



## Investigating Criminal Thinking Behavior and Interpersonal Reactivity among Adolescents: A View of Dark Personality Triad

Amna Hassan<sup>1\*</sup>, Mariam Arshad<sup>2</sup>, Nazia Iqbal<sup>3</sup>, Rukhsar Bibi<sup>2</sup>, Sana Tariq<sup>2</sup>,  
Abeera Naseem Khan<sup>2</sup>, Kaiynaat Kaneez<sup>2</sup>, Haleema Khawar<sup>1</sup>

<sup>1</sup> Department of Psychology, University of Wah, Wah Cantt, PAKISTAN.

<sup>2</sup> Department of Applied Psychology, Riphah International University, Islamabad, PAKISTAN.

<sup>3</sup> Department of Psychology, International Islamic University Islamabad, PAKISTAN.

\*Corresponding Author (Email: [amna\\_wah@hotmail.com](mailto:amna_wah@hotmail.com)).

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### Abstract

An individual's personality consists of different traits some of them are innate and some are learned. This study was conducted at Riphah International University, Islamabad, Pakistan, and comprised of 180 participants including 103 females and 77 males, with age ranges from 18 to 35 years from different cities of Pakistan. A cross-sectional research design was used and the sample was collected through a purposive sampling technique. Short Dark Triad Scale, Interpersonal Reactivity Index, and Criminal Thinking Scale were used to investigate the variables. Data were analyzed using SPSS-21. Results indicate a significant positive correlation between interpersonal reactivity and dark personality triad, a positive relationship between Dark personality triad and Criminal Thinking behavior. However, no significant gender difference is found in the perspective of these variables. This study will help future researchers to explore more about dark personality traits and their roles in the development of mental health issues among adults.

**Disciplinary:** Psychology, Crime & Intelligence Analysis.

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# 1 Introduction

The personality of an individual has always remained a point of discussion in the field of Psychology. It is comprised of various traits including good or socially accepted and bad including antisocial traits. Some of the traits are innate however many of them are learned from the environment. The purpose of the current study is to find out the interrelationship of criminal thinking, empathic attitude, and interpersonal reactivity. These traits contribute to making a positive society. Many criminal activities are committed just for the sake of gaining pleasure, satisfying their evil id, or taking revenge. As a result of domestic, spousal, interpersonal conflicts, a number of criminal activities are performed, most of the time planned and sometimes unplanned. In Pakistan, the prevalence of criminal activities has been increased since a few years ago. One of the responsible factors can be the personality traits that aid in enhancing the criminal mindset. If certain steps would not be taken to improve these traits then the criminal mindset will be strengthened. So the need is to work on the personality styles, traits, grooming, and nourishing positive or light personality traits instead of leaving negative or dark personality traits as they are. The dark triads are often used in business management, clinical psychology, and law. Individuals scoring high in these factors are likely to initiate social distress, destabilize the organizational peace within the business setting, and commit crimes (Shoemaker, 2018).

## 1.1 Dark Personality Triad

The dark triad of personality is made-up of three negative traits Machiavellianism, Narcissism, and psychopathy. The present study focuses on the relationship between criminal thinking and empathy. Sympathy and empathy are two different traits. Sympathy is concerned with having feelings of sorrow for others but empathy is not just about understanding the suffering of others, but understanding it as if these were their own (Pajevic et al., 2018). The traits of dark triad personalities show that they have interpersonal dysfunction. These three dark traits are interlinked with each other and those who possess these traits have low empathy and high criminal thinking.

The five-factor model of personality has significant relationships with each of the dark triad traits. The dark triad overall has a negative correlation with both agreeableness and conscientiousness. Machiavellianism deals with mistrustful versus trusting aspects of human nature which are also measured by the Trust sub-scale on the agreeableness trait. Extroversion deals with similar aspects of forcefulness, dominance, and self-regard as narcissism (Cherry, 2020). Narcissism is positively correlated with the achievement striving and competence aspects of Conscientiousness. Psychopathy has strongly related to lack of obedience and intentional aspects of Conscientiousness. The narcissism of the dark personality triad is more closely related to the lack of empathy in a person. Dark traits are strongly related to men and females show more empathic behavior (Jonason & Kroll, 2015).

## 1.2 Empathy and Interpersonal Reactivity

Empathy refers to understanding the emotions and feelings of others. There are three distinct types of empathy that have been described; Cognitive empathy, emotional (affective)

empathy, and somatic empathy. Empirical research conducted to find the association between the dark triad and two dimensions of empathy (cognitive and affective) showed that all personality traits comprising dark traits are inversely related to affective and cognitive empathy (Pajevic et al., 2018).

Cognitive empathy is related to understanding another person's perspective. Affective or emotional empathy refers to reacting to someone with an appropriate emotional response. The dark personality triad is related to the lower level of affective or emotional empathy and these traits show less impairment in cognitive empathy (Wai & Tiliopoulos, 2012). These results were measured through self-report and facial expressions. Dark personality triad traits can affect interpersonal relationships. Interpersonal circumplex is a model used to organize, conceptualize and assess interpersonal behavior, traits, and motives. This model shows that these dark traits lay at Quadrant 2 of the interpersonal circumplex reflect interpersonal exploitativeness (Jones & Paulhus, 2012). Interpersonal conflicts and dysfunction is marked as a significant feature of dark triad personalities (Dowgwillo & Pincus, 2015). Different studies had investigated a correlation between dark traits and marital instability. Dark traits of personality rated by the partner are more likely to affect marital stability and interpersonal rejection plays a mediating role in marital instability (He et al., 2018). Studies examine the lack of empathy in the dark triad personalities and measure both cognitive and affective empathy with the help of cognitive tasks. The dark traits are closely related to a lack of both cognitive and affective empathy. Primary psychopathy is the main indicator of such deficits in empathic concerns (Wai & Tiliopoulos, 2012).

### **1.3 Criminal Thinking**

Criminal thinking is defined as the content of one's thoughts and cognitive processes that lead to the instigation and maintenance of criminal behavior (Walters, 2006a). It is also empirically observed that a person's thinking pattern and style always influence one's behavior. Behavior can be predicted by evaluating an individual's thought patterns. Likewise, criminal thinking patterns may predict the type of personality of an individual. Criminal personality theory by Eysenck (1997) suggests that three dimensions of personality traits i.e. extraversion, neuroticism, and psychoticism highly responsible for predicting an individual's thinking styles. He argued that possessing the trait of psychoticism has the more tendency to instigate criminal thinking (Eysenck, 1994). Personality-type Psychology posits that deviant, psychopathic, anti-social, or sociopathic individuals possess a criminal personality and whenever they get the feasible environment they will implement their criminal thinking into behavior (Akers & Sellers, 2009).

Dark Triad Personality has many traits such as aggression, impulsiveness, selfishness, and irresponsibility that could result in violent behavior and make an individual resort to committing crimes. The research that was done on Dark Triad Personality showed that it does possess a link with a crime or criminal thinking, to be more specific. Many individuals having dark triad personalities hinted at being delinquent and they especially displayed violent delinquency in their behavior (Wright, 2016). An individual who feels no empathy, who is narcissistic, manipulative, and

antisocial will have no guilt feelings or remorse on hurting others to get what they want. Psychopathy indicates impulsiveness and lack of empathy and has been found in people who have been persistent with having criminal behavior.

#### **1.4 Dark Personality Triad, Criminal Thinking, Empathy, and Interpersonal Reactivity**

Machiavellianism is characterized by a foxy interpersonal style, a wish to use others for his/her own purpose, and a preference for emotionally detached relationships. Machiavellianism influences relationship satisfaction and the quality of interpersonal relationships. Females high in Machiavellianism trait express lower levels of relationship satisfaction (Brewer & Abell, 2017). Women with higher levels of Machiavellianism perceived their partners to be less dependable, reported a lack of trust in their partners, and were less willing to continue the relationship than those with low levels of Machiavellianism. This trait involves controlling behavior and emotional abuse (Brewer & Abell, 2017).

A fundamental observation regarding the Dark Triad traits is that they are all associated with limited empathy. Empathy scores are related to narcissism in women which shows a low empathy score and empathy score is related to psychopathy in men who shows a low empathy score. Empathy scores mediate sex differences in having these dark traits (Jonason et al., 2013).

The affective nature of psychopathy, predominantly lack of pitilessness and empathy, is related to abnormalities in information processing, whereas impulsivity and irresponsibility are correlated to low socioeconomic status and educational deficits (Pisano et al., 2017). Adolescents with high scores on the psychopathy scale tend to reflect more criminal thinking and delinquent behavior particularly, antisocial and aggressive behavior. Foster et al. (2018) claim that psychopathic individuals are sociable, open, and conscious of their surroundings, and, they violently attack the perceived threat. Leenarts et al. (2017) stated that psychopathic traits are found to be present in children and youth and are associated with delinquent behavior. Therefore, early screening of psychopathic traits is important for effective interventions (Barrett & Katsiyannis, 2017; Vogel & South, 2016). The positive relationship between criminal thinking and dark traits can also be due to some other shared characteristics such as selfishness, flat emotions, aggressiveness, etc.

#### **1.5 The Rationale of the Study**

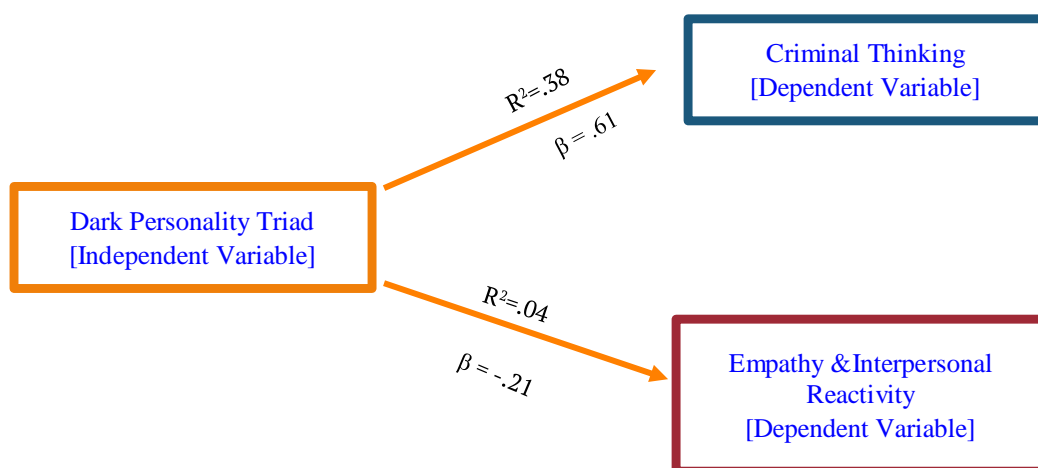
The purpose of the current study was to find out the connection between empathy or interpersonal reactivity, criminal thinking, and the dark personality triad. The study was conducted to discover the level of empathy, a person, with a high dark personality triad, shows towards others. This study will provide the researchers a platform to help those individuals having such traits but want to improve themselves. This study will help researchers to identify root causes of criminal thinking and interpersonal reactivity other than having dark personality traits. It will also help clinical psychologists to design such therapeutic interventions that particularly target these dark

personality traits so that people with this issue would improve their personality styles and lessen the level of the dark triad.

## 2 Conceptual Framework

This study indicates the relationship of the dark personality triad with criminal thinking and empathy and interpersonal reactivity among adolescents (conceptual framework Figure 1), based on hypotheses.

1. Individuals with dark personality traits show less empathy and interpersonal reactivity.
2. Criminal thinking is positively linked with dark personality traits.
3. Dark personality traits are more prevalent among males as compared to females.



**Figure 1:** The effect of the Dark Personality Triad on the Criminal Thinking and Empathy & Interpersonal Reactivity

## 3 Conceptual Definition

### 3.1 Dark Personality Triad

An individual with triad possesses an extreme level of these three antisocial personality traits; Machiavellianism, narcissism, and psychopathy. This triad is characterized by a feeling of pride, exploitation of others, absence of morality, high self-interest, antisocial behavior, unemotional traits, and selfishness. These traits were operationalized through the SD3 scale (short dark triad scale).

### 3.2 Empathy and Interpersonal Reactivity

Ability to understand others' feelings, problems, and pain. Placing oneself in other's position. Emotional relationship with the people around an individual. How warmly and respectfully he/she try to understand them. Basically, interpersonal reactivity is the level of empathy in interpersonal relations. The empathy and interpersonal relation reactivity was operationalized through the IRI scale (Interpersonal Reactivity Index).

### 3.3 Criminal Thinking

Any overt or covert law-breaking act in a given country or state, is a punishable activity. The two main broad categories are property crimes (e.g., fraud, theft) and violent crimes (e.g., domestic

violence, robbery, homicide, and sex crimes). Criminal thinking was operationalized by using the Criminal thinking scale.

## 4 Research Design and Methodology

A cross-sectional research design was used to conduct this study.

### 4.1 Sample

The sample of the study was collected through a convenient sampling technique, comprised of (N=180; male=77, female=103), age ranged from 18 to 35 years from different cities of Pakistan.

### 4.2 Instruments

The following instruments were used to collect the data.

#### 4.2.1 Short Dark Personality Triad Scale (SD3-Short)

The short dark personality triad was used to measure three dark traits machiavellianism, narcissism, and psychopathy, developed by Paulhus and Jones in 2011. The total items of this scale are 27. A key feature of this SD3 is that it is neither too short nor too long. It is a Likert point rating scale from 1 to 5. Narcissism and psychopathy sub-scales have reversed scoring items as well. The triad (i.e., group of three) consists of Machiavellianism, psychopathy, and narcissism.

Individuals with Machiavellianism traits are susceptible to being manipulative, callous and with strategic-calculating orientation, however, those having traits of psychopathy are used to being involved in deficits in effects and self-control. People with the trait of narcissism used to show grandiose behavior as well as a never-ending quest for ego-reinforcement.

#### 4.2.2 Interpersonal Reactivity Index (IRI)

The interpersonal Reactivity Index was used to measure the individual's interpersonal reactivity, developed by Mark (1980). IRI consists of 28 items and is divided into four sub-scales. These sub-scales are related to personality traits like fantasy (FS), empathic concerns (EC), Perspective Taking (PT), and personal distress (PD). The PD subscale is strongly associated with a specific "emotional" range of vulnerability, suspiciousness, and fearfulness.

#### 4.2.3 Criminal Thinking Scale (CTS)

This scale is a brief instrument developed by Knight et al in 2006, to assess cognitive functioning expected to be related to criminal conduct. It includes 36 items from 6 sub-scales. These scales are Entitlement (EN), Justification (JU), Power Orientation (PO), Cold Heartedness (CH), Criminal Rationalization (CN), and Personal Irresponsibility (PI). Respondents indicated to what degree they agreed with the statement using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Subscales of entitlement, justification, and power orientation include reverse-scored items.

#### 4.2.4 Procedure

The research consists of two parts. In the first part, the participants were selected through a convenient sampling technique. The selected sample was comprised of students from different

colleges and universities of the locale. The consent regarding data collection was taken from the participants. It was allowed to leave research at any time in case of uncomfortable. In the second part, the questionnaires were distributed, a unique code was allotted to every participant. Participants were instructed by the researchers and they were asked to fill out the Reactivity Index Scale, Short Dark Triad scale, and Criminal thinking scale. Participants took 20-30 minutes to complete the questionnaire. All the ethical concerns like confidentiality, privacy, self-respect, and use of the research data were carefully discussed with the participants.

#### 4.2.5 Data Analysis Tool

The data was analyzed by using SPSS®21 to investigate the effects of the dark personality triad on criminal thinking, empathy, and interpersonal reactivity among adolescents.

## 5 Results

To investigate the effects of the dark personality triad on criminal thinking behavior, empathy, and interpersonal reactivity, the quantitative data were analyzed through SPSS 21. Table 1 indicates the percentage and frequency of demographic variables depicted by a sample (N=180) of adolescents.

**Table 1:** Frequency and percentage of demographic variables of the sample (N=180)

Variable	Categories	Freq.	%
Gender	Male	77	42.8
	Female	103	57.2
Age	18- 25 years	143	79.4
	26- 30 years	30	16.7
	30-35 years	7	3.9
Family system	Joint	69	38.3
	Nuclear	111	61.7
Education level	Matric	3	1.7
	Intermediate	61	33.9
	Graduate	80	44.4
	Postgraduate	36	20.0
Marital status	Married	15	8.3
	Single	145	80.6
	In a relationship	19	10.6
Financial status	I have enough money to buy things I need	126	70.0
	I have a hard time buying things I need	54	30.0
Working status	Employed	37	20.6
	Unemployed	143	79.4

**Table 2:** Descriptive statistics of Dark Personality Triad, Empathy and Interpersonal Reactivity and Criminal Thinking (N=180)

Variables	Mean	SD	α	Range		Skewness	Kurtosis
				Potential	Actual		
SDT	88.85	13.50	.86	53-118	27-135	-.04	-.62
IRI	56.55	18.83	.85	8-99	0-112	-.35	-.31
CT	112.57	18.57	.84	71-164	36-180	.30	-.003

SDT= Short Dark Personality Triad; IRI= Interpersonal Reactivity Index; CT= Criminal Thinking; α = Cronback's Alpha Reliability Coefficient

Table 2 indicates the values of mean, standard deviation, alpha reliability of all three scales along with the values of skewness and kurtosis. Reliability analysis shows satisfactory results, as well as the values of skewness and kurtosis, are also within range i.e.  $\pm 2$ .

Table 3 indicates that Interpersonal Reactivity Index is significantly correlated with Machiavellianism ( $p < .01$ ), Psychopathy subscale ( $p < .05$ ) and with short dark triad as a whole ( $p < .01$ ). This shows that individuals having dark personalities triad will have low interpersonal reactivity. Similarly, the criminal thinking scale is significantly correlated with Machiavellianism ( $p < .01$ ), narcissism ( $p < .01$ ), psychopathy subscale ( $p < .01$ ), and with short dark triad scale as a whole ( $p < .01$ ). This also indicates that people who possess dark triad personalities that are Machiavellianism, Narcissism, and Psychopathy; will have a high tendency towards criminal thinking behavior.

**Table 3: Relationship among Dark Personality Triad, Empathy and Interpersonal Reactivity and Criminal Thinking (N=180)**

Variables	1	2	3	4	5	6	7
ECS	1	.821**	-.094	.042	-.026	-.030	-.078
IRI	.821**	1	-.251**	-.062	-.174*	-.206**	-.142
MS	-.094	-.251**	1	.345**	.366**	.746**	.410**
NS	.042	-.062	.345**	1	.478**	.778*	.488**
PS	-.026	-.174*	.366**	.478*	1	.794**	.536**
SDT	-.030	-.206**	.746**	.778**	.794**	1	.617**
CT	-.078	-.142	.410**	.488**	.536**	.617**	1

\* $p < .05$ , \*\* $p < .01$ .

The t-test analysis in Table 4, shows no gender difference occurs among the interpersonal reactivity index, short dark triad scale, and criminal thinking. It depicts that the dark personality triad has an equal effect on both interpersonal reactivity and criminal thinking behavior irrespective of gender.

**Table 4: Gender differences in Interpersonal Reactivity, Dark Personality Triad and Criminal Thinking (N=180)**

Variables	Males (N=77)		Females (N=103)		t(df)	p	95% CI		Cohen's d
	Mean	SD	Mean	SD			LL	UL	
IRI	92.92	12.05	92.56	13.82	-.18(178)	.85	-4.25	3.53	.02
SDT	89.10	13.76	88.66	13.36	-.21(178)	.82	-4.48	3.58	.03
CT	114.39	16.69	111.20	19.83	-1.14(178)	.25	-8.70	2.33	.17

\* $p < 0.05$  \*\* $p < 0.01$ ; Male = 108; Female = 92; CI = confidence interval; LL = lower limit; UL = upper limit;  $df$  = degree of freedom.

**Table 5: Dark Personality Triad as a predictor of Criminal Thinking among Adolescents (N=180)**

DV	IV	R <sup>2</sup>	$\Delta R^2$	B	S.E	$\beta$	F	95% CI	
								LL	UL
CT	(Constant)	.38	.38	36.93	7.32		108.39***	22.47	51.38
	SDT			.85	.08	.61		.69	1.01

\*\*\* $p < .000$ ; S.E = Standard Error;  $\beta$  = Beta

Table 5 shows the impact of the dark personality triad on criminal thinking. Findings indicate that the dark personality triad ( $p < .05$ ,  $\beta = .61$ ) was found to be significantly positively



related to criminal thinking revealing that the individuals having dark traits like Machiavellianism, Narcissism, Psychopathy are more indulged in criminal thinking behavior. The model explains 38% variance in Criminal thinking.

Table 6 shows the impact of the dark personality triad on empathy and interpersonal reactivity. Findings indicate that the dark personality triad ( $p > .05$ ,  $\beta = -.21$ ) was found to be non-significantly related with empathy and interpersonal reactivity revealing that individuals with the dark triad may not be low on interpersonal reactivity. The model explains the variance of 3.7% ( $\Delta R^2 = .037$ ). It also shows that  $R^2 = .04$  and  $F = 7.81$ .

**Table 6:** Dark Personality Triad as a predictor of Interpersonal Reactivity Index among Adolescents (N=180).

DV	IV	R <sup>2</sup>	$\Delta R^2$	B	Standard Error	$\beta$	F
IRI	Constant	.04	.037	82.10	9.19		7.81
	SDT			-.29	.10	-.21	

## 6 Discussion

This study investigates the relationship of dark traits with empathy, interpersonal reactivity, and criminal activities. The research was conducted in different areas of Pakistan especially in Rawalpindi, Islamabad, Peshawar, and many other cities. In previous studies, the relationship between empathy and interpersonal reactivity and criminal activities and lack of empathy had been investigated but the relationship of dark triad traits, criminal vulnerability, and empathy have not been studied as single research.

The first hypothesis of the study is that individuals with dark personality traits show less empathy and interpersonal reactivity this hypothesis is proved by this research. The correlational analysis of the dark triad scale score with the interpersonal reactivity index has shown that dark traits and lack of empathy or interpersonal reactivity are positively correlated. The values of correlation are  $r = 0.206$ , and  $p < .01$ . This study describes the role of dark traits in a lack of empathetic feelings. As individuals who scored high on the dark triad scale, have scored low on the interpersonal reactivity index. This hypothesis is supported by other researches as well. The research was conducted investigating a relationship of dark traits with slippage of empathy. That research had shown that the dark triad is more closely and positively related to affective empathy than cognitive empathy (Wai & Tiliopoulos, 2012).

The second hypothesis of this research is that criminal thinking behaviors are positively linked with dark personality traits. This hypothesis is proved by this research. The correlational analysis of the dark triad scale's score and criminal thinking scale have shown that dark traits and criminal thinking behaviors or patterns are directly related. They have a positive correlation with each other. The values of correlation according to this present research are  $r = 0.617$ , and  $p < 0.01$ . This study explains the role of dark triad traits in increasing criminal thinking in individuals who score high on the dark triad scale. Individuals who score high on the dark triad scale may score high

on the criminal thinking scale and vice versa. It is also estimated that the dark personality triad predicts criminal thinking behavior in adolescents through regression analysis. This hypothesis is also supported by other research findings. A study was conducted to investigate the relation of dark triad traits along with other variables namely crimes and low self-control. The analysis of this study had shown that dark triad traits are strongly related to criminal activities, especially related to violent crimes. These traits increase the vulnerability of individual who have dark traits and low self-control increase the effect of dark traits on criminal activities (Wright et al., 2017).

The third hypothesis of this research is that dark personality traits are more prevalent among males as compared to females. This hypothesis was rejected by this study but previous studies support it. In this study, we did not find any significant gender difference in having these dark traits. This hypothesis is supported by previous research. A study was conducted to investigate the relationship of dark traits with HEXACO traits and find the gender differences. The results of this study show that psychopathy (one of the dark triad traits) is highly related to aggression in males where they try to control situations more than females (Dinić & Wertag, 2018). Another research was conducted to investigate a relationship between gender discrimination and dark triad traits. The results of the t-test indicate that males scored high on the dark triad scale than females. This study had highlighted that dark traits are the result of gender discrimination in society (Gluck et al., 2020).

## 7 Conclusion

The findings of our study indicate that individuals having a dark personality triad will have low interpersonal reactivity. The dark personality triad significantly affects an individual's personal life as well as interpersonal relationships. It is indicated through the results that individuals having dark triad will have low empathy and will attract more towards crimes and criminal thinking behavior, whenever they will get chance. It is also indicated that irrespective of gender, the dark personality triad has its effects on criminal thinking behavior and interpersonal reactivity. Data was heterogeneous which makes the findings stronger and more convenient. However, there are certain limitations too. One of the limitations of the research can be that the questionnaire was way too long and some of the participants were leaving it midway or randomly selecting the option without actually reading it. Another limitation is that the occurrence of heterogeneity suggests that confounds may have influenced the findings which makes it tough to interpret the results conclusively. The data was collected from some institutes, so it cannot be generalized worldwide.

## 8 Availability of Data and Material

Data can be made available by contacting the corresponding author.

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**Ms. Amna Hassan** is a Lecturer at the Department of Psychology, University of Wah, Wah Cantt, Pakistan. She is a PhD Scholar at International Islamic University Islamabad, Pakistan. Her pragmatic work includes Need Satisfaction, Psychological Capital, Media Burnout, Behavioural Problems, Depression.



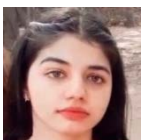
**Maryam Arshad** is a student at the Department of Applied Psychology, Riphah International University, Islamabad, Pakistan. She got a Master's degree in Applied Psychology from Riphah International University. Her research interests are Social and Clinical Psychology.



**Dr. Nazia Iqbal** is an Assistant Professor at International Islamic University. She completed her Post Doctoral Degree from Michigan State University. Her research interest includes Social, Family and Organizational Psychology.



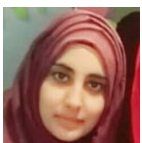
**Rukhsar Bibi** is a student at the Department of Applied Psychology, Riphah International University, Islamabad, Pakistan. She got a Master's degree in Applied Psychology from Riphah International University. Her research interests are Social and Clinical Psychology.



**Sana Tariq** is a student at the Department of Applied Psychology, Riphah International University, Islamabad, Pakistan. She got a Master's degree in Applied Psychology from Riphah International University. Her research interests are Social and Clinical Psychology.



**Abeera Naseem Khan** is a student at the Department of Applied Psychology, Riphah International University, Islamabad, Pakistan. She got a Master's degree in Applied Psychology from Riphah International University. Her research interests are Social and Clinical Psychology.



**Kinaat Kaneez** is a student at the Department of Applied Psychology, Riphah International University, Islamabad, Pakistan. She got a Master's degree in Applied Psychology from Riphah International University. Her research interests are Social and Clinical Psychology.



**Ms Haleema Khawar** is a Lecturer in the Department of Psychology, University of Wah, Wah Cantt, Pakistan. She got her Ms clinical psychology from the University of Management and Technology (Lahore). Her research interests are Clinical Psychology, Social Psychology, Perception, Cognition & Cognitive Neuroscience.

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