

Mindfulness and Humor Styles as Predictors of Personal Growth Initiative in Undergraduate University Students of Lahore, Pakistan

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ABSTRACT

Aim of the Study: This study examined mindfulness and humor styles as correlates and predictors of personal growth initiative (PGI) in undergraduate university students of Lahore, Pakistan.

Methodology: Purposive sampling strategy was used to obtain data from 300 students (150 = *men*; 150 = *women*) between the age range of 18 and 22 years in five different public and private universities in Lahore. Demographic sheet, Trait Mindful Attention Awareness Scale (Brown & Ryan, 2003), Humor Styles Questionnaire (Martin et al., 2003), and the Personal Growth Initiative II Scale (Robitschek et al., 2012) were used to measure the variables.

Findings: The results identified a significant positive relationship of mindfulness and adaptive humor styles (self-enhancing humor and affiliative humor) with PGI in undergraduate university students. Maladaptive humor styles (self-defeating humor and aggressive humor) had a significant negative relationship with PGI in undergraduate university students. Mindfulness and humor styles significantly predicted dimensions of PGI in undergraduate university students.

Conclusion: The findings provide further evidence for mindfulness and adaptive humor styles as an important resource for PGI.

Keywords: Mindfulness, Humor Styles, Personal Growth Initiative, University Students.

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Introduction

Personal growth is a change-oriented process through which people improve their emotional, physical, psychological, spiritual, and socio-environmental states (Yakunina et al., 2013). In recent times, the concept of personal growth has become quite popular. The consistent increase in the consumption of self-help books and articles is a testament to this fact (Duerden, 2012). The striving for self-improvement and personal fulfillment is innate in humans as proposed by Maslow (1970). A growth mindset positively predicts self-regulation, the search for learning opportunities, and striving for goal attainment. This premise makes personal growth initiative (PGI) a requisite for university students for becoming

self-directed learners (Dweck, 2012). Higher levels of PGI are critical for college students' psychological well-being and vocational commitment (Weigold et al., 2021). Building on this, the current study focused upon identifying predictors of PGI among undergraduate university students of Lahore, Pakistan.

Mindfulness is one such predictor variable that can serve as the driving force for intentionally engaging in personal growth. The word *mindfulness*, a psychological construct, is derived from Buddhist traditions. Several different views about mindfulness (such as Zen mindfulness, non-dual mindfulness, & classical mindfulness) can be found in Buddhism and no single view is better than the other. Each view of mindfulness is rooted in a particular scholastic Buddhists tradition and can only be understood within that context (Dreyfus, 2011). Among Western scientific researchers, a definition of mindfulness as intentional, non-judgmental attention was first proposed by Kabat-Zinn (1994) that still influences how researchers and clinicians across the globe understand mindfulness today. Mindfulness was later characterized as being aware of the present moment in a nonjudgmental manner (Brown & Ryan, 2004). Mindfulness has been operationally defined on three possible domains: as a trait, state or practice. The present study is aimed at investigating trait mindfulness as the potential correlate and predictor of PGI. Trait mindfulness is the dispositional and relatively long lasting tendency of an individual to enter and maintain a state of mindfulness. It is comprised of two components: attention and awareness (Brown & Ryan, 2003; Brown et al., 2015). In a consensus paper on the construct of mindfulness, clinical psychologists proposed a theoretical model of mindfulness which had two elements. These were namely an individual's regulation of attention and perspective towards experiencing the present moment. The moment to moment observation of thoughts, emotions and sensations was denoted as self-regulated attention. The orientation towards present-centered awareness was characterized by openness, keenness and acceptance (Bishop et al., 2004). The relationship of mindfulness with the psychological well-being has been confirmed by several previous researches (Olia & Saeedmanesh, 2016; Wilson et al., 2020; Whitehead et al., 2019). According to Shapiro (1994), mindfulness meditation was practiced for three main reasons: self-liberation (to increase spirituality or personal growth), self-regulation (to increase well-being and to reduce pain and stress), and self-exploration (to increase self-understanding and self-awareness). In recent times, the motivation to practice mindfulness meditation has shifted from self-regulation to self-liberation among experienced meditators. Despite the promising results of trait mindfulness for a variety of positive psychological outcomes, little is known about trait mindfulness explaining the unique variance for PGI in undergraduate university students.

Other than mindfulness, many researchers and theorists argue that a humorous outlook may enable one to have a sense of mastery over problematic life situations (Lefcourt & Thomas, 1998). Humor has been generally described to be "a stable personality trait or an individual difference variable". It is a construct with multiple aspects. It may be understood as an amalgamation of inter-related traits such as cognitive ability, attitude, habitual behavior patterns, aesthetic response, coping strategy, and temperament related trait. Different measurement approaches such as observer ratings, self-report scales, funniness ratings and maximal performance tests are used to measure the several dimensions of humor (Ruch, 1996; 1998). In the present research, sense of humor is conceptualized as four distinct humor styles (self-enhancing humor, affiliative humor, aggressive humor, and self-defeating humor) and they define the function humor serves in one's everyday life and different ways in which the use of humor is linked to psychological well-being. Self-enhancing humor implies the capacity to gain amusement even during stressful situations. Its adaptive function lies in enabling people to gain a distance from the adversities they may be facing. Affiliative humor is used to improve or facilitate social and interpersonal relationships. People use affiliative humor such as by telling jokes and engaging in a friendly banter to raise group cohesiveness, identity, and morale. Both these humor styles are termed as positive humor because of their adaptive function (Martin et al., 2003). Manipulating and belittling others is associated with aggressive humor. Aggressive humor may involve irony, sarcasm, teasing and even racist or sexist jokes (Janes & Olsen, 2000). Self-defeating humor occurs when humor is used at the expense of oneself i.e., by making jokes that mock oneself to gain the appreciation of others. These latter two styles of humor are maladaptive or negative as they are counterproductive for social relationships and one's sense of

personal worth respectively (Martin et al., 2003). Schermer et al. (2019) have verified the existence of four discrete humor styles across cultures and varied groups. Several researches have established that adaptive humor styles are linked to resilience, coping and enhanced mental health outcomes in individuals (Cameron et al., 2010; Fritz, 2020). Peter and Seligman (2004) stated that humor enables people to face life challenges by having an objective perspective and maintaining healthy interpersonal relationships. Humor research integrates emotional regulation and resiliency framework while maintaining that increased use of adaptive humor style helps people cope with traumatic events by producing a cognitive-affective shift. People with adaptive humor styles appraise negative events as less threatening and are able to emotionally distance themselves from negative events, thus, reducing the experience of negative affect (Geisler & Weber, 2010; Kupier, 2012). Hence, drawing from prior research on humor, it can be reasonably argued that adaptive use of humor may also contribute in personal growth of individuals as well.

Personal growth initiative is a psychological construct that is likely to have multiple predictors. It involves the active and deliberate undertaking of tasks that facilitate personal development. Change and an individual's purposeful involvement to bring about change are its main themes (Robitschek et al., 2012). Robitschek and colleagues (2012) theorized the variable as a multidimensional construct and differentiated its cognitive components from behavioral components. The following four dimensions of PGI were postulated: readiness for change, planfulness, using resources and intentional behavior. Readiness involves being prepared and aware of the time when it is necessary to start creating definite changes in oneself. Planfulness is the capability to organize strategies and set realistic goals that help in personal improvement. Using resources involves making efficient use of existing resources that may be internal (such as set of skills to make changes for personal improvement) or external (such as asking for help). Intentional behavior involves actively and consistently working to attain goals by seeking and taking relevant opportunities. Scores on the revised scale of PGI have indicated a strong positive association with positive psychological outcomes that include psychological well-being, self-esteem and life satisfaction and a significant negative correlation with maladaptive psychological outcomes such as post-traumatic stress and depression (Pinto Pizarro de Freitas et al., 2016; Shigemoto et al., 2017). Thus, PGI has been empirically established as a positive psychological construct. Research studies in Pakistan (Ayub & Iqbal, 2012; Zaman & Naqvi, 2018) have also linked PGI to positive psychological outcomes.

A thorough review of the existing literature helped to elicit the rationale for conducting this study. To our knowledge, few published empirical studies have investigated predictors of PGI among Pakistani undergraduate university students and the dynamics of the relationship between the three variables (mindfulness, humor styles, and personal growth initiative) have not been examined in existing literature, specifically within the indigenous context of Lahore, Pakistan. Therefore, this research can help bridge the gap in knowledge and open the gateways to further understanding the developing area of positive psychology and students' motivation for personal growth. This study's results will facilitate in the identification of humor styles (either adaptive or maladaptive) that may be associated with PGI in undergraduate university students.

Hypotheses

In the light of the empirical and theoretical arguments presented above, the following research hypotheses were formulated.

H1: Mindfulness and adaptive humor styles (self-enhancing and affiliative) are likely to have a positive relationship with PGI in undergraduate university students of Lahore, Pakistan.

H2: Maladaptive humor styles (self-defeating and aggressive) are likely to have a negative relationship with PGI in undergraduate university students of Lahore, Pakistan.

H3: Mindfulness and humor styles are likely to predict PGI in undergraduate university students of Lahore, Pakistan.

Method

A correlational research design was adopted. Standardized questionnaires were administered to 300 students (150 = *men*; 150 = *women*) in various public and private universities of Lahore using the purposive sampling strategy. University students between the age range of 18 and 22 years were included. University students enrolled in their postgraduate programs were not considered eligible for the study. Students with physical disability or self-reported diagnosed psychological disorder were not included.

Measures

Demographic Information Sheet

Undergraduate university students were requested to share information related to their age, gender, and whether they suffer from any physical disability or diagnosed psychological disorder. The sample's demographic characteristics have been illustrated in Table I.

Table 1: Demographic Characteristics of the Sample

Variables	Men		Women	
	<i>M (SD)</i>	<i>f (%)</i>	<i>M (SD)</i>	<i>f (%)</i>
Age	20.29(1.31)		19.95(1.34)	
Gender		150(100)		150(100)
Religion				
Islam		147(98)		145(96.70)
Christianity		3(2)		5(3.30)
Type of University				
Government		30(20)		30(20)
Semi-government		60(40)		60(40)
Private		60(40)		60(40)
Occupational status				
Employed		19(12.70)		3(2)
Unemployed		131(87.30)		147(98)
Marital status				
Single		147(98)		147(98)
Married		3(2)		3(2)

Note: *N*= 300, *M*= Mean, *SD*= Standard Deviation, *f*= frequency, %= percentage

Trait Mindful Attention Awareness Scale (Brown & Ryan, 2003)

This scale was designed to assess mindfulness as a receptive state characterized by attention and awareness. It is a 6 point Likert type scale ranging from 1 (*almost always*) to 6 (*almost never*). There are a total of 15 items on the scale and high scores indicate a high level of disposition for mindfulness. Its internal consistency level (Cronbach's alpha) ranges from .80 to .90. The Cronbach alpha value of this scale in the present study was found out to be .84.

Humor Styles Questionnaire (Martin et al., 2003)

This questionnaire assesses four styles of humor in an individual. It has a total of 32 items. It is a 7 point Likert type scale varying from 1 (*totally disagree*) to 7 (*totally agree*). Its four subscales consist of affiliative, self-enhancing, aggressive and self-defeating humor, each carrying 8 items. High scores in a subscale indicate the presence of that humor style in an individual. The Cronbach alpha value ranges from .77 to .81 indicating adequate internal consistency of all four subscales. In this study, the Cronbach alpha value of the four subscales ranged from .69 to .88.

Personal Growth Initiative II (Revised) Scale (Robitschek et al., 2012)

This scale evaluates the presence of active and intentional involvement toward personal growth in an individual. It has a total number of 16 items. There are four subscales namely readiness for change (4 items), planfulness (5 items), using resources (3 items) and intentional behavior (04 items). It is a 6 point Likert type scale in which answers are marked from 0 to 5 varying from “*strongly disagree*” and “*strongly agree*” respectively. A high score represents a high level of PGI in each subscale area and overall. The internal consistency value (Cronbach alpha) is adequate ranging from .90 to .94. In this study, the Cronbach alpha value of the four subscales ranged from .74 to .84.

Procedure

Prior permission was sought from the research review board at Kinnaird College for Women, Lahore to conduct this study. Permission was also taken from the respective authors of questionnaires and subsequently from heads of institutions for data collection from undergraduate university students. A sample of sixty students was taken from each university. Five universities in Lahore were purposefully approached for data collection namely; Government College University, Punjab University, the University of Central Punjab, the University of Lahore, and Lahore College for Women University. This study had a response rate of 95%. The participants were generally compliant with the request for data collection. The participants who excused themselves from being included in the study cited time constraints and stated that they were busy studying or involved in other related activities. Written informed consent was taken from all participants. All three scales were administered to participants in English. Ethical considerations were duly undertaken during the course of this research. The participants were briefed about the study’s nature, how the findings would be used, and their right of withdrawing from the study. They were also reassured regarding the privacy and confidentiality of the data obtained from them.

Results

After the data collection phase was complete, the software of Statistical Package for Social Sciences (Version 22) was used to analyze it and generate results. The sampling distribution of data was found to be approximately normally distributed as all study variables had values of skewness and kurtosis falling within the acceptable range of ± 1.96 .

The relationship of mindfulness and humor styles with PGI was evaluated by applying Pearson Product Moment Correlation Coefficient.

Table 2: *Intercorrelations among Mindfulness, Humor Styles and Personal Growth Initiative in Undergraduate University Students*

Variables	1	2	3	4	5	6	7	8	9
1.MAAS	--	.50***	.49***	-.59***	-.46***	.57***	.64***	.53***	.59***
2.SEH		---	.46***	-.31***	-.31***	.50***	.53***	.42***	.37***
3.AH			---	-.34***	-.31***	.35***	.44***	.39***	.31***
4.SDH				---	.52***	-.36***	-.43***	-.26***	-.24***
5.AGH					---	-.32***	-.39***	-.18**	-.29***
6.RFC						---	.68***	.39***	.48***
7.P							---	.38***	.54***
8.UR								---	.35***
9.IB									---
<i>M</i>	3.67	4.57	4.79	3.94	3.70	3.29	3.22	2.62	3.37
<i>SD</i>	.91	1.60	1.25	1.44	1.17	1.09	1.22	1.30	1.08

Note: N=300, MAAS = Mindful Attention Awareness Scale, SEH = Self Enhancing Humor, AH= Affiliative Humor, SDH = Self Defeating Humor, AGH = Aggressive Humor, RFC = Readiness for Change, P = Planfulness,

UR = Using Resources, IB = Intentional Behavior; *M* = Mean, *SD*= Standard Deviation; **p* < .05; ***p* < .01; ****p* < .001 (one-tailed analysis)

Results indicated that mindfulness has a significant positive relationship with the subscales of PGI (readiness for change, planfulness, using resources and intentional behavior) in undergraduate university students of Lahore, Pakistan. This implies that as mindfulness increases in undergraduate university students, their PGI also increases. Self-enhancing and affiliative humor styles have a significant positive relationship with all the four subscales of PGI in undergraduate university students. This implies that undergraduate university students with self-enhancing and affiliative humor styles have a high level of PGI. In contrast, self-defeating and aggressive humor styles have a significant negative relationship with four dimensions of PGI in undergraduate university students. This implies that undergraduate university students with the self-defeating and aggressive humor styles tend to have a low level of PGI.

Four separate multiple Hierarchical Linear Regression Analysis were run to evaluate the role of mindfulness and humor styles as predictors of PGI in undergraduate university students. There was no significant correlation found between demographic variables (including gender) and all four dimensions of PGI in university students. Therefore, the demographic variables were not added in Multiple Hierarchical Linear Regression analysis.

In Model I, mindfulness was added as a predictor variable. In Model II, the four humor styles were entered as predictors. The assumption of independence of errors was checked by Durbin Watson test and its value was within the acceptable range of 1-3 for all regression outputs. The assumption of no perfect multi-collinearity was assessed by determining the tolerance value and all the values were above .20 thus meeting the criteria. The assumptions of linearity, homoscedasticity, and normally distributed errors were also met. There were no influential cases present in the data.

Table 3: Multiple Hierarchical Linear Regression Analysis showing Mindfulness and Humor Styles as Predictors of Readiness for Change and Planfulness in Undergraduate University Students

Predictors	Readiness for change					Planfulness						
	B	95% CI		β	R^2	ΔR^2	B	95% CI		β	R^2	ΔR^2
		LL	UL					LL	UL			
Model I												
Mind	.49	.33	.64	.40***	.32***	.32***	.57	.41	.73	.42***	.41***	.41***
Model II												
SEH	.19	.11	.26	.27***	.39***	.06***	.19	.11	.27	.25***	.48***	.07***
AH	.01	-.09	.10	.01			.08	-.02	.18	.08		
SDH	-.00	-.09	.09	-.01			-.03	-.12	.06	-.03		
AGH	-.04	-.15	.06	-.05			-.08	-.18	.02	-.08		

Note: *N* = 300, Mind = Mindfulness, SEH = Self Enhancing Humor, AH= Affiliative Humor, SDH = Self Defeating Humor, AGH = Aggressive Humor; **p* < .05. ***p* < .01. ****p* < .001

Table 4: Multiple Hierarchical Linear Regression Analysis showing Mindfulness and Humor Styles as Predictors of Using Resources and Intentional Behavior in Undergraduate University Students

Predictors	Using Resources					Intentional Behavior						
	B	95% CI		β	R^2	ΔR^2	B	95% CI		β	R^2	ΔR^2
		LL	UL					LL	UL			
Model I												
Mind	.64	.45	.83	.45***	.28***	.28***	.76	.60	.91	.63***	.35***	.35***
Model II												
SEH	.15	.06	.24	.18**	.34***	.06***	.06	-.01	.14	.09	.38***	.03**
AH	.15	.03	.26	.14*			.00	-.10	.10	.00		
SDH	.05	-.06	.16	.05			.15	.06	.24	.20**		
AGH	.11	-.01	.24	.10			-.06	-.16	.04	-.07		

Note: $N = 300$, Mind = Mindfulness, SEH = Self Enhancing Humor, AH= Affiliative Humor, SDH = Self Defeating Humor, AGH = Aggressive Humor; * $p < .05$. ** $p < .01$. *** $p < .001$

First, Multiple Hierarchical Linear Regression was run to predict *Readiness for Change* among undergraduate university students based on the dimensions of mindfulness and humor styles. In Model I, mindfulness was added and the regression model was found significant, $R^2 = .32$, $F(1, 298) = 142.27$, $p < .001$. In Model II, humor styles were added along with the effect of mindfulness and regression equation was found to be significant, $R^2 = .39$, $F(5, 294) = 36.78$, $p < .001$. When the effect of Model I was excluded from Model II, the regression equation still remained significant, $\Delta R^2 = .06$, $F(4, 294) = 7.36$, $p < .001$. Among the predictors, mindfulness and self-enhancing humor emerged as significant positive predictors of readiness for change in undergraduate university students. This implies that undergraduate university students who have the self-enhancing humor style and are more mindful also have a higher level of readiness for change.

Second, Multiple Hierarchical Linear Regression was run to evaluate mindfulness and humor styles as predictors of *Planfulness* among undergraduate university students. In Model I, mindfulness was added and the regression model was found significant, $R^2 = .41$, $F(1, 298) = 205.67$, $p < .001$. In Model II, humor styles were added along with the effect of mindfulness, and regression equation was found to be significant, $R^2 = .48$, $F(5, 294) = 54.08$, $p < .001$. When the effect of Model I was excluded from Model II, the regression equation still remained significant, $\Delta R^2 = .07$, $F(4, 294) = 9.98$, $p < .001$. Among the predictors, mindfulness and self-enhancing humor emerged as significant positive predictors of planfulness in undergraduate university students. This implies that undergraduate university students who have the self-enhancing humor style and are more mindful also have a higher level of planfulness.

Third, Multiple Hierarchical Linear Regression was run to predict *Using Resources* among undergraduate university students based on the dimensions of mindfulness and humor styles. In Model I, mindfulness was added and the regression model was found significant, $R^2 = .28$, $F(1, 298) = 114.36$, $p < .001$. In Model II, humor styles were added along with the effect of mindfulness, and regression equation was found to be significant, $R^2 = .34$, $F(5, 294) = 29.61$, $p < .001$. When the effect of Model I was excluded from Model II, the regression equation still remained significant, $\Delta R^2 = .06$, $F(4, 294) = 6.37$, $p < .001$. Among the predictors, mindfulness, self-enhancing humor and affiliative humor emerged as significant positive predictors of using resources in undergraduate university students. This implies that more mindful undergraduate university students and those who have the self-enhancing and affiliative humor styles use resources more effectively for their personal growth.

Lastly, Multiple Hierarchical Linear Regression was run to predict *intentional behavior* among university students. In Model I, mindfulness was added and the regression model was found significant, $R^2 = .35$, $F(1, 298) = 162.76$, $p < .001$. In Model II, humor styles were added along with the effect of mindfulness and regression equation was found to be significant, $R^2 = .38$, $F(5, 294) = 36.40$, $p < .001$. When the effect of Model I was excluded from Model II, the regression equation still remained significant, $\Delta R^2 = .03$, $F(4, 294) = 3.47$, $p = .009$. Mindfulness emerged as a significant positive predictor of intentional behavior in undergraduate university students. This implies that undergraduate university students who are more mindful also have a higher level of intentional behavior. Furthermore, self-defeating humor emerged as a significant positive predictor of intentional behavior in undergraduate university students. This implies that undergraduate university students with high self-defeating humor style also have higher intentional behavior.

Discussion

This study examined mindfulness and humor styles as correlates and predictors of PGI in undergraduate university students of Lahore, Pakistan. The findings of this research revealed a significant positive correlation between mindfulness and all four dimensions of PGI in undergraduate university students, thus meeting the hypothesis that was formulated. The findings of the present study are discussed in this section in the light of previous researches. Beitel et al. (2014) examined the relationship between

mindfulness and self-actualization (maximum utilization of potential for personal growth) by conducting a cross-sectional study in US universities which provided evidence for the existence of positive link between the two study variables. Friese et al. (2012) carried out an experimental study in which the brief mindfulness training was found to serve as a quick strategy for enhancing the self-control resources of participants. Hence, the results of this study can be corroborated with prior studies. Many mindfulness based techniques such as yoga and meditation are practiced in Asian cultures as a route to personal growth. Mindfulness is cross culturally considered as a tool for relaxation, reflection and self-improvement (Schmidt, 2011). Langer's (2002) theory of mindfulness conceptualizes that it develops as a cognitive style that is reflected through the active and intentional search for novelty, distinction and multiple perspective taking on one's own behavior and the performance of tasks. It is a present-oriented state of self-awareness that instills creativity and paves the way for personal development.

In the current study, mindfulness was found to positively predict all four dimensions of PGI. Mindfulness also accounted for a significant amount of variance in the regression models indicating that it strongly predicts PGI in undergraduate university students. This is supported by several previous studies. Baer et al. (2012) carried out a comparative study of meditators and non-meditators discovering that mindfulness emerged as a significant positive predictor of psychological well-being. Mindfulness was found to be a moderator that facilitates the relationship between intention and behavior (Chatzisarantis & Hagger, 2007). This indicates that mindfulness is likely to be helpful in promoting the behavior that is needed to achieve personal growth. Jong (2013), in his empirical study, identified mindfulness as a significant positive predictor of personal maturity in Chinese adults even after the effects of personality traits and age had been controlled. According to self-determination theory (Brown et al., 2015), self-endorsed, decisive and autonomous action is associated with mindfulness. The individual intentionally controls and regulates attention and thus behavior. This is likely to be helpful for initiating, planning and achieving goals that facilitate personal growth. Thus, the results of this study have contributed to the existing literature by finding out that mindfulness is related to both the cognitive and behavioral components of PGI. The results suggest that mindful individuals are likely to take actions for achieving personal growth.

In the present study, the self-enhancing and affiliative humor styles were found to have a significant positive correlation with all four dimensions of PGI in undergraduate university students thus confirming the hypothesis that was formulated. Yue et al. (2017) research findings also indicated a positive relationship of adaptive humor styles with self-compassion and life satisfaction in adults in Hong Kong. Rowe and Regehr (2010) found that humor proved to be beneficial in helping emergency service professionals to cope in stressful and life threatening situations. It promoted group cohesion and the elicitation of social support. The use of adaptive humor styles was found to be associated with lower levels of distress in adults (Fritz, 2020). Humor was strongly linked with resilience in survivors of natural and technological disasters (Cherry et al., 2018). Freud (1960) theorized that humor acts as a defense or coping mechanism against unpleasant conflicts. It is beneficial when it allows the catharsis or release of unpleasant feelings in an adaptive and acceptable way. The relief theory states that laughter allows relief from tension and excessive nervous energy by restoring inner balance (Morreall, 1982). Humor has cross culturally been used as a tool to deal with and overcome adversity (McGhee, 2010). Thus, it is likely to facilitate personal growth.

In the present study, maladaptive humor styles were revealed to have a significant negative correlation with all four dimensions of PGI in undergraduate university students thus meeting the hypothesis. The results of a study by Ford et al. (2016) indicate that happiness is negatively associated with maladaptive humor styles. Previous empirical literature has provided evidence for the link between aggressive humor style and maladaptive psychological outcomes such as psychopathy (Masui & Ura, 2016) and dysfunctional coping mechanisms that included denial and rigidity in perspectives (Kuiper & Harris, 2009). As dysfunctional coping and psychopathy are unlikely to promote personal growth, aggressive humor may obstruct the path that leads towards it. The superiority theory of humor (Buijzen & Valkenburg, 2004) suggests that humor becomes maladaptive when it is used to assert one's own

perceived superiority over others. The individual feels better by ridiculing or laughing at the weaknesses of others. It has a sadistic function as it involves taking pleasure in the failings of others. Individuals who possess this maladaptive perspective of humor are unlikely to pursue personal growth.

In this study, self-enhancing humor emerged as a significant positive predictor of readiness for change, planfulness and using resources in undergraduate university students. One study (Yue et al., 2017) on adults in Hong Kong revealed that self-enhancing humor positively predicted self-compassion and life satisfaction. In Ford et al. (2017) study, participants who adopted the self-enhancing humor were found to experience less stress during a math test. Fredrickson's (1998, 2001) "broaden and build" concept states that positive feelings develop a person's process from thought to action thus creating physical, psychological, social and intellectual resources that are enduring. This leads to improved functioning. Adaptive humor styles have proven helpful in collectivist cultures for improving adjustment, decreasing stress and "breaking ice" or easing the tension in new/unfamiliar surroundings and situations (Cheung & Yue, 2012).

Affiliative humor emerged as a significant positive predictor of *using resources* among undergraduate university students. Increased use of affiliative humor has shown positive relationship with effectiveness, clearer goal formulation and better arousal management during communication (Miczo et al., 2009). Students using affiliative humor style were found to have better emotional regulation skills (Mathews, 2016). These findings reaffirm that affiliative humor style is linked to an effective utilization of internal resources such as communication skills and emotional regulation. Affiliative humor has the potential to enhance group cohesion within an organization. It strengthens relationships between members encouraging them to collaborate with and help one another (Romero & Cruthirds, 2007). In this way, it can be seen that affiliative humor promotes the utilization of external resources. This suggests that humor may act as a social lubricant that facilitates the utilization of internal and external resources.

Simpson's paradox is a well-documented statistical phenomenon that explains how the direction of association between variables tends to reverse after combining or aggregating groups of data and controlling for one or more variables. This may occur due to numerical values of the data or lurking variables. It shows that statistical relationships are mutable (Simpson, 1951). This was observed in the present study when self-defeating humor had a negative correlation with all four dimensions of PGI but it was found to positively predict intentional behavior, one of the four dimensions of PGI in undergraduate university students.

Self-defeating humor interestingly emerged as a significant positive predictor of intentional behavior in undergraduate university students. Hiranandani and Yue's (2014) study indicates that self-defeating humor is linked to gelatophobia (fear of ridicule) and low self-esteem. This suggests that self-defeating humor style could be intentionally adopted like a defense to avoid ridicule from others. The sharing of self-deprecating memes and jokes is widely popular on social media platforms such as facebook. It helps in the expression of suppressed feelings and allows individuals to cope with daily life stressors (Taecharunroj & Nueangjamnong, 2015). It is intentionally done by users and helps in achieving their desired goal (venting suppressed feelings). Pakistani social media generally remains flooded with the use of memes and self-deprecating humor. These jokes are used as a creative medium to express or convey the desired meaning to selected people (Ahsan, 2017). A study's findings (Torres-Marín et al., 2017) suggest that adopting a self-defeating humor style is related to certain dimensions of enhanced well-being such as happiness and sociability. This provides evidence that variability in associations or relationships between two variables may exist across different contexts, situations and cultures. The ability to laugh at oneself traditionally is associated with humility and has a positive connotation particularly in collectivist cultures (Chen et al., 2013) including Pakistan.

Limitations and Suggestions

- The application of the results is limited to the university student population in Lahore, Pakistan. The study can be conducted across different samples, regions and cultures to enhance its generalizability.
- The use of self-report scales introduces the risks of impression management and desirability bias as participants are generally motivated to present themselves in a desirable light when they are questioned personally. To overcome this, researchers can plan observational or qualitative studies to determine if the same results are obtained.

Conclusion

In conclusion, this research has provided a valuable contribution to the empirical literature on PGI, its correlates and predictors. Mindfulness and adaptive humor styles (self-enhancing and affiliative) were found to have a significant positive relationship with PGI in undergraduate university students. Maladaptive humor styles (self-defeating and aggressive) were found to have a significant negative relationship with PGI in undergraduate university students. The results show that mindfulness and humor styles predict the presence of PGI in undergraduate university students. In the future, a more comprehensive overview of the relationship dynamics between the study variables can be achieved by conducting mediator and moderator analyses.

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Conflict of Interest

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