Understanding Linkages Between Dispositional Mindfulness, Humor Styles, and Mental Health Among Adolescents

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ABSTRACT

Mindfulness and humor styles have been associated with mental health in previous research studies, primarily focusing on adult samples. However, there is a scarcity of research conducted on adolescents in India. Therefore, the present study aims to investigate the relationship between mindfulness, humor styles, and mental health in a sample of 400 adolescents (200 males and 200 females) aged between 13 and 19 years. Participants completed the Five Facet Mindfulness Questionnaire, Humor Styles Questionnaire, and Mental Health Inventory. The data was analyzed using SPSS Version 26. Results reveal that affiliative humor exhibits positive correlations with various subscales of mental health, as well as overall mental health scores. Self-enhancing humor also shows positive correlations with overall mental health scores and all mental health subscales except Perception of reality. Conversely, aggressive humor demonstrates significant negative correlations with all mental health subscales and overall mental health scores. Self-defeating humor is negatively correlated with overall mental health scores and all mental health subscales except Autonomy. Furthermore, describing, acting with awareness, and total mindfulness are significantly positively correlated with all mental health subscales and overall mental health scores. Among the predictors examined, acting with awareness and describing dimensions of mindfulness emerge as the strongest predictors of overall mental health scores and mental health subscales. Aggressive humor, affiliative humor, and self-enhancing humor also contribute to the prediction of mental health subscales and overall mental health scores. Based on these findings, it is recommended that mental health professionals consider integrating mindfulness and humor styles into their therapeutic approaches when working with adolescents.

Keywords. Mindfulness, Humor Styles, Mental Health, Adolescents.

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Introduction

According to the World Health Organization (WHO), mental health is defined as a state of well-being in which an individual realizes their own abilities, can cope with normal life stressors, can work productively, and is able to make a positive contribution to their community. Mental health encompasses emotional, psychological, and social well-being, and it affects how people think, feel, and act. It is an essential component of overall health and is crucial at every stage of life, from childhood and adolescence through adulthood. Mental health is influenced by various factors, including biological, psychological, and social determinants, and it is important to promote mental well-being, prevent mental disorders, and provide appropriate care and support for individuals experiencing mental health challenges. Amongst various age groups, the mental health of adolescents is a significant concern for many countries. Globally, approximately 10 to 20 percent of children and teenagers experience mental disorders, with depression and anxiety being the most prevalent conditions. Around 50 percent of those affected are under the age of 14, and 75 percent are in their mid-20s. Research indicates that between 1990 and 2017, one in seven Indians experienced severe mental illnesses such as schizophrenia, anxiety, or depression. India, with a population of 243 million adolescents, has the highest percentage of teenagers in the world (Patel et al., 2012). Adolescence is a critical period marked by significant physical, social, and emotional changes, making it a vulnerable stage for the onset of mental illnesses.

So, it is crucial to provide adolescents with the necessary information and management skills to support their healthy development. Children and adolescents need to cultivate cognitive and social-emotional skills that contribute to their future mental well-being. In the

literature, various factors have been identified to help improve the mental health of adolescents. Mindfulness interventions have shown to be beneficial in enhancing the mental health of individuals (Carsley et al., 2018; Halladay et al., 2019; Janssen et al., 2018; Kallapiran et al., 2015). According to Brown and Ryan (2003), mindfulness is a process of awareness that is inherently present-focused, ongoing, nonjudgmental, and flexible, as opposed to being excessively avoidant or entangled with verbal evaluations and conceptualizations. Several forms of mindfulness interventions have been found effective in reducing various types of psychological symptoms. Mindfulness-based stress reduction programs have been shown to improve positive affect and reduce stress, negative affect, anxiety, and rumination (Shapiro et al., 2007). Dispositional mindfulness has been found to be negatively associated with binge eating, perceived poor mental health, poor sleep quality, and higher stress levels (Roberts & Danoff-Burg, 2010). Mindfulness has significant positive correlations with self-esteem and resilience, while showing negative correlations with cognitive flexibility, depression, stress, and anxiety (Tan & Martin, 2016).

According to Martin et al. (2003), humor is believed to assist in the management of stress, fostering interpersonal relationships, and promoting both mental and physical well-being. Humor can manifest in various ways and can be classified into two main categories: adaptive and maladaptive. The adaptive use of humor is associated with improved mental well-being, while the maladaptive use of humor can have negative effects on mental well-being. Martin et al. (2003) developed the Humor Style Questionnaire, which comprises four distinct humor styles: *Affiliative Humor Style, Aggressive Humor Style, Self-Enhancing Humor Style, and Self-Defeating Humor Style.* Sirigatti et al. (2014) conducted a study on adolescents and young adults, revealing that males exhibited higher levels of aggressive humor compared to females. Additionally, self-defeating humor showed a negative correlation with Ryff's Psychological Well-Being scales (RPWB), whereas all six RPWB subscales demonstrated positive associations with affiliative and self-enhancing humor. In a longitudinal study by Fox, Hunter, and Jones (2016) with adolescents, engagement in self-defeating humor (SDF) was associated with a decline in self-esteem levels, increased loneliness, and symptoms of depression. The relationship between SDF humor and depression was bidirectional, with each predicting an increase in the other over time. Affiliative humor was related to an increase in self-esteem over the academic year, but it did not predict self-esteem. Boerner, Joseph, and Murphy (2017) conducted exploratory studies that suggested self-enhancing humor could be beneficial for coping with trauma. Amjad and Dasti (2020) examined the relationships between humor styles, emotional regulation, and subjective well-being (SWB) in young adults. Adaptive humor styles were strongly associated with adaptive emotion regulation and SWB, while maladaptive humor styles were linked to maladaptive emotion regulation and lower subjective well-being. Chuang et al. (2021) found that the relationship between rumination and mental health was influenced by affiliative style, aggressive style, and self-enhancing style. Chuang et al. (2021) identified affiliative style, aggressive style, and self-enhancing style as factors that moderate the association between mental health and rumination.

Aim and Hypotheses of the Study

As mentioned previously, there are various factors that can impact an individual's mental health. Several researchers have explored the connection between mindfulness, humor styles, and mental health. Both mindfulness and humor styles have been found to contribute to positive mental health outcomes. However, most of these studies have been conducted in Western countries with adult samples, and there are only a few studies conducted in India that have examined these variables. Therefore, there is a need to investigate how different dimensions of mindfulness and various styles of humor relate to mental health among teenagers in India. In this particular study, the researchers aim to examine the relationship between mindfulness, various forms of humor styles, and mental health.

Objectives

1. To explore the correlations between the mindfulness, humor styles, and mental health.
2. To find out the contribution of mindfulness and humor styles in predicting mental health of adolescents.

Hypotheses

1. Affiliative and self-enhancing humor style will positively correlate with mental health.
2. Aggressive humor style and self-defeating humor style are expected to be negatively correlated with mental health.
3. There will be a positive correlation between mindfulness and mental health.
4. Affiliative and Self-Enhancing humor styles are expected to correlate positively with Mindfulness.
5. There are negative correlations between Aggressive and Self-Defeating humor styles and mindfulness.
6. Mindfulness and Humor Styles would significantly contribute to mental health.

Method

Participants

The current study involved a sample of 400 participants aged between 13 and 19 years. Data was collected from students attending various schools in the Kurukshetra district of Haryana. The participants were enrolled from secondary and senior secondary classes. Prior to administering the self-report questionnaires, all participants were provided with clear instructions and obtained verbal consent. The dataset included 200 females and 200 males.

Measures

Five Facets of Mindfulness Questionnaire (FFMQ). This scale measures the dispositional mindfulness of the person. The FFMQ consists of five dimensions of mindfulness: Non-reactivity (NRV), Acting with Awareness (AWA), Observing (OBS), Non-Judging (NJG), and Describing (DCB). The questionnaire includes a total of thirty-nine items that assess all five dimensions of mindfulness and also provide a total score of mindfulness. Participants rate each item on a five-point Likert scale, ranging from 'Never = 1' to 'Always true = 5'. The current study uses the Hindi adaptation of the FFMQ translated by Mandal and Pandey (2016).

Child Humor Style Questionnaire (Child HSQ). This scale is generally used to assess four different kinds of humor styles proposed by Martin et al. (2003). The Child HSQ was developed by Fox et al. (2013). This questionnaire consists of 24 items, representing four humor styles: Affiliative (AFL), Aggressive (AGR), Self-Enhancing (SEC), and Self-Defeating (SDN) humor styles. Each humor style is measured using six items. Participants rate each item on a four-point Likert scale, ranging from 'Strongly disagree = 1' to 'Strongly Agree = 4'. The Child HSQ is designed for children aged 11 years and above. Fox et al. (2013) reported satisfactory reliability coefficients for the different humor styles: AFL = 0.87, SEC = 0.70, AGR = 0.75, and SDN = 0.75. Higher scores on a particular humor style indicate a stronger preference for that style. In the current study, the test has been adapted to the Hindi language, and the reliability coefficient for the entire test is $\alpha = 0.667$.

Mental Health Inventory (MHI). This scale was developed by Jagdish and Srivastava (1996) and is designed to assess the positive aspects of mental health in non-clinical individuals. The MHI consists of six dimensions: Integration of Personality (IOP), Autonomy (ATN), Environmental Mastery (EVM), Positive Self-Evaluation (PSE), Group-Oriented Attitudes (GOA), and Perception of Reality (PRA). This scale also provides the composite score of all dimensions to give the overall score of mental health (OMH). The scale comprises 56 items, and participants rate each item on a 4-point Likert scale. The MHI is available in both English and Hindi languages. Higher scores on the scale indicate better mental health in individuals. Jagdish and Srivastava (1996) reported a reliability coefficient of $\alpha = 0.73$ for the entire test.

Data Analyses

The collected data were analyzed using IBM SPSS Version 26. The linear correlation between variables was assessed using Pearson's Product-Moment correlation in SPSS. Additionally, stepwise regression analysis was performed to examine the contribution of mindfulness and humor styles to mental health.

Results

Descriptive Statistics

Before conducting further analyses, descriptive statistics were performed. To assess the normality of the data, skewness and kurtosis were calculated. Table 1 presents the results of the descriptive statistics. The skewness and kurtosis values obtained indicate that the data align with the assumptions of a normal distribution.

Correlation Analysis

Table 2 illustrates the correlations between humor styles and various dimensions of mental health. The results indicate that the Affiliative humor style has a significant positive correlation with Positive self-evaluation ($r = .21$, $p < .01$), Autonomy ($r = .13$, $p < .05$), Group Oriented Attitudes ($r = .25$, $p < .01$), Environmental Mastery ($r = .11$, $p<.05$) and Overall mental health ($r = .20$, $p < .01$). These findings suggest that individuals who tend to use the Affiliative humor style are more likely to have higher levels of positive self-evaluation, a sense of autonomy, group-oriented attitudes, a sense of mastery over their environment, and better overall mental health. Aggressive humor style is found to correlate negatively with all dimensions of mental health ($p<.01$) as well as with Overall mental health ($r = -.26$, $p<.01$), as shown in Table 2.

Table 1 *Descriptive statistics*

Variables	Mean	Standard Deviations	Skewness	Kurtosis
AFL	17.42	3.35	-.55	.21
AGR	13.12	3.04	-.09	-.28
SEC	16.09	3.65	-.13	-.70
SDN	12.74	3.36	.28	-.16
OBS	25.41	4.79	.02	-.24
DCB	24.90	4.46	.15	.10
AWA	25.56	5.74	-.01	-.08
NJG	23.30	4.59	-.12	.08
NRV	21.27	3.67	-.07	.36
MTOT	120.43	11.29	.09	.96
PSE	28.11	4.08	-.21	-.09
PRA	21.12	2.74	.10	.64
IOP	31.74	5.23	-.02	.20
ATN	15.58	2.76	.21	.01
GOA	28.99	4.18	-.27	-.17
EVM	25.58	3.55	.06	-.14
OMH	151.12	15.68	.24	.29

These findings suggest that individuals who frequently engage in Aggressive humor tend to have lower scores on various dimensions of mental health and poorer overall mental health. Self-enhancing humor style exhibits positive correlations with Positive self-evaluation (r = .20), Autonomy (r = .13), Group Oriented Attitudes (r = .16), Environmental Mastery (r = .17), and Overall mental health (r = .21), all significant at the .01 probability level. The results suggest that individuals who possess a self-enhancing humor style tend to have higher levels of positive self-evaluation, a sense of autonomy, group-oriented attitudes, environmental mastery, and overall better mental health.

Table 2 ***Correlation coefficients for both males and females***

	AFL	AGR	SEC	SDN	OBS	DCB	AWA	NJG	NRV	MTOT	PSE	PRA	IOP	ATN	GOA	EVM	OMH
AFL	1	.048	.291*	.139**	.139*	.159*	-.025	-.056	.046	.101*	.206**	.073	.062	.126*	.251**	.112*	.201**
AGR		1	.045	.223**	-.035	-.091	-.178**	.024	-.013	-.136**	-.232**	-.184**	-.173**	-.147**	-.164**	-.171**	-.259**
SEC			1	.109*	.101*	.099*	-.050	-.076	.171**	.081	.196**	.066	.123*	.133**	.156**	.166**	.206**
SDN				1	.066	-.077	-.286**	-.183**	.194**	-.160**	-.190**	-.134**	-.155**	-.069	-.129*	-.145**	-.204**
OBS					1	.201*	-.102*	-.330**	.329**	.424**	.173**	.153**	-.139**	.009	.069	.086	.065
DCB						1	.260**	.124*	.092	.693**	.322**	.239**	.148**	.301**	.275**	.303**	.370**
AWA							1	.375**	-.275**	.631**	.341**	.291**	.395**	.297**	.330**	.253**	.469**
NJG								1	-.369**	.387**	.071	.010	.276**	.052	.121*	.066	.169**
NRV									1	.211**	.031	.060	-.133**	.041	-.110*	.045	-.038
MTOT										1	.413**	.330**	.269**	.308**	.319**	.327**	.468**
PSE											1	.366**	.329**	.423**	.482**	.428**	.734**
PRA												1	.285**	.250**	.276**	.248**	.539**
IOP													1	.466**	.478**	.324**	.752**
ATN														1	.406**	.426**	.690**
GOA															1	.296**	.738**
EVM																1	.643**
OMH																	1

*Significant at .05 level

** Significant at .01 level

Furthermore, Self-Enhancing humor correlates positively with Integration of Personality (r = .12) which shows significance at .05 level of probability. This finding suggests that individuals who engage in Self-Enhancing humor, characterized by the ability to find humor and positivity in everyday situations, are more likely to exhibit a greater sense of integration in their personality. On the other hand, Self-defeating humor style demonstrates significant negative correlations of -.19 ($p < .01$) with Positive self-evaluation, -.13 ($p < .01$) with Perception of reality, -.16 ($p < .01$) with Integration of Personality, -.13 ($p< .05$) with Group Oriented Attitudes, -.14 ($p< .01$) with Environmental mastery, and -.20 ($p < .01$) with Overall mental health. These results imply that individuals who employ self-defeating humor tend to experience lower levels of positive self-evaluation, possess a distorted perception of reality, face challenges in integrating different facets of their personality, exhibit weaker group oriented attitudes, encounter difficulties in effectively managing and adapting to their environment, and have overall poorer mental health.

Observing correlates significantly and positively with Positive self-evaluation (r = .17, p<.01) and Perception of Reality (r = .15, p<.01), while it exhibits a negative correlation with Integration of personality (r = -.14, p<.05). These findings indicate that individuals who frequently engage in observing internal and external experiences tend to have higher levels of positive self-evaluation and a more accurate perception of reality. However, they may experience challanges in integrating different aspects of their personality. Non-Judging shows a positive and significant correlation with Integration of personality (r = .28) and Overall mental health (r = .17), both of which are significant at the .01 probability level. This suggests that individuals who demonstrate a lower tendency to evaluate their thoughts, feelings, and experiences tend to have better integration of their personality and experience higher levels of overall mental well-being. Furthermore, Non-Judging has a significant positive correlation with Group Oriented Attitudes (r = .12). This indicates that individuals with a non-judging mindset tend to exhibit better group oriented attitudes. Non-Reactivity has a significant negative correlation with Integration of Personality (r = -.13, p<.01) and Group Oriented Attitudes (r = -.11, p<.05). These findings suggest that individuals who exhibit lower levels of non-reactivity may face challenges in effectively integrating various aspects of their personality and may encounter difficulties in areas such as collaborating with others, achieving interpersonal harmony, and engaging in leisure pursuits. As depicted in Table 2, Describing (r = .37, p<.01), Acting with Awareness (r = .47, p<.01), and Total mindfulness (r = 47, p<.01) are significantly and positively correlated with Overall mental health, as well as all the subscales of mental health (p<.01). These results suggest that Individuals who possess the ability to accurately describe their experiences, engage in activities with heightened awareness, and demonstrate a greater overall mindfulness disposition tend to exhibit improved mental health across various aspects, including Autonomy, positive self-evaluation, perception of reality, integration of personality, group-oriented attitudes, and environmental mastery.

The Affiliative humor style exhibits a positive and significant correlation with Observing (r = .14, p<.01), Describing (r = .16, p<.01), and Total mindfulness (r = .10, p<.01). This may be interpreted that individuals with a preference for affiliative humor are more likely to engage in observing their internal and external experiences, describing those experiences with clarity, and overall, possess a higher level of mindfulness. Aggressive humor exhibits a negative correlation with Acting with Awareness (r = -.18) and Total Mindfulness (r = -.14), both of which show significance at the .01 probability level. These findings suggest that individuals who engage in aggressive humor tend to have lower levels of acting with awareness and trait mindfulness. Self-Enhancing humor is found to be significant positively correlated with Observing (r = .10, p<.05), Describing (r = .10, p<.05), and Non-Reactivity (r = .17, p<.01). The positive correlations indicate that individuals who frequently employ self-enhancing humor are more likely to display higher levels of observing their inner and outer experiences, verbally describing those experiences accurately, and exhibiting non-reactivity to internal stimuli. Self-Defeating humor has significant negative correlations with Acting with Awareness (r = -.29), Non-Judging (r = -.18), and Total Mindfulness (r = -.16), all significant at the .01 level. The findings indicate that individuals who frequently employ self-defeating humor are less likely to engage in activities with heightened awareness, are non-evaluative to their thoughts and feelings, and possess lower levels of overall mindfulness. The correlation between Self-Defeating humor and Non-Reactivity is positive (r = .19) and significant (p<.01). This suggests that individuals who engage in self-defeating humor may display a tendency to remain non-reactive to internal stimuli, despite their use of self-deprecating humor.

Regression analysis

In the current study, a stepwise regression analysis was conducted using all the subscales of mental health and Overall mental health as the dependent variables in a sample of 400 adolescents. The results of the stepwise regression analysis, including the predictors of all the subscales and overall mental health, are presented in Table 3.

Upon examining Table 3, it is evident that seven predictors make a significant contribution to Positive Self-Evaluation. Acting with Awareness, Describing, Self-Enhancing humor, Aggressive humor, Affiliative humor, Observing, and Self-Defeating style are identified as potent predictors. Acting with Awareness accounts for 12% of the total variance (R2 = .12, F = 52.36, $p < .01$, $\beta = .26$), making it the most influential predictor of Positive Self-Evaluation. This indicates that individuals who exhibit a higher level of acting with awareness tend to have a more positive evaluation of themselves. Describing emerges as the second predictor, explaining 6% of the total variance (R2 = .18, F = 42.05, $p < .01$, $\beta = .17$). Although its contribution is smaller compared to Acting with Awareness, it still significantly impacts Positive Self-Evaluation. The results suggest that individuals who possess the ability to accurately describe and articulate their thoughts, emotions, and experiences are more likely to have a positive self-evaluation. Self-Enhancing humor style is identified as the third predictor, explaining 4% of the total variance (R2 = .21, F = 35.03, $p < .01$, $\beta = .16$). The results suggest that individuals who engage in self-enhancing humor, characterized by the ability to find humor in everyday situations and maintain a positive outlook, are more likely to have a positive self-evaluation. The fourth predictor in the equation is Aggressive humor style, explaining 3% of the total variance (R2 = .24, F = 31.00, $p < .01$, $\beta = -.15$). The findings suggest that individuals who engage in aggressive humor, characterized by sarcastic, teasing, or belittling remarks towards others, tend to have a less positive self-evaluation. The next predictor is Affiliative humor style, which explains 2% of the total variance (R2 = .26, F = 27.32, $p < .01$, $\beta = .14$). The results indicate that individuals who engage in affiliative humor, characterized by the use of humor to build connections, strengthen relationships, and promote a sense of belonging, tend to have a more positive self-evaluation. The sixth predictor is Observing, which explains 2% of the total variance (R2 = .27, F = 24.55, $p < .01$, $\beta = .13$). The results suggest that individuals who exhibit a higher level of observing in mindfulness, characterized by paying attention to their own thoughts, feelings, and sensations, tend to have a more positive self-evaluation. The final predictor of Positive Self-Evaluation is Self-Defeating humor style, which explains 1% of the total variance (R2 = .28, F = 22.19, $p < .01$, $\beta = -.11$). The results suggest that the use of self-defeating humor is associated with a less favorable assessment of oneself.

Table 3 *Stepwise regression analysis outcomes*

Predictors	R	R^2	R^2 change	F	β	Significance
Dependent variable: Positive Self-Evaluation						
AWA	.34	.12	.12	52.36	.26	.01
DCB	.42	.18	.06	42.05	.17	.01
SEC	.46	.21	.04	35.03	.16	.01
AGR	.49	.24	.03	31.00	-.15	.01
AFL	.51	.26	.02	27.32	.14	.01
OBS	.52	.27	.02	24.55	.13	.01
SDN	.53	.28	.01	22.19	-.11	.01
Dependent variable: Perception of Reality						
AWA	.29	.08	.08	36.74	.25	.01
OBS	.34	.12	.03	26.58	.15	.01
DCB	.37	.14	.02	20.58	.13	.01
AGR	.39	.15	.02	17.35	-.12	.01
Dependent variable: Integration of Personality						
AWA	.40	.16	.16	73.54	.32	.01
SEC	.42	.18	.02	42.54	.16	.01
NJG	.44	.20	.02	32.64	.17	.01
AGR	.46	.21	.02	26.87	-.13	.01
Dependent variable: Autonomy						
DCB	.30	.09	.09	39.54	.23	.01
AWA	.38	.14	.05	32.72	.24	.01
SEC	.40	.16	.02	24.46	.12	.01
Dependent variable: Group Oriented Attitudes						
AWA	.33	.11	.11	48.65	.28	.01
AFL	.42	.18	.07	42.38	.21	.01
DCB	.45	.20	.02	32.90	.15	.01
AGR	.46	.21	.01	26.52	-.12	.01
SEC	.47	.22	.01	22.30	.10	.01
Dependent variable: Environmental Mastery						
DCB	.30	.09	.09	40.35	.23	.01
AWA	.35	.13	.03	28.25	.18	.01
SEC	.38	.15	.02	22.85	.16	.01
AGR	.40	.16	.02	19.20	-.13	.01
Dependent variable: Overall Mental Health						
AWA	.47	.22	.22	112.11	.39	.01
DCB	.54	.29	.07	79.42	.21	.01
SEC	.57	.33	.04	63.95	.17	.01
AGR	.60	.36	.03	54.82	-.18	.01
AFL	.61	.37	.02	46.95	.14	.01

Note: AWA= Acting with Awareness; DCB= Describing; SEC= Self-Enhancing humor;

AGR= Aggressive humor; AFL= Affiliative Humor; NJG= Non-Judging; OBS= Observing;

SDN= Self-Defeating humor.

For the dependent variable "Perception of Reality," four predictors emerged: Acting with Awareness, Observing, Describing, and Aggressive humor. Collectively, these predictors account for 15% of the total variance in Perception of Reality. Acting with Awareness is the strongest predictor of Perception of Reality, explaining 8% of the total variance ($R2 = .08$, $F = 36.74$, $p < .01$, $\beta = .25$). This means that individuals who exhibit higher levels of acting with awareness, characterized by being present and attentive to their experiences, tend to have a more accurate perception of reality. This is followed by Observing ($R2 = .12$, $F = 26.58$, $p < .01$, $\beta = .15$), Describing ($R2 = .14$, $F = 20.58$, $p < .01$, $\beta = .13$), and Aggressive humor ($R2 = .15$, $F = 17.35$, $p < .01$, $\beta = -.12$). This suggests that individuals who engage in observing, describing their experiences, and using less aggressive humor may also have a better perception of reality.

As depicted in Table 3, four predictors significantly emerge in predicting Integration of Personality. These predictors include Acting with Awareness, Self-Enhancing humor, Non-Judging, and Aggressive humor, collectively accounting for 21% of total variance in Integration of Personality. Acting with Awareness stands out as the strongest predictor, explaining 16 % of total variance ($R2 = .16$, $F = 73.54$, $p < .01$, $\beta = .32$). This suggests that individuals who exhibit higher levels of acting with awareness are more likely to have a better integration of different aspects of their personality. Self-Enhancing humor follows as the next significant predictor ($R2 = .18$, $F = 42.54$, $p < .01$, $\beta = .16$), indicating that individuals who use humor to enhance their self-perception may also have better integration of their personality. Non-judging as the next predictor ($R2 = .20$, $F = 32.64$, $p < .01$, $\beta = .17$) implying that individuals who adopt a non-judgmental attitude towards their thoughts and experiences may exhibit improved integration of their personality and the final predictor Aggressive humor ($R2 = .21$, $F = 26.87$, $p < .01$, $\beta = -.13$) suggesting that individuals who employ aggressive humor may face some challenges in integrating different aspects of their personality.

For the Autonomy variable, three predictors emerge, collectively accounting for 16% of the total variance. Describing proves to be the most influential predictor, entering the equation at the first step and explaining 9% of the total variance ($R2 = .09$, $F = 39.54$, $p < .01$, $\beta = .23$). This suggests that individuals who engage in describing their thoughts, feelings, and experiences may have a stronger sense of autonomy. Acting with Awareness follows as the next predictor, explaining 5% of the total variance ($R2 = .14$, $F = 32.72$, $p < .01$, $\beta = .24$), indicating that individuals who exhibit higher levels of awareness in their actions may also experience a greater sense of autonomy. Lastly, Self-Enhancing humor emerges as the final predictor, contributing 2% of the total variance ($R2 = .16$, $F = 24.46$, $p < .01$, $\beta = .12$) to Autonomy. This indicates that individuals who use humor to enhance their mood in difficult situations may have a significant impact on their sense of autonomy.

A total of five potent predictors emerged in predicting Group Oriented Attitudes among adolescents. The predictor "Acting with Awareness" entered the equation at step one and explained 11% of the total variance ($R2 = .11$, $F = 48.65$, $p < .01$, $\beta = .28$), indicating that individuals who exhibit higher levels of awareness in their current activities tend to have more group-oriented attitudes. This is followed by "Affiliative humor style," which accounts for 7% of the total variance ($R2 = .18$, $F = 42.38$, $p < .01$, $\beta = .21$), suggesting that individuals who engage in affiliative humor may also demonstrate more group-oriented attitudes. Additionally, "Describing" explains 2% of the total variance ($R2 = .20$, $F = 32.90$, $p < .01$, $\beta = .15$), indicating that individuals who verbally describe their inner and outer experiences may exhibit slightly more group-oriented attitudes. "Aggressive humor style" accounts for 1% of the total variance ($R2 = .21$, $F = 26.52$, $p < .01$, $\beta = -.12$), suggesting that individuals who employ aggressive humor may have slightly lower levels of group-oriented attitudes. Lastly, "Self-Enhancing humor" contribute 1% of the total variance ($R2 = .22$, $F = 22.30$, $p < .01$, $\beta = .10$), indicating that individuals who use humor to improve their mood may have a small impact on their group-oriented attitudes.

For the dependent variable “Environmental Mastery”, four predictors appear in the equation. These predictors are Describing, Acting with Awareness, Self-Enhancing humor, and Aggressive humor. Collectively, these predictors explain 16% of the total variance in Environmental Mastery. Describing is the first and strongest predictor ($R2 = .09$, $F = 40.35$, $p < .01$, $\beta = .23$), suggesting that individuals who are better able to describe their thoughts, feelings, and experiences are more likely to have a greater sense of environmental mastery. Acting with Awareness is the

second predictor ($R2 = .13$, $F = 28.25$, $p < .01$, $\beta = .18$), indicating that individuals who demonstrate higher levels of awareness in their present moments tend to have a better sense of environmental mastery. Self-Enhancing humor is the third predictor ($R2 = .15$, $F = 22.85$, $p < .01$, $\beta = .16$), implying that individuals who use humor in challenging situations to enhance their mood may also experience a greater sense of environmental mastery. Lastly, Aggressive humor appears as the final predictor ($R2 = .16$, $F = 19.20$, $p < .01$, $\beta = -.13$) of Environmental Mastery, suggesting that individuals who employ aggressive humor may have a slightly lower sense of environmental mastery.

Data from Table 3 reveals that among adolescents, Acting with Awareness, Describing, Self-Enhancing humor, Aggressive humor, and Affiliative humor are significant predictors of Overall mental health. These five variables collectively account for 37% of the total variance in overall mental health. Acting with Awareness is the most influential predictor, explaining 22% of the total variance ($R2 = .22$, $F = 112.11$, $p < .01$, $\beta = .39$). This indicates that adolescents who exhibit higher levels of present-moment awareness are more likely to have better overall mental health. Describing emerges as the second predictor, explaining an additional 7% of the total variance ($R2 = .29$, $F = 79.42$, $p < .01$, $\beta = .21$). This indicates that the ability to describe inner feelings and experiences is strongly associated with good mental health. Self-Enhancing humor is the third predictor, explaining an additional 4% of the total variance ($R2 = .33$, $F = 63.95$, $p < .01$, $\beta = .17$). This suggests that individuals who engage in self-enhancing humor, which involves using humor to enhance their mood states and cope with stressors, have a significant association with the better mental health. The fourth predictor of mental health is Aggressive humor, which explains an additional 3% of the total variance ($R2 = .36$, $F = 54.82$, $p < .01$, $\beta = -.18$). This suggests that individuals who engage in Aggressive humor have a significant association with the poor mental health. The final predictor of overall mental health is Affiliative humor, which accounts for 2% of the total variance ($R2 = .37$, $F = 46.95$, $p < .01$, $\beta = .14$). This finding suggests that individuals who engage in Affiliative humor, characterized by using humor to enhance social bonds, build connections, and promote positive interactions with others, have a modest association with good mental health.

Discussion

The present study investigates the relationship between mindfulness, humor styles, and mental health. This study is the first in India to explore the relationship between four humor styles and the subscales of the Mental Health Inventory developed by Jagdish and Srivastava (1996), which assesses positive aspects of mental health. Table 2 reveals that Affiliative and Self-Enhancing humor positively correlate with certain subscales of mental health and overall mental health. Conversely, Aggressive exhibit negative correlations with overall mental health and all the subscales. Furthermore, Self-Defeating humor significantly correlates negatively with all subscales except Autonomy as well as overall mental health. These findings support our first and second hypotheses. The findings of present research contribute to the existing literature on mindfulness and mental health. Among adolescents, Describing, Acting with Awareness, and Total mindfulness demonstrated correlations with all subscales of the mental health scale, while other dimensions of mindfulness correlated with specific subscales of mental health as discussed above. These results support our third hypothesis that mindfulness is associated with mental health.

A study conducted by Pérez-Aranda et al. (2021) investigated the correlation between humor styles and five dimensions of mindfulness. Their results indicated that Affiliative humor had no significant correlation with any mindfulness dimension, while self-enhancing humor correlated positively and significantly with Describing, Acting with Awareness, and Non-Judging dimensions of mindfulness. Aggressive humor exhibited a negative and significant correlation with Non-Judging, while Self-Defeating humor positively correlated with Acting with Awareness and Non-Judging. In the current study, the relationships between humor styles and mindfulness dimensions are examined. The findings reveal that Affiliative humor is associated with Observing, Describing, and Overall mental health. Furthermore, Aggressive humor is found to have a negative correlation with Acting with Awareness and dispositional mindfulness. On the other hand, Self-Enhancing humor shows positive associations with Observing, Describing, and Non-reactivity dimensions of mindfulness. Lastly, Self-Defeating humor is negatively associated with Acting with Awareness, Non-Judging, and trait mindfulness, while showing a positive association with Non-Reactivity. These results differ from those reported by Pérez-Aranda et al. (2021). These findings support our fourth and fifth hypotheses.

Furthermore, stepwise regression analyses were performed separately with each subscale of mental health and overall mental health as the dependent variable. As presented in Table 2, Acting with Awareness emerges as the strongest predictor of Group Oriented Attitudes, Perception of Reality, Integration of Personality, Positive Self-Evaluation, and Overall Mental Health. This dimension of mindfulness explains approximately 12 % to 22% of the

variance of the several subscales and overall mental health. Describing emerge as the strongest predictor of Autonomy and Environmental Mastery and explains 9% of the total variance in both the subscales of mental health. Self-Enhancing, Aggressiv, and Affiliative humor are all predictors of various subscales of mental health as well as overall mental health. Previous research has shown that Acting with Awareness predicts lower depressive symptoms and anxiety (Bravo et al., 2015; Cash & Whittingham, 2010), while Aggressive and Self-Enhancing humor predicts better mental health (Chen & Martin, 2007; Martin et al., 2003). These results support our sixth hypothesis. In summary, the current study enhances our understanding of the relationships between mindfulness, humor styles, and mental health. The findings of the present study contribute to the existing literature.

There are some limitations that should be considered before evaluating the current results. Firstly, the research design of the current study is correlational, making it difficult to establish a cause-and-effect relationship between the variables. Secondly, the measures used in the study, such as the Five Facet Mindfulness and Humor Styles Questionnaire, were originally developed and standardized on samples of Western adults. Although these questionnaires have been used with adolescents in several studies, the items may be somewhat challenging and lengthy for this age group. Therefore, it is recommended that future research employ well-standardized measures for more accurate and reliable results.

Conclusions

Despite the limitations discussed earlier, this study offers valuable insights into the associations between dispositional mindfulness, humor styles, and mental health. It identifies potential predictors for both male and female adolescents. The findings suggest that mindfulness and humor styles can be effective in improving mental health outcomes. Incorporating these variables into mental health and wellness programs has the potential to alleviate symptoms of depression and anxiety, thereby enhancing overall well-being.

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