often crack people up with the things I say.	.70			
2. Other people tell me that I say funny things.	.72			
3. I'm regarded as something of a wit by my friends.	.69			
4. I can say things in such a way as to make people laugh.	.78			
5. Sometimes I think up jokes or funny stories.	.71			
6. My clever sayings amuse others.	.78			
7. I'm confident that I can make other people laugh.	.79			
8. People look to me to say amusing things.	.79			
9. I use humor to entertain my friends.	.74			
10. I can ease a tense situation by saying something funny.	.67			
11. I can actually have some control over a group by my uses of humor.	.76			
12. People who tell jokes are a pain in the neck.			.59	
13. Calling somebody a "comedian" is a real insult.			.57	
14. I like a good joke.			.54	
15. I'm uncomfortable when everyone is cracking jokes.			.53	
16. I dislike comics.			.69	
17. I appreciate those who generate humor.				.65
18. Uses of humor help to put me at ease.				.73
19. I can use wit to help adapt to many situations.	.54			
20. Trying to master situations through uses of humor is really dumb.		.63		
21. Humor helps me cope.		.55		
22. Humor is a lousy coping mechanism.		.58		
23. Uses of wit or humor help me master difficult situations.		.71		
24. Coping by using humor is an elegant way of adapting.		.68		
Percentage of variance	32.6	13.2	6.8	4.8
Eigenvalue	7.82	3.16	1.63	1.15

Table 3. Varimax Rotated Factor Matrix, MSHS Items, for 214 Persons Aged 65 to 92 Yrs

Item	Factor					
	I	II	III	IV	V	VI
1. I can often crack people up with the things I say.	.81					
2. Other people tell me that I say funny things.	.81					
3. I'm regarded as something of a wit by my friends.	.82					
4. I can say things in such a way as to make people laugh.	.80					
5. Sometimes I think up jokes or funny stories.	.77					
6. My clever sayings amuse others.	.78					
7. I'm confident that I can make other people laugh.	.78					
8. People look to me to say amusing things.	.78					
9. I use humor to entertain my friends.	.68					
10. I can ease a tense situation by saying something funny.	.68					
11. I can actually have some control over a group by my uses of humor.	.69					
12. People who tell jokes are a pain in the neck.					.74	
13. Calling somebody a "comedian" is a real insult.					.75	
14. I like a good joke.				.72		
15. I'm uncomfortable when everyone is cracking jokes.			.76			
16. I dislike comics.						.75
17. I appreciate those who generate humor.				.72		
18. Uses of humor help to put me at ease.				.65		
19. I can use wit to help adapt to many situations.		.62				
20. Trying to master situations through uses of humor is really dumb.			.63			
21. Humor helps me cope.		.69				
22. Humor is a lousy coping mechanism.			.71			
23. Uses of wit or humor help me master difficult situations.		.80				
24. Coping by using humor is an elegant way of adapting.		.69				
Percentage of variance	33.3	12.8	6.7	5.4	4.6	4.2
Eigenvalue	7.99	3.08	1.59	1.29	1.09	1.01

That is, coping, for instance, depends on social circumstances. Older people have had greater opportunities to cope: they have been much more likely than young people to have been confronted by circumstances that demand coping skills. Further, there is always the prospect of a "weeding out" phenomenon: Those who *cannot* cope perhaps are less likely to survive into old age. So, there is both the prospect of a sorting effect and the possibility that older subjects have had more practice in the development of coping skills, humor among them.

Humor creativity, likewise, may have a developmental pattern, but in a downward direction over time. That is not to say that the practice of humor generation does not hone one's skills as one ages. Rather, the *necessity* in social circumstances for humor creation may be greater at younger ages. Young people may *try* harder. Further, there are some things that humor creativity is dependent upon. One is a quick wit. There is a great deal of research in the gerontological literature to indicate a decline in mental abilities—especially speed—that is most pronounced in the eighth and ninth decades of life. These subjects were not screened by mental ability, and it is inevitable that some at least were bothered by illness, slowing responses, or dementia. And, perhaps there is less social demand for humor generativity among the very old.

There may also be something of a cohort effect. Young people in this sample were raised in an environment in which they were exposed to a constant barrage of purportedly humorous

stimuli. The older subjects did not have the exposure in their formative years to the panoply of comedy now provided by electronic media. Humor may simply have had less emphasis in their lives and thus less importance. This might explain both their different constructions of humor creativity as well as appreciation of humor and of humorous people. Of course, only longitudinal studies would give conclusive information as to whether or not particular elements of sense of humor are developmental.

Note that the MSHS is not an achievement test; it is a set of self-descriptors. It does not give information on whether young people are "funnier" than older people, merely an indication of how people view themselves and others vis-a-vis humor. So, there may also be a cohort effect in terms of historical circumstances in this regard. That is, it may be more socially acceptable for young people in contemporary society to "be funny" in comparison to norms among a similarly-aged cohort two generations ago. Trying to "be smart" or to "be funny" may have historically been viewed with less favor—or, in fact, with considerable disfavor—compared to contemporary circumstances. Young people may in fact find a much greater level of social approval for the development of their humor-creation skills than did their grandparents. This would, in part, help to explain the very large differences in total MSHS scores between the two age samples.

Gender

Most uses of the MSHS have found overall scores to be pretty much gender neutral. A detailed analysis of the factors and items, however, reveals some differences in constructions of sense of humor between males and females. Thorson & Powell (1996), found that male respondents typically score higher on the items found in the scale's first factor, humor creativity and social uses of humor, while women score higher on the second factor, coping humor.

An analysis of data gathered for the present study indicates that there is some evidence upon which to speculate as to gender differences in sense of humor. Table 4 presents an item analysis from a student sample that completed the MSHS. There were 136 males, ranging in age from 18 to 48 years ($SD = 7.1$), and 213 women, ages 17 to 52 ($SD = 9.1$).

It should be noted for scoring purposes that the negatively phrased items (Numbers 12, 13, 15, 16, 20, and 22) are reversed in scoring. It can be seen in this comparison that there were significant male/female differences on six of the scale's 24 items:

1. "I can often crack people up with the things I say"—males scored significantly higher than females ($t = 2.37, p < .02$).
3. "I'm regarded as something of a wit by my friends—males were significantly higher than females ($t = 2.31, p < .05$).
4. "I can say things in such a way as to make people laugh"—males were again significantly higher than females ($t = 2.25, p < .05$).
5. "Sometimes I think up jokes or funny stories"—males were higher ($t = 3.16, p < .01$).
10. "I can ease a tense situation by saying something funny"—males were significantly higher than females ($t = 3.78, p < .01$).
13. "Calling somebody a 'comedian' is a real insult"—this is the only item upon which females had a significantly higher mean item score ($t = 2.16, p < .05$).

Each of the items in the MSHS is scored on a Likert scheme with five possible responses: 0 = strongly disagree, 1 = disagree, 2 = neutral (or no response), 3 = moderately agree, and 4 = strongly agree. What one first notices in this item analysis, other than the gender differences we have pointed out, is that all item means exceed the theoretically neutral value of 2.0.

Table 4. Item Analysis: Mean MSHS Scores of Males ($n = 136$) and Females ($n = 213$)

Item	Males		Females	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. I can often crack people up with the things I say.	2.93**	.74	2.72	.85
2. Other people tell me that I say funny things.	2.72	.83	2.68	.84
3. I'm regarded as something of a wit by my friends.	2.63*	.86	2.41	.87
4. I can say things in such a way as to make people laugh.	2.94*	.74	2.74	.85
5. Sometimes I think up jokes or funny stories.	2.46***	.89	2.12	.95
6. My clever sayings amuse others.	2.67	.72	2.59	.79
7. I'm confident that I can make other people laugh.	2.69	.91	2.55	.87
8. People look to me to say amusing things.	2.29	.91	2.18	.89
9. I use humor to entertain my friends.	2.63	.88	2.49	.89
10. I can ease a tense situation by saying something funny.	2.97***	.77	2.63	.84
11. I can actually have some control over a group by my uses of humor.	2.41	.86	2.25	.88
12. People who tell jokes are a pain in the neck.	3.27	.77	3.39	.79
13. Calling somebody a "comedian" is a real insult.	3.12	.80	3.32*	.87
14. I like a good joke.	3.43	.70	3.50	.67
15. I'm uncomfortable when everyone is cracking jokes.	3.02	.97	3.10	.98
16. I dislike comics.	3.30	.90	3.30	.88
17. I appreciate those who generate humor.	3.33	.62	3.45	.65
18. Uses of humor help to put me at ease.	3.19	.66	3.31	.62
19. I can use wit to help adapt to many situations.	2.81	.77	2.72	.81
20. Trying to master situations through uses of humor is really dumb.	3.18	.90	3.33	.79
21. Humor helps me cope.	2.91	.74	2.94	.86
22. Humor is a lousy coping mechanism.	3.25	.75	3.38	.84
23. Uses of wit or humor help me master difficult situations.	2.67	.79	2.74	.92
24. Coping by using humor is an elegant way of adapting.	2.71	.83	2.72	.90

* $p < .05$; ** $p < .02$; *** $p < .01$.

That is, most people give a response of "moderately agree" or "strongly agree" on every item. Because of social desirability effects, we would not expect people to rate themselves low on these particular items. By using a series of self-descriptors, we simply look at the array of scores relative one to another. The MSHS is not a test of humor appreciation, whether or not one "gets" the joke, or whether or not one can insert the best punch line or cartoon caption. Rather, it is an assessment of one's own behaviors relative to humor and attitudes toward humor. People are compared to each other on the relative magnitude of their responses and how true they feel each descriptor is of their own behavior.

These responses are to items that deal with theoretically distinct elements of sense of humor. Look, for example, at the two items in Table 4 that show the greatest differences between the sexes, Items 5 and 10. "Sometimes I think up jokes or funny stories" was developed to tap the creativity element in sense of humor. "I can ease a tense situation by saying something funny" was an item designed to assess social uses of humor, using humor as a social lubricant. (The fact that they merged into the same principal factor is one of the vagaries of the factor analysis procedure; they are still conceptually distinct items.) This is the reason we have not emphasized the use of the various factors as subscales, which would imply their equal importance or weight; this is obviously not the case with the MSHS factors.

To go beyond our earlier factor-analytic studies, though, one merely needs to take a look at the items themselves. As can be seen in Table 4, the first five items account for most of the

male/female differences. They all deal with the concept of creation and uses of humor. The next five items have to do with social uses of humor. Item 10 has a social lubricant motive and 11 a social control motive. Items 12, 13, 16, and 17 have to do with appreciation of humorous people, and Items 14 and 15 deal with appreciation of humor itself. The remaining items all deal in one way or another with a coping motive. So, the greatest male/female differences clearly lie in the element of creativity.

RELATIONSHIPS WITH OTHER PSYCHOLOGICAL TESTS

Personality, Religiosity, and Death Anxiety

We have reported data on the MSHS and personality in an earlier article (Thorson & Powell, 1993d), using a sample of 426 adults ranging in age from 18 to 90 years (mean = 37.9 years, $SD = 21.7$). They had completed the MSHS and the Edwards Personal Preference Schedule (EPPS), a scale that assesses 15 different personality traits (Edwards, 1959). In that analysis we looked especially at how MSHS factors correlated differently with EPPS traits for those high and low in sense of humor score. More complete data with a more recent sample are presented here in Tables 5 and 6, giving EPPS trait correlates for men and women, respectively, for the total MSHS as well as its four factors. These tables also report correlations of the MSHS and its individual factors with two additional scales: Hoge's (1972) 10-item measure of Intrinsic Religious Motivation (IRM) and the Revised Death Anxiety Scale (RDAS) (Thorson & Powell, 1992), as well as the factorial intercorrelations of the MSHS itself. There are several gender differences that are significant.

Table 5. *Correlations, Humor and Personality, 136 Males*

Variable	Total MSHS	MSHS Factors			
		I	II	III	IV
Personality traits					
Achievement	-.12	-.09	-.11	-.08	-.08
Deference	-.13	-.15	.04	-.15	-.08
Order	-.06	-.07	.02	-.11	-.01
Exhibition	.21*	.28**	.04	.06	.08
Autonomy	-.02	.02	-.14	.03	-.03
Affiliation	.03	.02	.06	.04	-.01
Intraception	-.02	-.11	.19*	-.08	-.08
Succorance	-.10	-.18*	-.01	.03	.02
Dominance	.19*	.24**	.04	.07	.09
Abasement	-.02	-.04	-.00	.07	-.02
Nurturance	.10	.02	.17	.11	.06
Change	.07	.06	.08	.03	.07
Endurance	-.14	-.10	-.07	-.18*	-.03
Heterosexuality	.00	.05	-.14	.08	.08
Aggression	-.03	.02	-.13	.01	-.10
Intrinsic religiosity	.22**	.17	.31**	.02	.20*
Death anxiety	-.18*	-.09	-.23**	-.15	-.22*
Total Multidimensional Sense of Humor Scale		.88**	.81**	.57**	.70**
MSHS Factor 1			.55**	.25**	.47**
MSHS Factor 2				.38**	.58**
MSHS Factor 3					.55**

* $p < .05$; ** $p < .01$.

Table 6. Correlations, Humor and Personality, 290 Females

Variable	Total MSHS	MSHS Factors			
		I	II	III	IV
Personality traits					
Achievement	-.04	-.01	-.06	-.08	-.07
Deference	-.10	-.17**	.08	-.09	.09
Order	-.12*	-.18**	-.00	.01	.03
Exhibition	.23**	.32**	.03	.04	-.05
Autonomy	-.00	.00	.03	-.08	-.03
Affiliation	-.03	-.03	.05	-.06	-.01
Intraception	-.04	-.10	.06	.03	-.00
Succorance	-.03	-.02	-.06	.05	.01
Dominance	.14*	.16**	.06	-.02	.07
Abasement	-.07	-.08	-.07	.08	-.08
Nurturance	.01	.01	.00	.07	-.04
Change	.09	.08	.07	-.01	.13**
Endurance	-.10	-.14*	.03	-.07	.02
Heterosexuality	.10	.09	-.01	.11	.04
Aggression	-.04	.07	-.18**	-.07	-.11
Intrinsic religiosity	-.05	-.08	.09	-.04	.00
Death anxiety	-.11	-.00	-.19**	-.12*	-.14*
Total Multidimensional Sense of Humor Scale		.85**	.75**	.55**	.49**
MSHS Factor 1			.38**	.20**	.17**
MSHS Factor 2				.46**	.52**
MSHS Factor 3					.42**

* $p < .05$; ** $p < .01$.

Data in Table 5 indicate no significant relationships between the MSHS and its factors for the first three EPPS traits, achievement, deference, and order. This male sample ($n = 136$) ranged in age from 18 to 85 (mean = 34.3 years, $SD = 20.2$). For the next trait, exhibition, there is a significant positive correlation for the male sample ($r = .21, p < .05$); it is clear that the variance lies in Factor I, humor creativity or generation ($r = .28, p < .01$). The correlations between exhibition and the remaining three factors (coping, appreciation of humorous people, and appreciation of humor, respectively) are insignificant. Ruch (1994) has observed that this relationship of humor creativity and exhibition may be similar to his finding of a relationship of appreciation of humor and the Eysenck extraversion construct. There are no significant correlates for these male respondents for the next two personality traits, autonomy and affiliation.

Succorance, however, has a negative relationship ($r = -.18, p < .05$) with Factor I of the MSHS. For men, those higher in humor creativity are lower in succorance. Dominance is higher among men higher in humor creativity ($r = .24, p < .01$), which is the most robust of the relationships found in Table 5. The men in this sample who are higher in the creation of humor have something of a need to dominate others. The only other significant correlation found among the EPPS traits reported in Table 5 is a negative one, endurance and appreciation of humorous people ($r = -.18, p < .05$). There is seemingly a relationship between attitude toward humorous people and lack of endurance.

Additional scales were used in this survey. One was Hoge's (1972) scale to assess Intrinsic Religious Motivation (IRM), which has been used in other studies of aging and coping (Thorson & Powell, 1990). It purports to assess the personal meaning of religious belief, as distinct from "extrinsic" religiosity (church-going behavior and uses of religious activities for purposes of

socialization). The overall scores on the IRM and the MSHS have a significant correlation in the male sample of .22 ($p < .01$). The key element here is with coping humor, Factor II, which shows a relatively strong relationship with intrinsic religiosity ($r = .31, p < .01$). One could infer from these data, then, that those higher in intrinsic religious motivation are also higher in uses of coping humor.

The Revised Death Anxiety Scale data also show some significant correlates. As can be seen in Table 5, those males higher in death anxiety were lower in overall MSHS score ($r = -.18, p < .05$); the difference clearly lies in the coping dimension. Males higher in death anxiety were lower in coping humor (or vice versa) ($r = -.23, p < .01$). They were also lower in appreciation of humor ($r = -.22, p < .05$). The remainder of the table merely gives the cross-correlations of the MSHS and its four factors.

The data in Table 6 are for 290 women aged 18 to 90 (mean = 39.5 years, $SD = 22.3$). Like the males, these respondents show no significant relationship of sense of humor with achievement. Unlike the males, though, women higher in humor creativity were lower in deference ($r = -.17, p < .01$). Women higher in humor creativity were, like the males, much higher in exhibition ($r = .32, p < .01$). They, however, were not lower in succorance, as were those in the male sample. They were similar to the men in being somewhat higher in dominance ($r = .16, p < .01$). But unlike the men, women higher in humor creativity were significantly lower in the EPPS trait of endurance. Another difference was that women lower in aggression were higher in coping humor ($r = -.18, p < .01$). It should be noted that, because of the relative size of the samples, some correlations that were statistically significant for the women were *not* for the men; the relationship of MSHS and deference is an example. Also, the correlation for men between nurturance and coping humor was .17, a relationship that would have been statistically significant in a slightly larger sample.

For this sample of women there were no relationships between sense of humor and intrinsic religiosity. There were, however, three significant relationships between elements of the MSHS and death anxiety. Women who had higher scores on the RDAS were lower in coping humor ($r = -.19, p < .01$), appreciation of humorous people ($r = -.12, p < .05$), and appreciation of humor itself ($r = -.14, p < .05$). So, for both the men and the women in these samples, those higher in uses of coping humor clearly are lower in death anxiety.

Depression

Like death anxiety, there is a negative relationship between sense of humor and depression. We asked a sample of 347 adults (213 women and 134 men, ages 17 to 52, mean age 28.2 years, $SD = 8.4$ years) to complete the MSHS and Radloff's (1977) Center for Epidemiological Studies Depression Scale (CES-D). The correlation between the scores on the two instruments was $-.18$ ($p < .05$) (Thorson & Powell, 1994). The MSHS scores for this group ranged from 28 to 95, mean = 68.9, $SD = 11.2, \alpha = .904$. This study partially confirmed earlier data reported by Deaner and McConatha (1993), who found a similar negative correlation between the inventory to Diagnose Depression and Martin and Lefcourt's Coping Humor Scale (1983), their Situational Humor Response Questionnaire (1984), and Svebak's Sense of Humor Questionnaire (1974). Thus, there are at least two studies in the literature, using different instruments and samples, demonstrating a negative relationship between sense of humor and depression.

Arousability, Optimism, Extroversion, Self-Esteem, and Coping

Sarmany-Schuller has administered the MSHS in Slovak translation to five groups of young adults, 207 males and 60 females in total, aged 18 to 23 years, along with a number of other

psychological tests. The MSHS means for the five groups ranged from 61.2 to 67.9, with standard deviations in the range of from 8.6 to 11.3. Combining Sarmany-Schuller's data, the males achieved a group mean of 63.85 ($SD = 9.76$) and the females a group mean of 61.73 ($SD = 10.65$), a difference that was not significant. These means were comparable, if a little lower, to those achieved by American samples who had completed the MSHS in English.

Sarmany-Schuller gave the first of these groups (49 males and 26 females, average age 18.7 years, $SD = 2.8$) the MSHS and Levy's (1985) 16-item scale to measure optimism and pessimism; on it, higher scores indicate higher pessimism. Sarmany (1992) had earlier found a relationship between optimism and cognitive style. The correlation of the MSHS and the Levy scale achieved in the present study was $-.40$ ($p < .001$); pessimists scored much lower on sense of humor. This first sample also completed The Eysenck Personality Inventory (Eysenck & Eysenck, 1964); the MSHS correlated at the level of $.56$ ($p < .001$) with Extroversion and $-.27$ ($p < .01$) with Neuroticism. These respondents also completed Martin and Lefcourt's (1983) Coping Humor Scale; the correlation with the MSHS was $.46$ ($p < .001$). Sarmany-Schuller's second group merely consisted of 22 males and 10 females; they completed no tests other than the MSHS.

The third group consisted of eight males and four females. In addition to the MSHS, they completed a device created by Amirkhan (1990) designed to assess coping strategies: problem solving, seeking support, and avoidance. Higher scores on these items indicate a greater likelihood to use escape as a coping strategy; these items had a high level of correlation with the Avoidance subscale of the Ways of Coping Checklist (Vitaliano, Russo, Carr, Maiuro, & Becker, 1985). In the present analysis, nonsignificant correlations were obtained in the case of the uses of instrumental problem-solving strategies ($r = -.157$) and social support seeking ($r = -.078$), but the correlation with escape strategy was a statistically significant $-.64$ ($p < .05$). Those with higher sense of humor were much lower in escape as a coping strategy. These same individuals also completed the Negative Self Esteem Scale (Franken, Gibson, & Rowland, 1992), which consists of 11 items patterned after Coopersmith's (1967) Self-Esteem Scale. "The negative self-esteem index represents the degree to which people view their outcomes with the environment in negative terms" (1992, p. 32). A higher score indicates more negative self-esteem. The MSHS correlation with this scale was $-.57$ ($p < .05$), indicating that those higher in sense of humor had less negative self-esteem.

Group 4 had 66 men and nine women; they completed the MSHS and three additional psychological scales. First was the Levy (1985) optimism-pessimism scale; the correlation with the MSHS was $-.26$ ($p < .05$); pessimists had a lower MSHS score. Next was an instrument designed by El-Zahhar (1986) to assess anxiety and arousability. Those items were adapted from Mehrabian's (1977) measure of stimulus screening/arousability. They are scored so that higher scores indicate greater arousability. El-Zahhar and Hocevar (1991) found females to be higher in arousability as well as anxiety. The MSHS correlation with arousability was $.25$ ($p < .05$); those higher in sense of humor were also higher in arousability. This sample also completed an index of coping responses developed by Billings and Moos (1984). Four items from their appraisal-focused coping instrument were used; they dealt with logical analysis and information seeking as coping responses. The MSHS correlation with these items was $.27$ ($p < .05$).

Sarmany-Schuller's fifth group consisted of 62 men and 11 women. They completed the MSHS and Levy's (1985) optimism-pessimism scale; the correlation was $-.25$ ($p < .05$); pessimists had a lower score on the sense of humor scale. Also completed was the arousability index developed by El-Zahhar (1986); the MSHS correlation with that was $.29$; those higher in sense of humor were also higher in arousability. Finally, these respondents completed the Billings and Moos (1984) items; those higher in sense of humor used more logical analysis and information seeking as coping responses ($r = .28$, $p < .02$).

Intimacy and Extraversion

Hampes has done a number of studies with the Multidimensional Sense of Humor Scale. One (1994) is already in the literature and will be summarized briefly; his current research will be reported in somewhat greater detail. First, Hampes looked for an association between sense of humor and intimacy. His sample consisted of 20 male and 40 female college freshmen and sophomores; they completed the MSHS and the Measures of Psychosocial Development (Hawley, 1988). It has 112 items in a Likert format; one of the scales within the instrument is Intimacy vs. Isolation. Those scoring higher in intimacy ($n = 31$) were compared to the others ($n = 29$) lower in intimacy. Hampes found those high in intimacy were also higher in sense of humor ($t = 2.28, p < .05$), and that intimacy and sense of humor were positively related ($r = .24, p < .05$) (1994).

Hampes has continued to probe into the apparent relationship between sense of humor and extraversion. More specifically, he has examined specific facets of extraversion: warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions as defined by the NEO PI-R (Costa & McCrae, 1992). The Extraversion Scale of the NEO PI-R contains 48 self-report items, each item involving five Likert response choices. These 48 items are in turn broken down into the six facets mentioned above. He administered the Extraversion scale of the NEO PI-R, the MSHS, Martin and Lefcourt's Situational Humor Response Questionnaire (1984) and their Coping Humor Scale (1983) to 25 male and 63 female community college students; they ranged in age from 17 to 45 years. Results are shown in Table 7. It can be seen that none of the humor scales had a significant correlation with the activity facet of the Extraversion scale, but that all of them had significant correlations with each of the other facets as well as the total Extraversion Scale itself. MSHS correlations were in each case somewhat higher than those of the SHRQ or CHS. In any event, it is clear that there are close relationships between sense of humor and extraversion and its elements.

Other Measures

B. Manke (personal communication, January 27, 1995) administered the MSHS and a number of other scales to samples of mothers ($n = 83$) and older siblings ($n = 79$) as a part of her continuing research with the Colorado Sibling Study (Dunn, Stocker, & Plomin, 1990). She found no gender main effects for the total MSHS score or for the scores of any of the subscales, but did find a main effect for adoptive status for the adolescents in nonadoptive families, who scored higher than those in adoptive families. Cronbach α for the MSHS as a whole were .92 for the mothers and .95 for the adolescents.

Table 7. Correlations Between Extraversion and Measures of Sense of Humor ($n = 88$)

Extraversion	SHR-Q	CHS	MSHS
Warmth	.49**	.38**	.53**
Gregariousness	.34**	.24*	.38**
Assertiveness	.22*	.32**	.36**
Activity	.14	.13	.16
Excitement seeking	.36**	.25*	.41**
Positive emotions	.36**	.46**	.62**
Total extraversion	.51**	.43**	.59**

* $p < .05$; ** $p < .01$.

I. Khramtsova (personal communication, January 26, 1995) administered the MSHS and a measure of her own construction to assess appreciation of teachers who use humor to 80 undergraduate Educational Psychology students. She found a correlation of .24 ($p < .02$) between the two measures.

Tisdell (1994) gave the MSHS and a measure of daily hassles to 73 undergraduates. The relationship was not significant between MSHS score and number of daily hassles ($r = .13$), nor was there a significant correlation between humor and severity of hassles ($r = .18$) or intensity of hassles ($r = .12$). There was a significant relationship, however, between perceived severity of hassles and the coping humor items ($r = .27, p < .02$).

Kaufman (1995) gave a French translation of the MSHS to 424 Canadian adults, along with Martin and Lefcourt's Coping Humor Scale (1983) and their Situational Humor Response Questionnaire (1984). The correlations were .56 ($p < .001$) and .47 ($p < .001$), respectively.

Humke and Schaefer (1996) tested 51 female and 35 male mental health workers, aged 24 to 57, with the MSHS and the Franck Drawing Completion Test (Schaefer, 1969), a test of creativity. The correlation between the humor and creativity scores was .77 ($p < .01$).

Köhler and Ruch (1996) tested 108 adults, 51 males and 57 females ranging in age from 17 to 83 years (mean = 45.6 years, $SD = 15.8$) with a battery of humor inventories in German translation, the MSHS included, as well as his State-Trait Cheerfulness Inventory (STCI), which purports to assess such elements as cheerfulness, seriousness, and bad mood. The Cronbach α for the MSHS in this analysis was .91. The MSHS correlated significantly with various elements of the STCI: with cheerfulness ($r = .68, p < .001$), with seriousness ($r = -.41, p < .001$), with bad mood ($r = -.47, p < .002$), and with the total STCI ($r = .65, p < .001$).

CONCLUSION

A variety of studies using the Multidimensional Sense of Humor Scale are presently being conducted. It is available in several different translations (English, French, Spanish, Slovak, Hebrew, German, Russian, and Finnish) at no charge from the senior author. So far, the scale has been tested with a number of large samples in several countries and has shown acceptable psychometric properties, a consistent factor structure, construct validity, high α s of reliability, ease of administration and convenience in scoring. As far as we are aware, this is one of the few such assessment tools designed specifically in response to a theoretical position on sense of humor, and it seems to reflect the multidimensional nature of humor. Its relationships with other psychological tests also have all been in the direction that might be hypothesized; the MSHS has been shown to correlate positively with exhibition, dominance, warmth, gregariousness, assertiveness, excitement seeking, creativity, intrinsic religiosity, arousability, positive emotions, extraversion, and cheerfulness. It has been shown to correlate negatively with neuroticism, pessimism, avoidance, negative self-esteem, deference, order, endurance, aggression, depression, death anxiety, seriousness, perception of daily hassles, and bad mood.

Suggestions for future research might include several things. It would, of course be desirable to look longitudinally at the developmental nature of sense of humor across the lifespan. At present, resources are such as to make this kind of research improbable at best, and we most likely will be forced to continue with cross-sectional studies comparing groups one to another. The seeds for cross-national studies are being sewn, and here is a realm for a wide body of research. It would also be interesting to see how sense of humor varies along a liberal-conservative continuum. A correlational study of sense of humor and performance intelligence might be in order. Finally, it would be interesting to know how sense of humor relates to personal values as well as physical health. From the research that has been done to date, it would seem that sense of humor is related to a number of elements of psychological health.

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