

Title	Current research findings of humor and sense of humor : Various effects on physiological and psychological health
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Citation	臨床死生学年報. 2001, 6, p. 77-88
Version Type	VoR
URL	https://doi.org/10.18910/3641
rights	
Note	

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Current research findings of humor and sense of humor : Various effects on physiological and psychological health.

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Key words : humor, sense of humor, psychological and physiological health

INTRODUCTION

The hypothesis that humor has a good effect on physiological and psychological health has long been held by several scholars and laypersons alike. Various theories were suggested and a great amount of studies was performed to demonstrate salutary effects of humor. Several are going to be described below.

HUMOR AND SENSE OF HUMOR

What's "humor"?

Humor has been conceptualized in many ways. Though, according to Gruner (1978), there are over 100 documented theories of humor, I would like to make a short notice of three theories especially about its sources or mechanisms, which will be a great help for us to understand humor.

First, Kant (1790) and Schopenhauer (1891) thought that humor results from the discovery of an incongruity. For instance, people don't laugh at one of their friends slips on a banana skin, but they do when they witness a great professor who swaggers around as usual, and then, unexpectedly, slips and falls on his behind (Bergson, 1938).

Freud (1905, 1928) explained humor as an economical mechanism of psychological energy. He supposed that wit is an acceptable way to express one's repressed aggressiveness. A person feels pleasure and laugh when his repressed or unused energy is released. Finally, superiority theories regard humor origin as one's desire to feel superior to another (Hobbes, 1651).

Ueno (1992) provided an overall definition that humor is a phenomenon, which can be explained in terms of expression and perception of funny stimuli, and he classified it into three categories in terms of motivation; playful, aggressive, and support-relief humor.

Playful humor, such as nonsense jokes, puns, and slapsticks, are used to amuse oneself or others. Aggressive humor like sarcasm and black humor are means to assault people and make oneself feel superior to others. Support-relief humor serves to encourage, cheer, and ease oneself as well as others. This Ueno's definition is most inclusive and meaningful, and it seems to be helpful to deal with humor issues.

What's a "sense of humor"?

There seems to be general agreement among us that a sense of humor is a highly desirable trait to possess. What do we mean by a "sense of humor"? Humanistic psychologists considered a sense of humor from rather philosophical perspectives. They regarded a sense of humor as a characteristic of the healthy or mature personality (Allport, 1961) and a trait of a "self-actualizing" person (Maslow, 1954). May (1953) said that a sense of humor helps us to preserve the sense of self and makes us to be able to feel a distance between one's own self and the problem. They claimed that a genuine sense of humor is rare to be possessed, and distinguished it clearly from telling jokes or punning, which is called barbaric humor (Allport, 1961) or regarded as the way to avoid temporarily from anxiety (May, 1953). However, we enjoy nonsense jokes, funny stories, and sometimes, rather sexual or aggressive humor in everyday life. Since, as many researches and laypersons noted, such humor of more common forms potentially have a great deal of benefits delighting us, releasing us from tension, or providing us a good tool to communicate with others, we should better not ignore these daily humors to investigate into salutary effects of humor.

In this connection, Eysenck (1972) indicated three dependant meanings. He said, "a person with a good sense of humor" might be somebody who laughs at the same materials as we do; this is a conformist meaning. Or he/she may be a person who laughs and smiles a good deal and is easily amused; this is a quantitative meaning. Or he/she may be a person who hits on a lot of jokes or tells funny stories and amuses other people frequently; this is a productive meaning. In the beginning of a body of humor studies, scholars had most focused on humor of the conformist meaning. They put in great efforts to explain what elements cause difference among subjects in degree to recognize humor, which can be measured by their reaction to humorous cartoons, videotapes, or jokes. This course of studies provokes new interests concerning the relation to personality, represented by such question; "what kind of people prefer humor or be able to recognize and enjoy humor?" In 1980's, Martin and Lefcourt especially had worked on humor in both of the quantitative and the productive meaning in their series of studies mainly on stress moderating effects of humor, which accomplishments are going to be described in the subsequent chapter.

Besides, Svebak (1974) and Thorson and Powell (1993) mentioned, as the other important aspects of a sense of humor, the evaluation of humor or humorous people. Thorson and Powell, recognized humor as a coping mechanism, wrote "Sense of humor overall is really a way of looking at the world: It is a style, a means of self-protection and getting along." They claimed that humor has a multidimensional construct and each element seems to make up an individual's repertoire of humor, such as recognition, appreciation, evaluation, production of humor, or sensitive emotional reactions to humor, for example, laughing or smiling.

Assessment Tools

There are mainly two ways to assess subjects' sense of humor. One is to observe subjects' actual performance of humor, and the other is to evaluate subjects' sense of humor with using measures. Among instances of the former method, these four are most common ways; (1) Subjects are instructed to rate their appreciation (i.e. the degree of finding them funny) to the humorous cartoon or comedy videotape, (2) Subjects are asked to make instant humorous speeches about odds on a table, (3) Subjects are demanded to make humorous narratives on stressful films (e.g. a film of circumcision. See Martin and Lefcourt in 1983), (4) Subjects are observed and rated how many times they laugh at humorous videos.

Four humor measures of frequently use are Svebak's Sense of Humor Questionnaire (SHQ; Svebak, 1974), the Coping Humor Scale (CHS; Martin & Lefcourt, 1983), the Situational Humor response Questionnaire (SHRQ; Martin & Lefcourt, 1984), and the Multidimensional Sense of Humor Scale (MSHS; Thorson & Powell, 1993). The SHQ originally had three subscales, each of which consists of 7 items; Meta-Message Sensitivity, which assesses an ability to notice humorous stimuli, Personal Liking of Humor, which assesses an evaluation of humor or humorous people, and Expressiveness, which assesses a tendency to laugh or cry. For the latest subscale was demonstrated to have low correlation to other elements of sense of humor in several studies, other two has been in normally use. The SHRQ and the CHS were developed by Martin and Lefcourt to investigate into the stress-moderating effects of humor. The SHRQ is designed to assess subjects' sense of humor, defined as the frequency with which they display mirth in a wide variety of life situations. It is composed of 18 items in each of which a relatively common situation is described (e.g. "You were awakened from a deep sleep in the middle of the night by the ringing of the telephone and it was an old friend who was just passing through town and had decided to call and say hello."). Three additional self-description items are included in the scale. The CHS is a 7-item scale designed specifically to assess the degree to which subjects use humor as a means of coping with stressful experiences (e.g. "I can usually find something to laugh or joke about even in trying situations."). Both scales have been translated into several languages and a great number of researches provide evidence for the reliability and construct validity of these measures.

Thorson and Powell (1993) attempted to unite these measures mentioned above to assess overall sense of humor. They developed the Multidimensional Sense of Humor Scale (MSHS; 1993), which is composed of 24 items including 4 factors; first of all, humor generation or creativity, secondly coping humor, appreciation of humor, and finally, appreciation of humorous people. The relation to other humor variables and negative correlation with negative affect were reported by several researchers (Yoder & Haude, 1995; Thorson & Powell, 1997).

PHYSIOLOGICAL HEALTH AND HUMOR

There are two dimensions in salutary effects of humor. Receiving the humorous stimuli provides one of that, and the other was associated with having high sense of humor.

Norman Cousins, who suffered from extremely painful disease, mentioned the former effect. He referred humor as a facilitator of psycho-physiological health in his autobiographical book in 1979. He described about an anesthetic effect of laughter, which released him from severe pain. After 10 minutes of belly laughter, he could have at least 2 hours of pain-free sleep without any other analgesic medication. Effects of laughter were also observed in that a drop of at least five points in the sedimentation rate, which indicates a severity of inflammation or infection, occurring during episodes of laughter. This anecdotal evidence set off a great amount of investigations into salutary effects of receiving the humorous stimuli on psychological and physiological mechanisms. Mirthful responses to humor stimuli promoted muscle relaxation (Prerost, 1993), and positive contributes on various areas of physical function such as the cardiovascular system, respiratory behavior, or autonomic nervous system function (Fry & Stoff, 1971; Fry, 1994). Lefcourt, Davidson-Kats, and Kueneman (1990) provided the evidence of a relationship between humor and immune system functioning. They reported that S-IgA (Salivary Immuno-globulin A) concentration levels in subjects' saliva, that is one of the criteria of immunity levels, increased following the presentation of humorous stimuli, while remaining stable in a control study. What's more, subjects scored high on self-reported measures of sense of humor had larger increases than those with low scores did.

Carroll and Shmidt, Jr. (1990, 1992) reported that high sense of humor was related to perceived general physiological health among university students. Yoder and Haude (1995) presented a finding in support of a positive association between sense of humor (by MSHS) and longevity in their study about 33 older adults and their deceased siblings.

Hudak, Dale, Hudak and Degood (1991) found the effects of humor on increasing discomfort thresholds with transcutaneous end nerve stimulation among university students. Subjects watching humorous videotape increased discomfort thresholds, while those, especially with low sense of humor (by SHRQ), watching a nonhumorous tape decreased. There are other reports verify the positive effect of humor on tolerance for the cold water pressure for women, but not for men (Weaver & Zillman, 1994). In the study of Nevo, Keinn, and Teshimovski (1993), a positive relationship was found between tolerance of pain and sense of humor (produce and appreciate), but the humorous film did not help control pain more than the documentary film although subjects in humorous condition estimated the effectiveness of the film as higher. This inconsistency may be accounted for defects of strategy. Additional researches are needed.

PSYCHOLOGICAL HEALTH AND HUMOR

Many researchers reported that humor relates to mental health indicators, for instance, depression (Deaner & MaConatha, 1993; Overholser, 1992, Miyato, 1996), anxiety (Yovetich, 1990; Cann, Halt, Calhoun, & Lawrence, 1999; Thorson & Powell, 1993), extraverts (Ruch and Deckers, 1994), alienation (Overholser, 1992), self-esteem (Overholser, 1992; Martin, Kuiper, Olinger, & Dance, 1993).

Kuiper, Martin, & Dance (1992) reported that subjects with high sense of humor apt to evaluate their own role in everyday life to be important and content with them. In additional research, they found that those with high sense of humor have affirmative self-concept, describes themselves more positively, showing less discrepancies between actual and ideal self concepts, and have greater positive affect in response to both positive and negative life events than those with low sense of humor (Kuiper & Martin, 1993). Possible bases for such relationships will be considered in the following section.

Humor Treatment

There are a lot of reports about treatment effects of humor. In the laboratory study of Dworkin and Efran (1967), angered male subjects listened to humorous, non-humorous, or documentary recordings. Significant reduction of reported feelings of anger and anxiety were found in only humor conditions. There are additional reports with the same result (Leak, 1975; Ziv, 1987).

Humor treatment is also effective to depression and anxiety. In a study of Danzer, Dale, & Kliona (1990), female university students listened to a humorous or nonhumorous recording or no tape after watching at depression-inducing slides. The results show that both humor treatment and control condition significantly reduced induced depression. But Only the humor treatment successes to decrease to baseline levels.

Cann et al. (1999), in their laboratory study, assessed subjects' anxiety by the State-Trait Anxiety Inventory and affective state by the Positive and Negative Affect Scale prior to and after observing a stress-arousing movie. Following this stressor, subjects received a treatment including viewing a humorous videotape, a non-humorous videotape, or waiting without distraction before providing a final measure of affect and anxiety. The humor treatment successfully reduced anxiety and raised the positive affect relative to the waiting condition. The nonhumorous videotape also reduced anxiety, but did not increase the positive affect. In their following study, Cann, Calhoun, and Nance. (2000) noticed about the most effective timing of treatment for different emotional reaction. Humor treatment had an effect regardless of the timing of the treatment on depression and anger, whereas, on anxiety, it was most effective to be presented before the unpleasant experience. Yovetich's report (1990) provides a support for the effect of humor as a cure. In his laboratory study, subjects were falsely told that

they would receive a shock in 12 minutes. Subjects waited for a shock, listening to a humorous, a nonhumorous, or no tape. The analysis showed that the humor condition resulted in subjects' lower anxiety level.

Coping Humor

Freud (1905, 1928) described humor as a highest of the defense mechanism. Humor allows one to reject or ignore the demands of reality and win a victory noticing the paradoxical or absurd aspects of reality. Allport (1950) states that the neurotic who learns to laugh at himself may be on the way to self-management, perhaps to cure. According to Dixon (1980), humor brings us the rapid cognitive shifts, making us to be able to take a distance from problems, which is accompanied with changes in affective quality. In this connection, Kuiper, Mckenzie, and Melanger (1995) found greater levels of humor associated with inclination to take various perspectives to certain problem.

A person with high sense of humor tend to have more positive and self-protective cognitive appraisals in the face of stress (Kuiper, Martin, & Dance, 1992; Martin et al., 1993). Kuiper (1993) examined this hypothesis about appraisal and reappraisal of academic examination with female university students to show that high sense of humor (by CHS) appraised the exam as more of a positive challenge. In their reappraisals, high humor subjects' ratings of importance of the examination and levels of positive challenge were positively related to performance on the exam, whereas for low humor subjects this relationship was negative. High humor subjects also tend to report their grades were better than they expected, though low humor subjects incline to disappointed at them. These findings of negative correlation between sense of humor and both perceived stress and dysfunctional standards for self-evaluation would provide support for the proposal that a sense of humor may facilitate coping and adjustment.

Also, Thorson and Powell (1993) reported coping humor has a slight negative relation to anxiety of death among 426 subjects aged 18-90 years old.

Stress Buffering Effect

Although many studies demonstrated the relation between individual's past stressful life experiences and current physiological and psychological functioning (Holmes & Rahe, 1967; Holmes & Masuda, 1974; Paykel, 1974;), it turned out that there is much variation in the responses of individuals to similar life events (Rabkin and Struening, 1976; Sarason, Levine, & Sarason, 1982) so that many variables that supposed to have a moderating effect were examined. Among several variables which evidence has been found for stress-buffering role, it was found that humor relate to locus of control, extrovert, self-esteem, sensation seeking, alienation, social support, cognitive appraisal, attribution process and so forth.

The initial evidence for the stress-buffering role of humor was provided by the study of Martin and Lefcourt (1983). They used four different self-report scales of subjects'

sense of humor including creation of humor, liking of humor, inclination to laugh, and coping with humor. A negative-life-event checklist was used to predict stress scores on a measure of mood disturbance. In their study, subjects with high humor scores obtained significantly lower correlation between negative life events and mood disturbance than those with low humor scores did. Moderating effect of humor on this relation was found in their second study (Martin & Lefcourt, 1983); however, the ability to notice humorous stimuli was the only having no effects. They, referring to the study of Safranek and Schill (1982) in which they used appraisal of cartoons to assess subjects' sense humor to failed to obtain evidence of this effect of humor, suggested that not all components of humor serves to moderate stress. The apt to laugh in various situations and using humor to cope with problems seems to have important roles in stress-buffering effect.

In the prospective analysis by Nezu, Nezu, and Blissett (1988), significant main effects and interactions between stress and humor in the prediction of depression were found in both of the cross-sectional and prospective data sets, subjects with high sense of humor changed little with levels of stress, where those with low sense of humor showed increases in depression with stress. In contrary, anxiety seemed to be unrelated to humor. Nezu et al. pointed out that humor didn't moderate anxiety because an object of anxiety is not clear, and it may be caused by anticipating a bad outcome or misfortune, whereas depression is an emotional reaction after a certain experience of stressful events.

Kuiper and Martin (1998) found the stress-buffering effect of increased laughter. Although subjects' actual frequency of laughter for each day in a 3-day period has no relation directly with either current positive or negative affect, individuals with a higher frequency of laughter did not show greater levels of negative affect as stressful life events increased, while those with a lower frequency did. Kuiper and Martin (1998) emphasized that the importance in future researches to take account of stress variables to consider relationships between humor and negative affect.

In this field, as a result of precedence of experimental researches over theoretical studies, it is caused not only large inconsistency of design or method among each study but many fails to verify hypothesis. Establishment of a theoretical background will be needed.

CONCLUSION

As this review of the literature has demonstrated, a number of approaches have been taken to provide empirical supports for the assumption that humor plays the important role in beneficial ways to build up our general health. However, there is still no standard conception of humor or sense of humor on which researchers generally agree.

This lack of theoretical framework seems to be due to the confusion, poorness, and

discrepancy in products in the humor field. Even a great number of studies seem to have been carried out only to cause an overflow with different views, various hypothesis, and biases of each researchers. As there is a clear need for an agreed definition of the construct or identification of its structure and components, further research should be performed with deliberation and endeavor to make clear the aspect of humor which is going to be assessed in the study and kinds of subjects. Besides, to demonstrate more adequately the causal relations, further research using prospective and experimental methodologies entering on potential variables that intervene in the relationship between humor and the health is warranted.

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