Emotion Regulation, Dark Triad Personality, Rule-Breaking Behavior and Mental Health Problems in Young Adults: Structural Equation Modelling

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Abstract
The correlational linkages between dark triad personality and unlawful, antisocial, and repulsive behaviors have been identified in the literature but little is known about the relationship between emotion regulation, dark triad personality, rule-breaking behavior and mental health problems and the processes underlying this association. The current study is an attempt to explore the associative paths of emotion regulation and dark triad personality traits that influence rule-breaking behavior and mental health of young adults. Cross sectional survey was completed by 560 participants between the age ranges of 18-30 years. Structural Equation Modelling was used to analyze the results of the study; results suggested that cognitive reappraisal and expressive suppression contribute to different pathways for dark-triad personality, rule-breaking behavior and mental health problems. The cognitive reappraisal has positive effect on mental health problems which is mediated by rule-breaking behavior. Expressive suppression has significant relationship with mental health problems which is mediated by dark triad personality and rule-breaking behavior. Furthermore, dark triad personality is positively associated with rule-breaking behavior and mental health problems. The findings revealed no significant gender differences in terms of emotion regulation, dark triad personality and rule-breaking behavior in young adults whereas; mental health problems are significantly prominent in men as compared to women. This study extended previous research by providing evidence that rule-breaking behavior may be one of the reasons explaining why people with emotion dysregulation and dark triad personality engage in rule-breaking behavior and develop mental health problems. Practical and theoretical implications of the study were also discussed.
Key Words: Young Adults, Emotion Regulation, Dark Triad Personality, Rule-breaking, Mental Health Problems, Path Analysis, SEM

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Introduction
Emotions are the precarious part of interpersonal development that develops through experience and culture. Emotions can directly affect the behavioral outcomes and sometimes indirect paths influence individual behavior, in this case emotions influence cognitions and which in turn affect behavior (Bameister et al., 2017). Both direct and indirect processes of emotion regulation influence an individual's personal, social, psychological and academic areas of life (Alondra, 2021). Emotions are essential to human

life (Cosmides & Tobby, 2000; Frijda, 1987; Phelps, 2006). Emotions can be unaccommodating when they occur incongruously in different situations and their intensity is also uncontrollable (Gross & Thompson, 2007).

Emotion Regulation (ER) is an important human adaptation process mainly divided into two specific emotion regulation strategies including cognitive reappraisal and expressive suppression. Cognitive reappraisal is a form of cognitive change that helps an individual to cope and adapt well to situations whereas expressive suppression is a way of changing their emotional responses after its initiation (Seixas et al., 2021). Emotion regulation gained extensive attention from researchers over the past few years and they are mainly interested to explore the significance of regulating emotions in human lives and in the adaptation process (Gross, 2015; Mikolajczak et al., 2009; Snyder et al., 2006). Generally, the ability to regulate emotions play an essential role in everyday life of an individual and it's also associated with the operative enactment of certain tasks. Every individual has distinct biological, personal, emotional and cognitive characteristics which determine the ways of handling emotions. However, the ways of dealing with and controlling of emotions vary from individual to individual but it has very strong association with personality (Walker et al., 2021). Personality is the depiction of individual thoughts, emotions, thoughts, attitudes and behaviors which differentiate or resemble the individual from each other (Cetin, 2020). Different models of personality have been developed to understand the different features of personality which congregated the features that makeup personality. Basar (2019) mentioned models of personality including the five-factor model of personality (McCrae & Costa, 1990), the three-factor model of personality (Tellegen, 1985), the Psychoticism, Extraversion, and Neuroticism (PEN) model of personality (Eysenck, 1977), and the temperament and

character personality model (Cloninger et al., 1993). These models of personality could not measure and address undesirable, negative, avoided and unwanted characteristics of personality. The personality which are grouped and measured as abhorrent is labeled as "dark triad personality" (Cetin, 2020).

The term Dark Triad Personality (DTP) is a combination of certain aversive and subclinical personality traits but the concept of dark triad personality including Machiavellianism, narcissism and psychopathy (Paulhus & Williams, 2002) has not been studied extensively in reference to emotion regulation and rule-breaking behavior (Walker et al., 2019). Machiavellianism is defined as the presence of the features of exploiting and manipulating others, lack of morality, insensitivity, and cruelty (Kohut, 1977). The Narcissism is the combination of arrogance, grandiosity, lack of empathy, and egocentrism (Sharon & Vincent, 2006). The person having psychopathy trait is characterized as antisocial, selfish, impulsive, emotionless, remorseful and unsympathetic (Skeem et al., 2011). Pilch (2020) described that individuals having dark triad personality traits are appeared to be aggressive, selfish, less empathetic, disagreed and deceptive and also have intentions of manipulation in interpersonal relationships (Fumham et al., 2013). Personality is one of the most significant contributing factors of many negative behaviors and rule-breaking behavior is one of them (Sinha, 2016). Wright et al. (2016) found that dark triad personality traits were the strong predictor of rule-breaking behavior and violent tendencies in young adults. Emotion dysregulation in young adults is associated with committing severe forms of unlawful and immoral acts in future, but this thing required an appropriate assessment of the emotion dysregulation by using valid and reliable measures (Salinas & Venta, 2021).

Birkas et al. (2015) found that individuals having Machiavellianism traits are more prone to engage in rule-breaking behavior.

Young adults with narcissistic personality traits usually appeared to be overconfident and possess unrealistic views about the situation and they do not analyse the risks and losses associated with their unlawful behaviors (Paulhus & William, 2002). Psychopathic is more often engages in risky and violent situations and make wrong decisions because they are unable to understand the consequences associated with their risky behaviors (Jones, 2014). Zhao et al. (2016) in their study explored that the young adults with high psychopathy tendencies tend to engage more in rule-breaking behavior. There reckless and antisocial nature makes them vulnerable to involve in such behavior very easily (Jones, 2013). There low self-control and high level of temptation to perform rule-breaking was difficult to control for them (Tangney et al., 2004).

Research has shown that high Machiavellianism was associated with greater perceived reward for engaging in deviant behavior and less perceived punishment for that activity (Birkas et al., 2015). This indicates that Machiavellians tend to consider merely the profits they want to pursue, which may result in their erroneous estimation about the odds of rewards or punishment (Birkas et al., 2015; Rauthmann & Kolar, 2013). Lamer et al. (2012) defined that mental health is the absence of psychological problems and presence of the positive well-being in an individual. The positive level of mental health in adolescent life confirms the presence of positive well-being and absence of mental health problems in young adult life (O' Connor et al., 2017). The young adults with Machiavellianism are emotionally unstable and vulnerable to stress and have lack of moral values (Rauthmann & Will, 2011). They also have difficulty in expressing emotions in an appropriate manner which affect their well-being (Jakobwitz & Egan, 2006; Jonason et al., 2015; Szijjarto & Bereczkei, 2015; Wastell & Booth, 2003). The grandiosity, aggression, dominance, self-centeredness and emotional resilience

associated with narcissistic make them vulnerable to depressive symptoms and feelings of anxiousness (Miller et al., 2010; Tritt et al., 2010; Zemoitel-Piotrowska et al., 2014). The psychopaths more often experience certain psychological problems including depression, anxiety, emotional deficiency, impulsivity, high distress and lack of positive affect (Love & Holder, 2014; Skeem et al., 2003; Verona et al., 2001). According to Moran et al. (2016), the personality is the strong predictor of the occurrence of mental health problems in young adults such as anxiety, social problems, use of substance and personality disorders in global. The way we experience and express emotions are the key element of positive well-being and mental health (Amstadter, 2008; Kring & Sloan, 2010). The problem in effectively managing and regulating their emotions in a given situation predict mental health problems (Garnefski et al., 2007; Nolen-Hoeksema et al., 2008).

These three personality traits of DTP have been associated with rule-breaking, antisocial and deviant behaviors (Barry et al., 2007; Muris et al., 2017). The recent researches have revealed that Machiavellianism and psychopathy traits are linked with both direct and indirect forms of disruptive behavior but narcissism was only found to be associated with indirect forms of unruly behaviors. However, the study of Ojanen et al. (2012) showed the association between narcissism and direct forms of aggressive and violent actions are more in boys and youth (Barry et al., 2018). This overlap of findings indicated that the antisocial, aggressive, and repulsive forms of behavior are different for the three types of DTP (Klimstra et al., 2014; Lau & Marsee, 2013).

Young adulthood is a critical period of human development associated with visible social, emotional and transitional challenges (Hall et al., 2021). Most of the young adults who were exposed to developmental stress and encounter

difficult life experiences may lack appropriate skills to regulate their emotions (Hall & Simpson, 2018). Adverse life circumstances and experiences such as unsupportive home environment, family conflicts, and vagrancy may affect their ability to regulate their emotions in different situations (Sloan et al., 2017). The large number of Mental Health Problems (MHP) emerged in late adolescent and young adulthood period which make them vulnerable to seek psychological services for their better adaptability in everyday life as this cohort of young adults find it difficult to monitor their impulsive intentions and difficult emotions (Sloan et al., 2019). Their involvement in rebellious behavior often viewed as main public health problem with precipitous personal and social costs (Burt et al., 2018).

Overall, the literature showed relationship of ability to regulate their emotions and personality and its impact on mental health generally. General role of personality was also explored in literature with reference to mental health and violent behaviors (Roberton et al., 2014). Very limited literature has explored the association of ER using cognitive reappraisal and expressive suppression domains with specific DTP traits (Machiavellianism, Narcissism and Psychopathy), rule-breaking and with mental health problems in young adults. Therefore, there is a dire need to explore the association between these potential factors in order to comprehend the developmental pathways of rule-breaking behavior and mental health problems in young adults and to ensure the importance of providing timely prevention and intervention for this vulnerable group of people. So, the primary objective of this study was to explore the associative specific paths of ER, DTP and its connection with rule-breaking behavior and mental health problems in young adults. Based on literature reported above, we hypothesized that the three traits of DTP and rule breaking behavior (RBB) would mediate the relationship between ER and MHP in young adults. Accordingly, we assumed that comparative or relative upsurge in ER and MHP would predispose to DTP and RBB which in turn would be associated with an increase in ER and MHP in young adults.
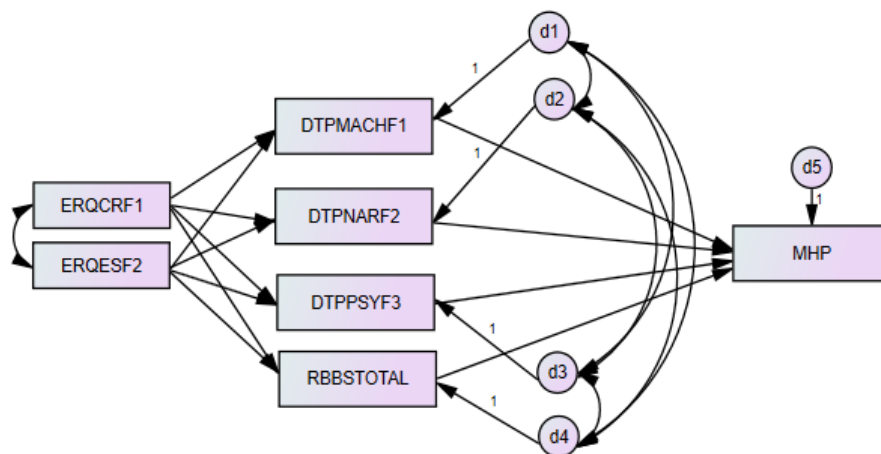

Figure 1

Proposed Path Model of Emotion Regulation (ER) Subscales (Cognitive Reappraisal, Expressive Suppression), Dark Triad Personality (DTP) Subscales (Machiavellianism, Narcissism, Psychopathy), Rule-Breaking Behavior (RBBS Total) and Mental Health Problems (MHP)

Method

Participants and Procedure

The data for the present study was collected between September and December of 2021 from 560 participants taken from three major universities in Lahore, Pakistan. A Green (1991) criterion was used to determine the sample size of the study and according to the criterion, the minimum sample for this study should be 350. Furthermore, to reduce the statistical error, a large number of participants are required (Kline, 1994). Therefore, in the present study, a large number of participants were recruited. The participants having age range between 18-30 years were included and their median age was 21 years, of which around 48% were men and 52% were women. Eighty seven percent participants had completed their Graduation and twelve percent were from Post-Graduation level. The 58% of the total study sample belonged to nuclear family system whereas 42% participants belonged to joint family system. The procedure of the study was approved by the university's Board of Advance Studies and Research to ensure the ethical requirement of the study. Informed consent was provided to all the participants and they were also assured about the anonymity and confidentiality of the obtained information. All the participants completed a set of self-reported measures including emotion regulation questionnaire, dark triad personality scale, and rule-breaking behavior scale and student problem checklist in group format. The completed forms were reviewed spontaneously and also paid full attention by the researcher to ensure the minimum number of missing data. The total group comprised 25 participants and they took a maximum of 30 minutes to complete this protocol. On completion of the protocol, they were debriefed thoroughly.

Measures

Emotion Regulation Questionnaire (ERQ)

The ERQ was originally developed by Gross and John (2003) is a 10 items scale rated on 7 points including (*strongly disagree*=1 to *strongly agree*=7) measure an individual's control of their emotions. The translated Urdu version of the questionnaire (Khan & Kausar, 2014) was used in this study. This questionnaire has two subscale including Cognitive Reappraisal and Expressive Suppression of which cognitive reappraisal is linked with high level of well-being whereas expressive suppression is associated with lower level of well-being. The Alpha reliability of the two subscales of ERQ is (*a*= .79 and .73) respectively (Gross & Johan, 2003).

Dark Triad of Personality Scale (DTPS)

The DTPS is a 27 items scale originally developed by Jones and Paulhus (2014) for the assessment of three main personality traits including Machiavellianism, Narcissism and Psychopathy. The translated and adapted version of DTPS (Ghani & Subhan, 2017) was used in the present study. The scale items were rated on 5 point rating scale (*strongly disagree*=1 to *strongly agree*=5). The scale has appropriate level of test-retest reliability which ranged from .71 to .88 (Jonason & Webster, 2010).

Rule-Breaking Behavior Scale (RBBS)

The RBBS (Naz & Subhan, 2022) Urdu language scale comprises of 42 items measuring the inclination of rule-breaking and further divided into three subscales including Crooked Behavior, Dominant and Controlling Behavior and Impulsivity. The items were rated on 4 point scale (*never*= 0, *rarely*= 1, *agree to some extent*= 2, *strongly agree*= 3). The Alpha reliability of the scale was *a* =.89, test-retest was .85 and split-half reliability was .82. The total score of the scale was obtained by adding the scores of three factors of which high score was the indicative of high level of rule-breaking tendencies in the participants.

Student Problem Checklist (SPCL)

The SPCL (Mahmood & Saleem, 2011) developed in Urdu language to measure mental health problems experienced by students. The scale comprises of total 45

items and divided into four subscales including Loss of Confidence, Sense of Being Dysfunctional, Anxiety Proneness and Lack of Self-Regulation. The items of the SPCL was rated on 4 point scale (*never*= 0, *rarely*=1, *to some extent*= 2, and *mostly*= 3). The internal consistency of the scale was .94, split-half reliability was .83 and test-retest reliability was .81.

Results

The Cognitive Reappraisal and Expressive Suppression Subscales of ER were used to examine the association with Machiavellianism, Narcissism and Psychopathy subscales of DTP, RBBS total and MHP total scores. The POROCESS, an SPSS macro for path-

analysis based modeling was used to examine the associative paths (Hayes, 2018). In this study, the associative role of ER and DTP has been explored whether the three subscales of DTP and two subscales of ER has any specific relationship with RBBS and MHP. Furthermore, nonparametric bootstrapping based on 5, 000 samples (Hayes, 2009) was used to examine all possible paths of the hypothetical model. This effect was interpreted on the basis of 95% biased-corrected confidence intervals and considered significant if the value of zero does not include in the effect (Preacher & Hayes, 2004, 2008).

Table 1

Descriptive Information of the Study Sample (N=560)

Variables	M (SD)	N (%)
Age (18-30 Years)	21.77 (2.82)	
18-21 Years		322 (57.5)
22-25 Years		182 (32.5)
26-30 Years		56 (10)
Gender		
Men		267 (47.7)
Women		293 (52.3)
Education		
BS (Hons)		492 (87.9)
MS/M.Phil.		68 (12.1)
Family System		
Nuclear		326 (58.2)
Joint		234 (41.8)
ER (Cognitive Reappraisal)	28.30 (7.48)	
ER (Expressive Suppression)	19.51 (5.56)	
DTP (Machiavellianism)	26.79 (4.81)	
DTP (Narcissism)	21.00 (4.37)	
DTP (Psychopathy)	17.72 (4.23)	
RBBS Total	35.44 (15.61)	
SPCL Total	54.36 (23.58)	

Note. Emotion Regulation (ER); Dark Triad Personality (DTP); Rule-Breaking Behavior Scale (RBBS); Student Problem Checklist (SPCL)

Table 2

*Bivariate Association between DTP Subscales, RBBS and SPCL (N= 560)*

Variables	CR	ES	MACH	NAR	PSYC	RBBS	SPCL
ER Subscale 1 (Cognitive Reappraisal)	---	.51**	.10*	.05	-.02	-.12**	-.10*
ER Subscale 2 (Expressive Suppression)	---	---	.10*	-.07	-.07	-.14**	-.01
DTP Subscale-1 (Machiavellianism)	---	---	---	.25**	.24**	.14**	.02
DTP Subscale-2 (Narcissism)	---	---	---	---	.40**	.20**	-.12**
DTP Subscale-3 (Psychopathy)	---	---	---	---	---	.40**	.02
RBBS Total	---	---	---	---	---	--	.35**
SPCL Total	---	---	---	---	---	---	---

**p< 0.01; *p< 0.05

Note: Emotion Regulation (ER); Dark Triad Personality (DTP); Rule-breaking Behavior Scale (RBBS); Student Problem Checklist (SPCL), Cognitive Reappraisal (CR), Expressive Suppression (ES), Machiavellianism (MACH), Narcissism (NAR), Psychopathy (PSYC)

Pearson Product Moment Correlation indicated that Machiavellianism ($r= 0.14$, $p<0.01$) Narcissism ($r= 0.20$, $p<0.01$) and Psychopathy ($r= 0.40$, $p<0.01$) were significantly positively correlated with rule-breaking behavior. The results also showed that Machiavellianism and Psychopathy traits have no relationship with mental health problems. However, the narcissism has significant negative association ($r= -0.12$, $p<0.01$) with mental health problems. Furthermore, rule-breaking behavior significantly positively ($r= 0.35$, $p<0.01$) associated with mental health problems among university students.
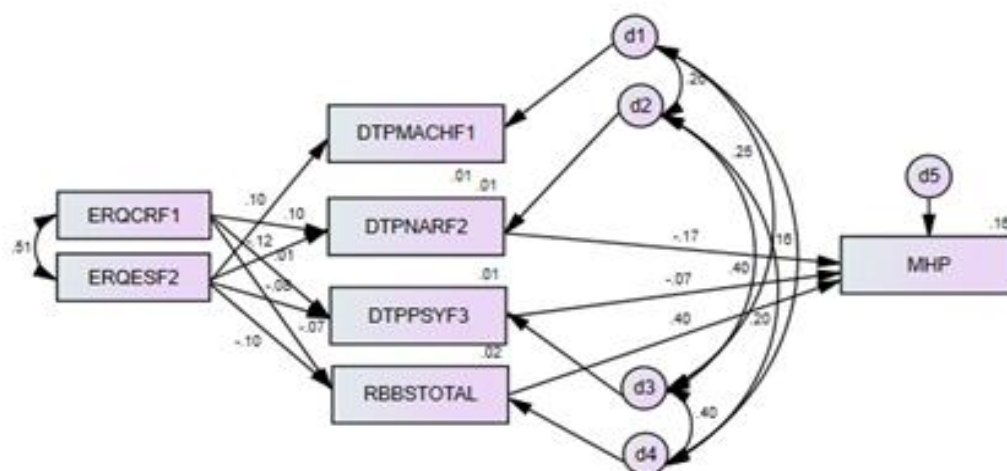
Figure 2

Multigroup Path Model of Emotion Regulation (ER) Subscales (Cognitive Reappraisal, Expressive Suppression), Dark Triad Personality (DTP) Subscales (Machiavellianism, Narcissism, Psychopathy), Rule-Breaking Behavior (RBBS Total) and Mental Health Problems (MHP)

Path Analysis

The Statistical Package for Social Sciences (SPSS) 25.0 version and Analysis of Moment Structure (AMOS) 24.0 version were used in this study for analysing the data. The proposed model was tested using Multivariate Statistical Model using Maximum Likelihood Estimation and multivariate normality. The assessment of univariate normality showed that all the variables are relatively normally distributed comparing the Akaike Information Criterion (AIC) of the final model (AIC= 53.61) with the proposed model (AIC= 55.56). The smaller value of AIC for the modified model suggested the superiority of the model.

Table 3

Model Parameters of Emotion Regulation, Dark Triad Personality, Rule-Breaking Behavior and Mental Health Problems (N=560)

Model	χ^2/df	RMSEA	NFI	CFI
Model 1: The Proposed Model	3.56	.037	.99	.99
Model 2: The Modified Model	5.67	.027	.99	.99

Note: RMSEA= Root Mean Square Error of Approximation; NFI= The Normed Fit Index; CFI= Comparative Fit Index

Path Analysis was performed to examine the interaction among emotion regulation, dark triad personality, rule-breaking behavior and mental health problems as outcome variable. Analysis of the path model resulted in statistically fit indices which show that the specified model fits the data appropriately. This also ensured that the coefficients of the path model meaningfully compared the predictors and mediator of mental health problems. The final model showed an improved data fit as compared to the previous one as the path of cognitive reappraisal was not significant with Machiavellianism traits and neither significantly linked with mental health problems, so this path was deleted from the final model.

The modified model proposed that there were different paths to Mental Health Problems. The first path of the model indicated that the relationship between Cognitive reappraisal and mental health problems is significantly mediated by Narcissism and Psychopathy. Cognitive reappraisal has a positive effect on mental health problems which are mediated by rule-breaking behavior. The second path emphasized a relationship between expressive suppression and the outcome variable mental health problems. Expressive suppression has a significant relationship with mental health problems which is mediated by Machiavellianism, psychopathy, narcissism and rule-breaking behavior.

Furthermore, the dark triad personality including Machiavellianism, Narcissism and Psychopathy all are positively associated with rule-breaking behavior and mental health problems. This means that higher scores on these personality traits correspond to higher scores on rule-breaking behavior, which in turn predict mental health problems. However, emotion regulation including cognitive reappraisal and expressive suppression has no association with rule-breaking behavior but rule breaking behavior is significantly positively associated with mental health problems.

Table 4

Gender Differences on Emotion Regulation, Dark Triad Personality, Rule- Breaking Behavior and Mental Health Problems (N=560)

Variables	Men (*n=267*) M (SD)	Women (*n=293*) M (SD)	*t*	*p*	*Cohen's d*
Expressive Suppression	28.49 (7.69)	28.13 (7.29)	.56	.71	0.05
Cognitive Reappraisal	19.93 (5.52	19.14 (5.60)	1.67	.93	0.14
Machiavellianism	26.15 (4.17)	27.37 (5.28)	-3.03	.93	-0.26
Narcissism	20.17 (4.56)	21.77 (4.04)	-4.40	.08	-0.37
Psychopathy	16.67 (3.99)	18.69 (4.22)	-5.79	.36	-0.49
Rule-breaking Behavior	31.88 (13.98)	38.75 (16.30)	3.78	.31	-0.46
Mental Health Problems	58.26 (24.37)	50.81 (22.30)	-5.38	.03	0.31

Table 4 indicated that the independent samples *t*-test was conducted to examine the differences in the mean scores of men and women on all the study variables. The mean scores suggested no statistically significant gender differences in emotion regulation, dark triad personality and rule-breaking behavior of young adults. The findings also suggest that mental health problems are more commonly observed in men as compared to women.

Discussion

The findings of the study provide an understanding of how the relationship between emotion regulation, dark triad personality, rule-breaking behavior and mental health problems is enacted. In this study, emotion regulation is comprised of cognitive reappraisal and expressive suppression which are two interlinked but distinct domains. In this study, we identified one path from cognitive reappraisal to the mental health problems associated with narcissism and psychopathy. This path was mediated by narcissism and psychopathy traits of dark triad personality. The findings are consistent with the studies conducted by Moradi and Mohammadi (2020), Rassai et al. (2018) and Wu et al. (2019) that problem in emotion regulation predict DTP and self-destructive problems. The second path from expressive suppression of emotion regulation to mental health problems was mediated by rule-breaking behavior, Machiavellianism, psychopathy and narcissism and was directly associated with mental health problems. Docherty et al. (2021) study indicated that the ability to better able to regulate their emotions associated with lower tendencies to engage in unlawful behaviors whereas lack of emotion regulation skills amplifies the chances of involving in rule-breaking behaviors and in more severe forms of crimes in future (Avila, 2021; Velotti et al., 2016).

The results also revealed that dark triad personality has very strong relationship with rule-breaking behavior and mental health problems. The findings confirmed the notion that Machiavellianism and psychopathy are strong predictors of the high level of mental health problems and are also positively associated with a breach of societal rules (Rauthmann & Will, 2011). Our model of the study clearly elucidates the significant relationship between emotion regulation, dark triad personality and mental health problems. The studies indicated that the difficulty in regulating emotions causes problems and an individual under the control of

emotions breaks the rules and continuous encounters with difficult situations make them vulnerable to mental health problems, i.e., depression and anxiety (Jakobwitz & Egan, 2006; Jonason et al., 2015; Szijjarto & Bereczkei, 2015; Wastell & Booth, 2003). Although we cannot claim strong causality on the basis of findings, there is ample evidence that suggested that difficulty in expressing emotions affects individuals' well-being. The features of anxiety are also common in Machiavellianism, psychopathy, and narcissism (Megias et al., 2018; Miller et al., 2010; Jonason & Kroll, 2015). The findings of the study suggest that it's extremely important to continue to understand the complex paths that exist between ER, DTP, RBB and MHP for understanding the exact nature of the bio-psycho-social contributors of mental health problems. There is lack of empirical evidence on gender differences in terms of study variables although men commonly scored higher on these variables as compared to women. The findings of the present study suggest no significant gender differences in ER, DTP and RBB. Literature suggests that the DTP and externalizing behavioural issues are consistent across gender so the findings are in line with the previous research conducted by Klimstra et al. (2014) and Sellbom et al. (2017).

The cross-sectional study design was used in this study, although the proposed model received good support but our findings do not confirm very strong paths of association. Further, studies should analyse the pathways of all these variables in terms of gender which would enable an extension of the study findings with reference to gender differences. Overall, this study explained the various pathways that predict mental health problems and provide empirical evidence related to the need and importance of controlling negative emotions and negative aspects of personality in order to reduce the magnitude of the rule-breaking and mental health problems.

Conclusion

The findings of the study may be helpful in designing intervention programs to accomplish a high level of adherence to societal rules, managing emotion regulation and coping with mental health problems. The impact of dark triad personality in everyday life is confirmed but this study revealed the unique role of emotion regulation, rule-breaking behavior and mental health problems beyond the dark triad personality traits. Through the attitude change process, the incidence of rule-breaking behavior can be undermined using cognitive reformation, to counter mental health problems and lessened those explanations that individuals gave to justify their break of rules.

Contribution of Authors

Madeha Naz: Conceptualization, Investigation, Data Curation, Formal Analysis, Writing - Original draft
Sara Subhan: Conceptualization, Methodology, Writing- Reviewing & Editing, Supervision
Sadia Saleem: Conceptualization, Writing - Reviewing & Editing

Conflict of Interest

Source of Funding

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