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Impact of Sense of Humor on Perceived Stress among Undergraduate Medical Students: A Gendered Perspective

Abstract

The current study was envisioned to assess the relationship between perceived stress and numerous factors of sense of humor among undergraduate university medical students. The sample of this study (N = 220) was drawn conveniently and comprised of 104 female and 116 male undergraduate medical students with an age range of 18 to 30 years (M = 20.58, SD = 1.88). Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1993) and Multidimensional Sense of Humor Scale (James, Thorson, & Powell, 1991) were used to operationalize perceived stress and different factors of sense of humor, respectively. Multiple regression analysis reveals adaptive humor, appreciation of humor, and production and social use of humor as negative predictors of perceived stress whereas attitude towards humor and negation to use humor predict perceived stress in positive direction (R^2 = -.76, F (5, 214) = 138.98, p < .001).

Keywords: *sense of humor, adaptive humor, maladaptive humor, perceived stress, gender.*

INTRODUCTION:

Independent sample t-tests indicate that male students have significantly higher mean scores on appreciation of humor (Cohen's *d* = 3.28), adaptive humor (Cohen's *d* = 2.16), and production and social use of humor (Cohen's *d* = 1.28) whereas female students have higher mean scores on perceived stress (Cohen's *d* = 2.02), negation to use humor (Cohen's *d* = 3.58), and attitude towards humor (Cohen's *d* = 7.79). Implications of current study and suggestions for further research have also been elaborated.Modern life is jam-packed of psychological dysfunctioning such as frustration, depression, anxiety, and finally stress. Among all these, stress is a prevalent phenomenon to which every one of us is exposed at some point of our lives.

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The state of stress involves physiological and psychological components and it arises because of discrepancy between demands of situations and one's perceived motivation and capability to cope with those demands (Lazarus & Folkman, 1984).

The present research conceives humor as a multidimensional construct. It may be inherited in characteristics of a stimulus (animation and cartoons, comic movies, jokes), involves mental processes which generate, perceive, comprehend, and evaluate humor ("getting the joke") and includes individuals' responses (fun, delight, laughing, and joy) (Katy & Liu, 2012). Humor is considered as an absolutely positive trait but recently it has been categorized into two dimensions: adaptive and maladaptive (Katy & Liu, 2012). The component of maladaptive humor includes negation of using humor and attitude toward humor and the component of adaptive humor include production and social use of humor, appreciation of humor, and adaptive humor (Helena, Pedro, James, Debra, 2007). Adaptive humor is beneficial to psychological well-being and it may reduce the effects of stressor. Contrarily, maladaptive humor is the tendency to negatively evaluate or manipulate others, which may spawn stress. Adaptive humor includes affiliative humor and self-enhancing humor (Martin, 2007) and maladaptive humor is usually injurious to well-being.

In behavioral science, adaptive humor is valuable in enhancing self-worth, stimulating associations, and buffering stressful and anxious states of mind (Astedt-Kuurki & Isola, 2001; Bauer & Garont, 1999; Johnson, 2002) and maladaptive sense of humor may compromise one's self-esteem (Thorson, Powell, Ivan, & William, 1997) resulting in stress and anxiety. Numerous previous studies have support the subjective view that people who are high on adaptive humor are less prone to being stressful owing to the relieving nature of humor (Kuiper & Martin 1998; Moran & Massan, 1999) and people who are high on maladaptive humor are likely to have lower levels of self-esteem which may make them perceive situational demands more stressful. Furthermore, adaptive humor appears to be a defense mechanism for buffering the negative effects of stress (Abel, 1998; Martin & Dobbin,1988). Kuiper, Sandra, and Kristine (1995) observed that people with good sense of adaptive humor are capable of changing their perspective while confronting stressful situations. They perceive these situations more positively then those with low sense of adaptive of humor.

Adaptive sense of humor can be labeled as constructing an affective and cognitive change or reorganizing the negative life events as less threatening with the affective discharge allied with the perceived stress (Dixon, 1980). Contrarily, people using maladaptive humor may restructure the situation as more hostile leading to increased levels of perceived stress. In consonance with the aforementioned literature and empirical support, the present study postulates:

Hypothesis 1: Attitude towards humor and negation to use humor (maladaptive humor) will predict perceived stress positively.

Hypothesis 2: Appreciation of humor, adaptive humor and production and social use of humor (adaptive humor) would be negative predictor of perceived stress.

Men and women are different in responding to both adaptive and maladaptive styles of humor (Aries, 1987; Svebak, 1974; Eagly & Johnson, 1990). Men have higher likelihood of making jokes (Wong, 2010) and women are expected to use criticism humor. Women have more restrictions and have limited exposure of external world than men. Due to these reasons, women were found to be more vulnerable to psychological distress on self-report measures of perceived stress (Matud, 2004; Mirowsky & Ross, 1995).

Hypothesis 3: Women will have high scores on maladaptive sense of humor whereas men will have high scores on adaptive sense of humor.

Hypothesis 4: Women will have higher levels of perceived stress as compared to men.

METHODOLOGY

Sample

The convenient sample of the present study (N = 220) comprised of undergraduate medical students of Quaid-i-Azam medical college, Bahawalpur, Sargodha medical college, Sargodha. The sample comprised female students (n = 104) and male students (n = 116). Age range from 18 to 26 years (M = 20.58, SD = 1.88). The inclusion criteria of the sample included minimum age of 18 years and being a full time student of MBBS in the aforementioned institutions (second or third year).

Instruments

Data were collected through psychometrically sound self-report measures of the focal constructs of the present study. Demographic information such as name (optional), age, gender, family system, number of siblings. A brief description of the instruments is as follows:

Multidimensional Sense of Humor Scale (MSHS). It was developed by Thorson and Powell in 1991. The response format is 5-point Likert scale (4 = strongly agree, 0 = strongly disagree) and contains 24 statements with a score range of 0-96. The scale contains two major styles of humor, which are adaptive and maladaptive humor. Maladaptive sense of humor includes negation to use humor (15, 16, & 21) and attitude towards humor (22, 23 & 24). Adaptive sense of humor includes appreciation of humor (19, and 20), adaptive humor (12,13,14, and 17), and production and social

use of humor (1,2,3,4,5,6,7,8,9,10,11, and18). Coefficient alpha for the internal consistency of the scale was quite impressive (α = .92; James, Thorson, & Powell, 1991).

Perceived Stress Scale (PSS). PSS was developed by Cohen, Kamarck, and Mermelstein (1983) and this scale was used for quantifying perceived stress in the present study. The scale comprises of 10 direct queries about current levels of experienced stress. Subjects' responses are measured on a 5-point Likert scale (0 = never, 4 = very often) and score of the scale ranged from 0-40. Item number 4, 5, 7, and 8 are positively stated items and they need to be coded reversely. Alpha coefficient of reliability of PSS was 0.85 (Cohen et al., 1983).

Procedure

Formal permission for data collection of the present research was sought from the principals of medical colleges. Afterwards, students were individually approached in their classrooms, cafeterias, and libraries. While rapport building, they were informed about the nature and purposes of the study after which their voluntary participation in the study was sought on an informed consent form. They were informed that their participation in the study would not expose them to any sort of risk and they had the right to withdraw their participation in the study at any time. They were assured that their responses on the scales would be kept confidential and would anonymously be used for research purpose only. Personal information was taken through demographic sheet. Afterwards, scales were given to take responses of students. They were appreciated for their participation after taking response and in the end research participants were thanked for their valuable cooperation. All participants were treated in accordance with the APA code of ethics.

RESULTS

The obtained data were subjected to statistical analyses through SPSS version 21. Descriptive statistics and alpha coefficients of reliability were computed for each of the scales. Independent sample t-test was computed to test gender differences in sense of humor and stress. Correlations and multiple linear regression analysis were undertaken for testing the proposed hypotheses of the present study. The results are depicted in Table 1 to 4.

Table 1: *Descriptive Statistics of Variable of the Preset Study (N = 220)*

Variables	*M*	*SD*	*α*	Range		*Sk*[a]	*Ku*[b]
				Actual	Potential		
PS	15.35	10.11	.90	0-34	0-40	.59	-1.22
APH	7.42	1.91	.78	5-10	2-10	-.34	-1.74
NH	10.33	2.95	.71	6-15	3-15	.13	-1.46
ATH	9.63	2.94	.85	6-15	3-15	.12	-1.73
ADH	13.99	3.34	.73	9-20	4-20	-.19	-1.57
PSH	42.65	9.71	.89	25-58	12-60	-.28	-1.59

[a] Standard error of skewness = .164 [b] Standard error of kurtosis = .327

Table 1 shows descriptive statistics and alpha coefficients of reliability for the tools used to operationalize focal constructs of this study. The reliability analysis indicates that the reliability coefficient of all scale and their subscale were up to the marks i.e., all of them were greater than the benchmark of .70. Values of kurtosis and skewness were also in the acceptable range indicating normal distribution of variables of the present study, which justify the choice of parametric tests for hypothesis testing.

Table 2: *Zero Order Correlations Among Variables of the Present Study (N=220)*

Variables	PS	APH	NH	ATH	ADH	PSH
PS	-	-.86*	.63*	.62*	-.63*	-.55*
APH	-	-	-.75*	-.77*	.90*	.66*
NH	-	-	-	.86*	-.63*	-.38*
ATH	-	-	-	-	-.61*	-.47*
ADH	-	-	-	-	-	-67*
PSH	-	-	-	-	-	-

Note. PS = perceived stress. APH = appreciation of humor. NH = negation to use humor. ATH = attitude toward humor. ADH = adaptive humor. PSH = production and social use of humor.
*$p < .001$.

Table 2 shows Pearson correlation among study variables. The findings indicate that perceived stress has negative correlation with adaptive humor, appreciation of humor, and production and social use of humor. It has significant positive correlation withattitude towards humor and negation to use humor.

Table 3: *Multiple Regression Analysis for the Predictors of Perceived Stress (N=220)*

Variables	Perceived Stress	
	β	***R²***
Appreciation of humor	-.86*	-.76*
Negation to use humor	.63*	
Attitude towards humor	.61*	
Adaptive humor	-.82*	
Production and social use of humor	-.55*	

*$p < .001$.

Table 3 presents the findings of multiple regression and suggests that various components of adaptive and maladaptive sense of humor explained 76% variance in perceived stress and the model was overall significant {F (5, 214) = 138.98, p = .000}. Constituents of adaptive humor (appreciation of humor, production and social use of humor, and adaptive humor) were significant and negative predictors of perceived stress whereas components of maladaptive sense of humor (attitude towards humor and negation to use humor) were significant and positive predictors of perceived stress.

Table 4: Mean, standard deviation and t-value for male and female among study variable (N = 220).

Variables	Men (n = 116)		Women (n =104)				95% CI		
	M	*SD*	*M*	*SD*	*t(218)*	*p*	*LL*	*UL*	Cohen's *d*
PS	8.48	3.32	23.02	9.61	15.30	.000	16.41	12.66	2.02
APH	8.97	0.44	5.68	1.35	24.75	.000	3.03	3.55	3.28
NH	7.90	1.29	13.06	1.58	26.65	.000	-5.54	-4.78	3.58
ATH	6.94	0.70	12.63	0.76	57.64	.000	-5.89	-5.50	7.79
ADH	16.34	1.23	11.38	3.00	16.31	.000	4.35	5.55	2.16
PSH	47.61	7.71	37.12	8.68	9.50	.000	8.31	12.68	1.28

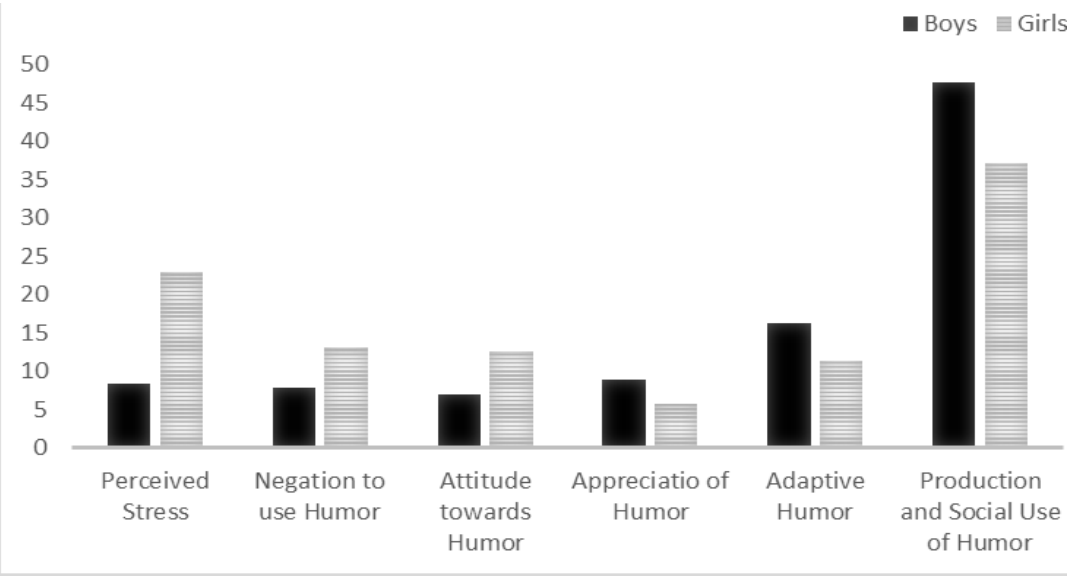
Note. PS = perceived stress. APH = appreciation of humor. NH = negation to use humor. ATH = attitude toward humor. ADH = adaptive humor. PSH = production and social use of humor.

Results indicate significant gender differences in perceived stress and various components of humor. Boys scored significantly higher on adaptive humor, appreciation of humor, and production and social use of humor (constituents of

adaptive humor) whereas girls had significantly higher on negation to use humor, attitude toward humor (constituents of maladaptive humor), and perceived stress.

These results have been schematically presented in Figure 1.

Figure 1. Gender differences mean scores of variables of the preset study



DISCUSSION

The present study aimed at formulating a gendered perspective on the impact of various types of humor on perceived stress among university students. The results of this study provide empirical support for all the proposed hypotheses. Attitude towards humor and negation to use humor (maladaptive humor) positively predicted perceived stress, which supported our first hypothesis (see Table 3). Individuals having maladaptive sense of humor may have lower levels of self-esteem because use of maladaptive humor in social situations may elicit negative emotional reactions from others, which may make them prone to the feelings of anxiety and depression. Furthermore, owing to their tendency of negatively evaluating others, such individuals are likely to perceive situations as more hostile, which may lead to higher levels of perceived stress.

Our results also demonstrated that perceived stress was negatively influenced by constituents of adaptive humor. This is in line with the pertinent literature that suggests use of adaptive humor as a defense mechanism for coping with stress whereby individuals may restructure negative life situations more optimistically in

comparison with their counterparts with a low sense of humor. Furthermore, the relieving nature of adaptive humor may buffer the negative effects of stress and it is a valuable source of enhancing self-esteem and stimulating relationships (Astedti-Kurki & Isola, 2001; Bauer & Geront, 1999; Beck, 1997; Johnson, 2002).

Our third hypothesis was also supported as significant gender differences emerged in terms of and constituents of various types of humor (see Table 4). It was observed that girls were significantly higher on negative humor and attitude towards humor (components of maladaptive humor) whereas boys scored significantly higher on appreciation of humor, adaptive humor, and production and social use of humor (components of adaptive humor). These findings may have their grounds in the patterns of our endogenous gender role socialization whereby boys are encouraged to be expressive, assertive, open, and frank within their social circles in contrast with the girls who are expected to be timid, shy, and reserved in social interactions. Thus, boys are encouraged to use and produce humor in social interactions and they reciprocate one another by appreciating the use of adaptive sense of humor whereas girls are fostered to have negative attitude towards humor. In fact, in our traditional rural backgrounds, girls are even not allowed to openly laugh or share any joke in front of elders of the family. Girls' higher level of perceived stress is

The higher levels of perceived stress among girls provided empirical support for our fourth hypothesis. This finding is in consonance with numerous empirical investigations that have concluded that girls are more likely to have higher levels of perceived stress (Dahlin, Joneborg & Runeson; 2005; Ranjita & Michelle, 2000; Polychronopoulou & Divaris, 2005). Owing to gender role socialization whereby girls are expected to be dependent on male family members for majority of important decisions in their lives, the may lack in self-confidence and may have greater fear of failure, examinations, and grades, which may lead to higher levels of perceived stress (Polychronopoulou & Divaris, 2005). Finally, findings of the present study also suggest that girls may lack in adaptive humor because of which they are deprived of an important buffering personal resource against stressful events in life.

Limitations and Recommendations

The present study has certain limitations, which should be considered while interpreting the findings. Owing to the correlational design of the study, no causal relationships can be implied. Furthermore, use of medical college students as participants is a specific population and the current findings may not be generalizable to the general population.

Moreover, the data were collected through self-report measures that may have inflated the relationships among variables. The data of the current study were obtained from undergraduate medical students who, owing to voluntary nature of participation, demonstrated casual attitude towards the research. There should be some attractive incentive for the participants so that they should have been involved in research and express their true opinion.

The present study was aimed at framing a gendered perspective on the relationship between constituents of various types of humor and perceived stress among undergraduate medical students. In general, hypotheses of the present study were supported and the large amount of variance that various components of adaptive and maladaptive sense of humor have explained in perceived stress suggested that adaptive humor could be an important shield against the negative influences of stressful life events whereas maladaptive humor may aggravate these influences. Furthermore, the pattern of gender differences in humor and perceived stress opens new avenues of research for exploring the influences of gender role socialization that may put our girls at a disadvantageous position and make them more vulnerable to higher levels of perceived stress.

Despite its scientific rigor, the present study involves certain limitations. Firstly, while assessing components of adaptive and maladaptive humor and perceived stress, it was not possible to control all factors which may influence one's level of perceived stress or characteristic style of humor, therefore, the inferences of the current study are theoretically grounded. Gender differences are quite likely to play significant role in determining the valence of different stressors in relation to perceived levels of stress. Future studies should assess whether male and female students have different sets of stressors and the differential impact of adaptive and maladaptive sense of humor of levels of perceived stress.

Moreover, relationship found in the present study may have been inflated owing to mono-operation and mono-method bias (Shadish, Cook, & Campbell, 2001) because data were collected through self-report measures. The participants of the current study were medical undergraduate students, who may not be a representative sample of the general population. Therefore, one should be cautious while generalizing the present findings. Finally, the variables of the present study should be investigated in populations who by virtue of their occupational demands are more vulnerable to heightened sense of stress. Such occupational groups may include but are not limited to nurses, teachers, customer services representatives, and police officers.

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