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3 **Humour styles as predictors of psychological and somatic health**
4 **in undergraduates of COMSATS University, Lahore**

5
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9
10 **Abstract**

11 **Objectives:** To determine the predictability of humour styles on psychological
12 and Somatic health of university students.

13 **Methods:** The study was carried out at COMSATS University Islamabad,
14 Lahore Campus during the period of 1st September 2018 to 30th December,
15 2018.

16 Correlation research design was used to assess the study objectives. A sample of
17 199 (93 females & 106 males) university students falling in age range from 18
18 to 26 years (Mage = 21.02, & SD = 1.78) were assessed on self-report measures
19 to Humour styles questionnaire, Physical Health Questionnaire, and Depression,
20 Anxiety, and Stress Scale.

21 **Conclusion:** It was concluded that relationship oriented positive humour style is
22 a protective factor against psychological distress but negative humour styles are
23 detrimental for physical health.

24 **Keywords:** Humour styles, Anxiety, Depression, Stress, Somatic Health

25
26 **Introduction**

27 According to Martin (2007)¹, humour is a characteristic possessed by an
28 individual with the ability to produce, appreciate and recognize it. It can be

29 taken as an ability, attitude or coping strategy used as a defense mechanism. The
30 process of humour has four components: (1) process in a social context, (2) a
31 cognitive-perceptual process, (3) an emotional response, and (4) the vocal-
32 behavioural expression of laughter. Humour frequently occurs in social
33 situations and allows interpersonal interaction in a playful manner. The use of
34 humour involves particular cognitions as one needs to process information from
35 environment or own memory and use it creatively. This produces a verbal
36 communication which is perceived by others as funny. Thus, humour is an
37 emotion triggered by particular cognitions².

38 There are four styles of humour reflecting its use in everyday life: i) Self-
39 enhancing humor is the ability to maintain humourous state even when
40 experiencing stress and adversity; ii) Aggressive humour style characterized by
41 the use of sarcasm, put-downs, teasing remarks, and criticism; iii) Affiliative
42 humour style which is used to amuse others and ease their tension; and iv) self-
43 defeating humour which is putting oneself down in a humorous manner before
44 others put you down³.

45 Literature is available on the relationship between humour and psychosocial
46 adjustment. In this regard Cann and Collette, (2014)⁴, have examined the impact
47 of different styles of humour on positive affect which in turn facilitates effective
48 problem solving. Their findings have shown that self-enhancing humour was
49 positively related to stable positive affect, negatively related to stable negative
50 affect and was mediated through stable affect in influencing resilience, well-
51 being and distress. Literature further suggested that there is moderating role of
52 self-enhancing, affiliative, self-defeating, and aggressive humour styles on the
53 relationship between perceived stress and physical health. Results from the
54 study of Kirsten, Richard, and Gert Kruger, 2017⁵ have also shown that self-
55 defeating humour style is a moderator of the relationship between stress and
56 physical health and that the higher use of this style is associated with an
57 increase in physical health symptoms. The finding suggested that a self-

58 directed, detrimental humour style plays a role in the deterioration of physical
59 health during the perceived experience of stress.

60 The present study was carried out to determine the relationship of humour styles
61 with psychological and somatic health of university students. The main
62 objective of the study was to determine the predictability of humour styles on
63 psychological and physical health of University students.

64 For study purposes, humour is considered as a desirable personal trait which not
65 only helps in coping with stress and making friendly relationships but also
66 facilitates better mental and physical health⁶. Psychological health of a person is
67 referred to as the healthy and mature state of emotional, behavioural and social
68 development. Depression, anxiety, and stress can be used as indices of
69 psychological health⁷. The term somatic health represents one's physical
70 health⁸.

71 For the said purpose it was hypothesized that:

- 72 • Affiliative and self-enhancing humour styles will negatively predict
73 stress, anxiety, and depression and positively predict better somatic
74 health.
- 75 • Aggressive and self-defeating humour styles will positively predict stress,
76 anxiety, and depression, while negatively predicting better somatic
77 health.

78

79 **Methods**

80 The study was carried out at COMSATS University Islamabad, Lahore Campus
81 during the period of 1st September 2018 to 30th December, 2018. Correlation
82 research design was used to assess the study objectives. A sample of 199 (93
83 females, 106 males) young adults, selected from COMSATS University
84 Islamabad, Lahore Campus through convenient sampling, were respondents of
85 this study. An online sample size calculator was used to calculate sample size
86 for this correlational study⁹. According to the effect size formula, the sample

87 size was calculated to be 194. They were falling in age range from 18 to 26
88 years ($M = 21.02$, & $SD = 1.78$). Inclusion criteria included: both genders and
89 being in age range from 18 to 26. Exclusion criteria included belonging to
90 broken families, and having some psychiatric or physical illness.

91 A demographic form was prepared to obtain information about the participant's
92 demographic characteristics including age, education, no of siblings, parent's
93 education and socio-economic status.

94 Humour style questionnaire¹⁰ is used, which is a self-reported measure to assess
95 different humour styles as used by the participants. The scale assessed four
96 different humour styles including two positive styles: Affiliative humour and
97 self enhancing humour; and two negative humour styles including aggressive
98 humour and self-defeating humour. The items were scored on a 7-point
99 response format from 1 (not agree) to 7 (fully agree). The scale comprised of 32
100 items with 8 items assessing each of the four domains. Negative items were
101 reverse scored before calculating the sub-scale scores. A composite score for
102 each sub-scale was calculated by adding the item ratings comprising each sub-
103 scale with a likely range of scores from 7 to 56 with a higher score indicating
104 the more frequent use of that particular humour style.

105 The DASS-21 (a short version)¹¹ has been used in the current study to assess the
106 mental health of respondents. These items were measured on a 4-point rating
107 scale from 0 (Never) to 3(always). Each of three sub-scales (depression,
108 anxiety, and stress) was assessed from 7 items. Composite score on each sub
109 scale was obtained by adding the item ratings on seven items comprising each
110 sub-scale with a higher score indicative of higher level of specific mental health
111 symptoms. Reliabilities of sub-scales in the current study have been found to be
112 good, 0.78, 0.64, and 0.73 for depression, anxiety and stress, respectively.

113 A 14 item Physical Health Questionnaire (PHQ)⁸ questionnaire has been used to
114 assess somatic health of the respondents. Items 1-11 were rated on a 7-point
115 rating scale. Before computing a composite score of 14 items, all items except

116 item 4 were reverse scored so that a higher score on the scale represents better
117 somatic health of the respondents. Alpha reliability of the scale in the current
118 study is good (i.e., 0.74).

119 Before initiating the study, its Ethical approval was obtained from the
120 Departmental Research Review Committee.

121 After obtaining ethical approval, the university students were approached from
122 COMSATS University Islamabad, Lahore Campus. They were clearly appraised
123 about the nature and purpose of the study as well as about estimated response
124 time on the measures. They were assured of confidentiality of their responses
125 and were informed of their right to withdraw from the study anytime if they
126 chose to do so. After providing informed consent, student's verbal as well as
127 written consent was obtained for their voluntary participation in the study. They
128 were requested to provide the information on the given scales. The order of
129 scale was counterbalanced across participants. After data collection, participants
130 were cordially thanked for their cooperation in the study.

131 Descriptive Statistics (means, standard deviation, and alpha reliability
132 coefficients) were calculated for the study variables. Then, correlations of
133 demographics were calculated with study variables. Also, Pearson correlation
134 coefficients were calculated to assess correlation of different humour styles with
135 psychological and somatic health. Finally, hierarchical regression analyses were
136 calculated to predict psychological and somatic health from four different
137 humour styles in model 2 after controlling the possible confounding effects of
138 demographics in model 1.

139

140 **Results**

141 The results from correlation analyses indicated that affiliative humour style was
142 significantly and negatively correlated with three indicators of psychological
143 health including stress, anxiety, and depression, while, aggressive humour style
144 was positively correlated with stress, anxiety, and depression. Furthermore,

145 affiliative, self-enhancing, and self-defeating humour styles were positively
146 correlated with better somatic health; and only aggressive humour was
147 negatively correlated with somatic health.

148 The results from Table 2 indicated that after controlling the demographics,
149 affiliative humour significantly negatively predicted depression, anxiety, and
150 stress, while aggressive humour positively predicted only stress. When physical
151 health was predicted from humour styles, it was found that both negative forms
152 of humour were significant negative predictors of somatic health.

153

154 **Discussion**

155 When four humour styles were entered simultaneously in a regression analyses
156 after controlling potential demographics, the current findings demonstrated that:
157 i) only affiliative humour was the significant negative predictor of stress,
158 anxiety, and depression, ii) aggressive humour was the positive predictor of
159 stress only, and iii) aggressive humour and self-defeating humour styles were
160 the negative predictors of better somatic health.

161 When predicting psychological health, the current findings are in line with the
162 assumptions fundamental to the four humour styles and with previous literature
163 that positive humour usage is negatively associated with poor psychological
164 health and negative humour usage is positively associated with poor
165 psychological health⁴. However, importantly, the current findings are different
166 from the earlier studies using samples from the individualistic cultures in that
167 the relationship-oriented humour styles compared to self-oriented styles are
168 significant predictors of psychological health in the collectivist culture of
169 Pakistan.

170 While predicting somatic health, it appeared that avoidance of both negative
171 forms of humour predicted better somatic health. The result explained that using
172 negative humour styles, either relationship oriented or self-directed, may
173 adversely affect somatic health. The current findings extended the previous

174 knowledge of association between humour and physical health from
175 individualistic cultures to a collectivist culture¹². Additionally, the finding could
176 be justified in many other ways. First, living in a collectivist culture,
177 overcrowding places strain in relationships leading towards more frequent use
178 of aggressive humour styles, this might lead to overreaction of bodily systems
179 turning into poor physical health. The same was evident from the descriptive
180 statistics that the current sample uses self-defeating styles less frequently
181 compared to aggressive styles. Also, using self-defeating humour styles by
182 teasing oneself to please others and to maintain group cohesiveness at the
183 expense of self may also lead to poor somatic health by affecting emotional
184 reactions of the body in a negative way.

185 The findings are noteworthy in several other ways. First, alpha reliabilities of
186 the humour styles show that the measures are quite unitary and relevant set of
187 items in the cultural context of Pakistan. Additionally, descriptive statistics
188 showed that Pakistani young adults use more consistently and frequently
189 relationship directed humour styles (affiliative and aggressive) compared to
190 self-directed humour styles (self-enhancing and self-defeating). Furthermore,
191 the current findings demonstrated that in the cultural context of Pakistan
192 relationship oriented humour styles are better predictor of psychological health
193 than are the self-directed humour styles. Also, correlation analyses showed that
194 the students having more siblings are more likely to use negative relationship
195 directed humour style (i.e., aggressive humour) and less likely to use self-
196 oriented humour styles as well as more likely to suffer from poor psychological
197 and somatic health. All of these findings fit well in the collectivist cultural
198 context of Pakistan, where living in bigger families with more siblings,
199 individuals need to learn positive interactive forms of humour to be
200 psychologically healthy and to avoid negative interactive forms of humour such
201 as aggressive humour in order to keep himself free of relational stress. Thus, the
202 findings suggested that relationship directed humour styles are important in the

203 collectivist cultures in understanding the humour-health associations. The self-
204 directed humour styles might likely be considered as significant personal
205 qualities in individualistic cultures and particularly, when working toward
206 intrapersonal rather than interpersonal goals, but relationship directed humour
207 styles were more important in collectivist cultures and in actions directed at
208 achieving interpersonal goals¹³. Moreover, given the previous findings that
209 positive and negative effect are related to physical health, immune response,
210 psychological resistance, and better health in general¹⁴, the role of these
211 variables promise humour health link.

212 To the best of our knowledge, this is a prior study on humour styles and health
213 in the collectivist culture of Pakistan. Though we have had a number of
214 interesting findings in this area, the current study extended the previous finding
215 in that the relationship-oriented humour styles are also important determinants
216 of health, particularly in collectivist cultures.

217

218 **Limitations and Recommendation**

219 Some of the limitations of the study include cross sectional study design and a
220 lack of inclusion of samples from other contexts (e.g., working and non-
221 working, married and unmarried young adults etc.). , Additionally, the
222 moderating roles of variables such as individualistic and collectivist cultures,
223 gender, and joint and nuclear family systems could also be examined to assess
224 differences in relationship at different levels of the moderator.

225 The present research provided guidance to psychologists, psychiatrists, and
226 school counsellors in understanding the humour related risk and protective
227 factors affecting psychological and physical health. The strong correlations of
228 specific humour styles with indices of psychological and somatic health
229 highlight the need of incorporating different techniques and trainings in
230 counselling sessions for better psychological and physical health of young

231 adults and university students, which in turn might aid in their better academic
232 and professional career.

233

234 **Conclusion**

235 It is concluded that affiliative humour as a positive relationship directed style is
236 an important determinant of psychological health in the collectivist culture of
237 Pakistan. While, aggressive humour and self-defeating humour styles as
238 negative emotional styles are detrimental to somatic health.

239

240 **Disclaimer:** The abstract has not been presented or published in any conference,
241 or published in any abstract book.

242 **Conflict of Interest:** “The Head of the Ethical Review Board is also
243 corresponding author of the study”.

244 **Sources of Funding:** “None to declare”.

245

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308

309 **Table 1: Correlation between Demographics, Humour Styles, and Psychological and**
310 **Somatic Health**

Variables	5	6	7	8	9	10	11	12
M	35.77	26.60	31.29	26.08	24.18	23.35	23.51	60.64
SD	3.36	9.89	3.61	8.88	8.81	9.31	9.69	11.09
Alpha	.74	.77	.85	.89	.81	.81	.82	.74
1. Age	-.09	.12	.02	.08	.00	.02	-.01	.12
2. Semester	-.05	.14	-.06	.12	-	.17*	-.12	-.05
3. Siblings	-.06	-	.17*	-.20**	.24**	.33**	.32***	-.19**
4. Birth order	.17*	.22**	.01	.10	-.01	.09	.06	.18*
5. Affiliative Humour	-	.21**	.03	.29***	-.24**	-	-.18*	.16*
6. Self Enhancing Humour	-	-	-.12	.74***	-.04	-.11	-.07	.22**
7. Aggressive	-	-	-	.23***	.25***	.20**	.17*	-.23**

Humour							
8. Self Defeating Humour			-	-.02	-.05	-.04	-
9. Stress					.72***	.77**	.13
10. Anxiety						.70**	-.02
11. Depression							-.07
12. Somatic Health							-

311 Note. *= $p < .05$, **= $p < .01$, ***= $p < .001$;

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314

315 **Table 2: Regression Analyses to Predict Psychological and Somatic Health from Humour**

316 **Styles**

	Stress		Anxiety		Depression		Somatic health	
	M1	M2	M1	M2	M1	M2	M1	M2
Semester	-.28***	-.30***	-.10	-.11	-.08	-.09	-.05	-.07
Siblings	.20**	.17**	.31***	.29***	.31***	.30***	-.21**	-.10
Birth order	-.02	.002	.01	.04	-.03	-.01	.18*	.19**
Affiliative Humour		-.28***		-.27***		-.18*		.02
Self Enhancing Humour		.10		-.05		.01		-.18
Aggressive Humour		.21**		.11		.10		-.29***
Self Defeating Humour		.03		.13		.06		-.47***
R ²	.13	.24	.12	.20	.11	.15	.07	.23
Incremental R ²		.11		.08		.04	-	.16
Model fit (F)	9.57**	8.61**	8.74**	6.86***	7.75**	4.66**	5.27**	8.23**
	*	*	*		*	*		*

317 Note. * = $p < .05$, * = $p < .01$, *** = $p < .001$; M1= Model 1; M2 = Model 2; df in model 1 was

318 (3,197) and in model 2 was (7,197) for all outcome variables.