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Table of Contents

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Research Article

Family Attitude toward Achievement as Predictor of Impostor Phenomenon among students: Role of Narcissism

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Abstract

Background. Impostor is a motivational phenomenon for people who succeed, one's view other factors attribute to their success such as luck (Feenstra et al., 2020). The present study is to investigate the relationship among family attitude towards achievement, impostor phenomenon and moderating role of narcissism.

Method. A correlation research design was used in present study. Through convenience sampling data was collected from 400 students (Male = 200 and Female = 200). Clance impostor phenomenon scale (Clance, 1987), Mixed Message about Achievement scale (Thompson & Dinnel, 2001) and Narcissism (subscale of short dark triad scale) (Jones & Paulhusin, 2014) were used. A correlation research design was used in present study.

Results. Result indicated that mixed message from family and family achievement values have positive relationship with impostor phenomenon and narcissism. On other hand, mixed message from family, family achievement values and narcissism positively predict impostor. Further results indicated narcissism not moderate between mixed message from family, family achievement values and impostor phenomenon.

Conclusion. Finding indicates family attitude toward achievement more prone to develop impostor feelings and narcissism personality. Hence, in present age there is dire need to create awareness about the importance of family attitude related to achievement and impostor phenomenon. This research is also beneficial in clinical and academic setting to do further research and develop psychotherapy.

Keywords. Family attitude toward achievements, narcissism, impostor phenomenon.

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Introduction

Family environment, parental rearing styles and family dynamics influence the way how a person learns or deal with success and failure, family dynamic can impact values and behavior of individual (Sakulku, 2011). Clance & OToole (1987) stated that early experience of individual originates impostor phenomenon. It is obvious that impostor phenomenon sets its roots from the origin of family and societal factors may act to trigger these conditions (Sakulku, 2011). On other hand, Personality traits such as neuroticism and perfectionism also predisposing factor that contribute in evolving impostor phenomenon. Current study investigates relationship between family attitude toward achievement, impostor phenomenon and narcissism. It is further examine moderating role of narcissism between impostor phenomenon and family attitude toward achievement.

The concept of impostor phenomenon linked with talented and successful individual, they attribute success to external factors as compare to internalize their accomplishments (Thomas & Bigatti, 2020). Impostor phenomenon is clinical observed construct but likewise study in academic and occupational setting related with other remaining constructs such as self-esteem, self-deception and impact on mental wellbeing. Impostors think intellectual fraud, experiencing anxiety, depression and difficulty in internalizing their achievements, low self-esteem and poor mental health (Mak et al., 2019; Cokely et al, 2013). They think other factors attribute their success such as luck. Impostors engage in behaviors that endure impostor feelings like over preparing, personal charm and not revealing what they feel and think. Impostors often feel trouble in enjoying success because they have excessive self-doubt. They have persistent fear of being expos as non-competent, stupid and funny. (Feenstra et al., 2020 ; Nugent, 2015). Prior studies examine that fear of failure and self-handicapping are correlated impostor feelings (Cowman & Ferrari, 2002; Fried-Buchalter, 1997; Want & Kleitman, 2006).

Family and parenting style play a great role in developing impostor fear (Yaffe, 2023). Clance (1985) suggested four features of family which can consequently contribute in development of impostor syndrome such as impostor's perception, comparing with other family members, feedback from family, family convey the importance messages related to abilities and success. Family environment, family background and relationship with family members core effect on individual perception. Impostor fears develop by parental overprotection, parental care and control (Yaffe, 2023).

King and Cooley (1995) found that family achievement orientation positive predict impostor phenomenon among undergraduates. In addition, study demonstrated a positive relationship between impostor phenomenon and prettification and the process by which a child performs an emotional or supportive role for parents (Castro et al., 2004). Findings indicated that parenting styles such as overly protective or overly distant may deprive youth of their ability to adaptively develop feelings of competence (Li et al., 2014; Want & Kleitman, 2006).

According to Caselman et al., (2006) family relationships strongly predict impostor feelings and family environment. Family importance can't ignore it impact on personality. King and Cooley (1995) illustrated higher impostor level, place the importance of family on achievement. On the other hand, impostor fears originate from family interaction such as family values and messages and person role in family (Parkman, 2016). Prior studies showed that unsupportive messages from family play a great role in developing impostor feelings (Sakulku, & Alexander, 2011). It's tough for individual to admit their success when their performance is nullified by parents or other family members (Bravata et al., 2020).

Mixed messages about achievement from family emphasize the importance of being successful but could not provide clear messages or suggestions about how to achieve success or to be considered successful (Thompson, 2004). In

2

addition, invalidating rewards or reinforcement that receive from family after completing the tasks often leaves the feeling uncertain as to whether the success was related to their abilities, or other incidental factors (Thompson, 2004: Li et al., 2014)). Who received mixed messages about achievement often feel anxious about their abilities to achieve (Thompson, 1999; Parkman, 2016) Current study investigated predictive role of mixed message from family and family achievement values and with relationship of impostor phenomenon.

Narcissism considered as two faces of narcissistic personality traits grandiosity and vulnerability (Krizan & Herlache, 2018; Miller et al., 2011, 2017). Both forms of narcissism shared common core features including grandiose fantasies, interpersonal antagonism, excessive self-focus, and entitlement.

Grandiose narcissism is interpersonal exploitative and feelings of superiority (Jauk et al,. 2017; Kaufman et al., 2020). Vulnerable narcissism is internalizing symptoms and psychopathology. Vulnerable narcissism goes along with imposter phenomenon, like low sense of self, self-alienation and negative self-representations (Dickinson &Pincus, 2003; Cain et al., 2008) less life satisfaction (Rose, 2002) and low self-esteem (Rose, 2002; Miller et al., 2017), to rejection sensitivity (Besser & Priel, 2010). Moreover, vulnerable narcissism connected with negative affect (Miller et al., 2011, 2017). People with impostor fear experience negative affectivity, depression, low self-esteem and negative self-presentation. Prior studies scrutinize that impostor phenomenon and narcissism strong positively correlated (Burgess et al., 2017). Narcissism and imposter fears link with inauthenticity such as weak sense of self, high expectations from others and self-alienation. It's observed that imposter behaviors relate to authentic responding in the world and loss of a sense of self (Kaufman et al., 2020).

Hypotheses

1. Family attitude toward achievement will have positive relationship with impostor phenomenon and narcissism.
2. Family attitude toward achievement will be positively predicting impostor phenomenon.
3. Narcissism will moderate relationship between Family attitude toward achievement and impostor phenomenon.
4. There will be significant gender differences among study variables.

Figure 1. Conceptual framework of the present study.
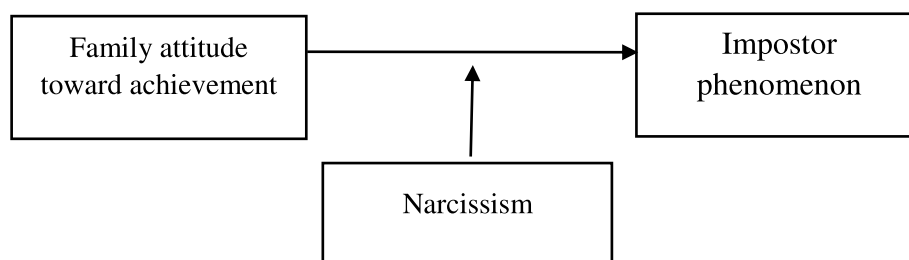
Figure1 describe the conceptual framework of present study. It is expected that family attitude toward achievement would positively predict impostor phenomenon. Narcissism would likely to moderate among family attitude toward achievement and impostor phenomenon

Method

A correlation research design was used. A data was collected from university and college students (N= 400) through convenience sampling technique. Age ranges 18-30 with education of matric, intermediate and undergraduates participate. Men and women gets equal representation. All measures were applied on

sample to explore the impact of demographic age, gender, education on study variables. Before data collection informed consent was given to participants indicating purpose of the study.

Assessment Measures

Mixed Message about Achievement Scale. Mixed Message about Achievement Scale developed by Thompson and Dinnel (2001). The items measure the individuals' feeling they receive defective, inconsistent or mixed messages about their achievement success. It is 7-pointlikert scale. It measures two factors, mixed message from family and the other factor was family achievement values. Orginal scale reliability is (α = 0.86) (Thompson & Dinnel, 2001).

Impostor Phenomenon Scale. The Clance impostor phenomenon scale was used to measure impostor feeling of individuals. It is developed by Clance (1985). It asses the fake, discount and luck. It comprises 20-item and measured on 5-point likert scale. Cronbach alphas ranging from (α = .92 to .96) (Sawant,et al, 2023)

Narcissism- Short Dark Triad 3 Scale. Narcissism subscale of Short Dark Triad was used to measure the narcissism personality. The scale was developed by Jones and Paulhusin (2014). This scale contained total 9 items. Likert scale is 1-

5. It contained 3 reverse items 2, 6, 8. Original scale reliability of narcissism (α = .77) (Jones & Paulhus, 2014).

Procedure

After the selection of instruments, permission was taken from authors. Data collected from different colleges and university students. Before data collection, students were brief about aim and nature of study. They were ensure that their information will keep confidential and used for only research purpose. After that they fill inform consent, demographic sheet was attach with questionnaires. Each participant took almost 15-20 minutes completing the questionnaire. After collecting data, respondents were acknowledged for their cooperation and precious time.

Results

The analysis assumption of descriptive statistics of study variables were measures before calculating the correlation, prediction and t-test results. The descriptive statistics, reliability estimate, range and skewness has been illustrated in table 1. The alpha reliability coefficients indicate acceptable internal consistency for the measures used. Alpha reliability of impostor phenomenon, mixed message about achievement, family achievement values and narcissism (α= .73, .60, .71, .50) respectively.

Table 1
Descriptive Statistics, Alpha Reliabilities, Range and Skewness of Study Variables (N = 400)

Variables	M	SD	$α$	Range		Skewness	Kurtosis
				Potential	Actual		
Mixed message from family	38.29	9.16	.73	9-63	9-63	-.28	.16
Family achievement values	31.08	7.43	.60	8-56	8-54	-.17	.37
Impostor phenomenon	48.64	8.17	.71	20-100	26-72	.17	-.13
Narcissism	26.90	4.63	.50	9-45	16-41	.09	.10

To account the correlation among study variables Pearson correlation was conduct. Finding showed that a positive correlation among study variables. Mixed message from family and family achievement values have positive correlation with impostor phenomenon. Moreover, Narcissism also positively correlate with all study variables. (see Table 2)

Table 2

Correlation among Family Attitude toward Achievement, Impostor Phenomenon and Narcissism

Variables	1	2	3	4
Mixed message from family	-	.54**	.24**	.28**
Family achievement values		-	.26**	.20**
Impostor phenomenon			-	.16**
Narcissism				-

**p <.01*

Multiple regression analysis was used to test the proposed hypotheses. Mixed message from family, family achievement values were taken as independent variables of impostor phenomenon (see Table 3). It suggested that mixed message from family and family achievement were significant positive predictor of impostor phenomenon

Table 3

Regression Analysis for Predicting Impostor Phenomenon

	Impostor phenomenon		
Variables	B	ΔR^2	F
Mixed message from family	.15**	.08	18.43**
Family achievement values	.18**		

**p <.01*

Regression analyses were run again combining multiplicative terms between mixed message from family, family achievement values and impostor phenomenon to analyze moderator effects of narcissism through multiple regression analysis. Results showed that mixed message from family ($\beta = .01$, $t = -2.30$, $p>.05$) family achievement values ($\beta = .01$, $t = -2.32$, $p> .05$) interactions was non-significant. Thus, narcissism has no moderating role between mixed message from family and impostor phenomenon. (See Table 4 & Table 5)

Table 4

*Multiple Regression Analysis for mixed message from family, Narcissism and mixed message from family *Narcissism predicting impostor (N = 400)*

Variables	B	95% CI LL, UL
Mixed Message from Family	.20**	[.11, .29]
Narcissism	.17*	[.01, .35]
Mixed Message from Family *Narcissism	.01	[-.01, .03]
R^2	.28	
ΔR^2	.006	
F	11.23**	
ΔF	2.83	

*** $p < .001$

Table 5

Multiple Regression Analysis for Family Achievement Values, Narcissism and Family Achievement Values*Narcissism predicting impostor (N = 400)

Variable	B	95% CI LL, UL
Family achievement values	.26**	[.15, .37]
Narcissism	.20*	[.03, .37]
Family achievement values *Narcissism	.01	[-.01, .02]
R^2	.28	
ΔR^2	.001	
F	12.06**	
ΔF	.58	

** $p < .01$

Table 6

Gender Differences in Present Study Variables (N=400)

	Males		Females			95% CI		
Variables	M	SD	M	SD	$t(398)$	UL	LL	Cohen's d
IP	50.39	7.97	48.02	8.16	2.56**	.55	4.18	.29
MMF	39.48	8.19	37.87	9.46	1.53	-.44	3.65	.18
FAV	31.81	5.97	30.83	7.87	1.16	-.67	2.65	.14
NC	27.71	4.99	26.62	4.47	2.07*	.05	2.12	.23

Note. IS = impostor phenomenon; MMF = mixed message from family; FAV = family achievement values; NC = narcissism.
$p* < .05$, $p** < .01$

Lastly, gender positively associated with impostor phenomenon and narcissism. T-test revealed that men scored high on impostor phenomenon and narcissism as compared to women.

Discussion

Impostor phenomenon linked with early family relationship and reinforced in adolescence and adulthood through socialization (Le Nguyen, & Shigeto, 2020). The current study investigated the relationships between family attitude toward achievement and impostor feelings with students and examined whether narcissism moderate the relationships. Our findings indicate that mixed message from family and family achievement values positive correlate with impostor phenomenon and narcissism also positive correlate with all aforementioned variables. Furthermore, mixed message from family and family achievement values positively predict impostor feelings.

Our findings are in line with the findings of prior studies, impostor feelings linked with specific types of family environment and parenting styles, including lack of family cohesion, achievement orientation, high anger expression, and high parental control (Bravata et al.,, 2020). All these contribute in the emergence of Impostor phenomenon but effects of these family factors were relatively small. Sakulku and Alexander (2011) found that mixed message from family strongly positive correlated, while Family Achievement Value (FAV) has little relationship with impostor feelings. Further, argued that only mixed message from family play an important role to emergence of impostor feeling. Family plays a great role in developing beliefs about skills and social intelligence. In Pakistani context, messages from family intense effect on person perception, these messages are unsupportive and miss communicated. A parent enforced their desire and wishes how to behave and what they will do in their life, but these messages was confusing. Therefore they are reluctant to credit their accomplishment and internalize the sense of being talented. Our findings suggested that mixed messages about achievement and family achievement values significantly predict impostor phenomenon it account 8% of the variance in impostor

phenomenon which indicated that both variables play important role to the emergence of impostor feelings.

Previous study found that impostor fear is more linked with many constructs and personality traits including neuroticism (Bernard et al., 2002). Another study found significant relationship in impostor feelings and personality traits conscientiousness, extraversion and neuroticism (Ross et al., 2001). Later studies also proved that due to self-uncertainty and inauthenticity individual score higher on narcissism and impostor feelings (Kaufman et al., 2020). However, our finding are non-significant indicate that narcissism not moderate the relationship between mixed message from family, family achievement values and impostor feelings.

Researchers reported that impostor phenomenon is more prevailed in women as compare to man (Kumar & Jagacinski, 2006). Our finding shows that man are more suffer in impostor fear as compare to woman. Later studies proved that impostor phenomenon is not gender specific phenomenon these feelings present at similar rate (Rohrmann et al., 2016; Wang et al., 2019).

Limitation and Suggestion

Current study can only interpret the pattern of relationships between variables because it is correlational study it cannot establish causal direction. The sample limited to university and college students therefore, these finding may not generalizable to outside university and college students. Mixed Messages about Achievement Scales to measure how confusing message from family and family achievement values effect on person perception. Further research would benefit from development of the Mixed Messages about Achievement Scales to clarify the nature and source of confusing messages in family. Another limitation associated with sample selection method as it relies on a convenience sample. To lessen this limitation, data should be collected using random sampling technique. Different personality traits

should be investigated as potential moderators such as neuroticism, extroversion and introvert. These results could be used for further research and developing interventions.

Conclusion

Furthers research on the impostor phenomenon can be done with other psychological constructs such as parenting style, self-esteem, mental wellbeing. It is valuable to gather information on psychological constructs that are correlated with impostor phenomenon and moderate relationship because it gives a more comprehensive understanding of the phenomenon. It believes on that family attitude toward individual achievement strongly relate with impostor phenomenon. Additionally, we assumed narcissism will moderate relationship between family attitude toward achievement and impostor phenomenon. A result indicates that family attitude toward achievement and narcissism positive correlate with impostor phenomenon. Family attitude toward achievement is significant predictor of impostor phenomenon. It hypothesized that narcissism moderate the relationship between family attitude toward achievement and impostor phenomenon. Overall, moderation finding not supported the moderating influence of narcissism in mixed message from family and impostor phenomenon.

The basic purpose of current study to provides a new point of view in respect to the relationship between family attitude toward achievement, impostor phenomenon and narcissism.

Declaration

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Dark Triad Personality Traits Impulsivity and Aggression in Adolescents

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Abstract

Background. Study explored the dark triad traits (psychopathy, Machiavellianism and narcissism) predictive relationship with aggression and impulsivity in school going children.

Method. In a cross-sectional design with a purposive sample of 200 school-going boys and 200 girls (N = 400), 8th-10th grade, age range of 14-17 years were conveniently taken from government and private schools. We used Dark Triad of Personality (D3- Short, Jones & Paulhus, 2014), Barratt Impulsiveness Scale (BIS-11, Stanford et al., 2009), and Aggression Questionnaire (AQ, Buss & Perry, 1992).

Results. Results revealed dark traits (psychopathy, Machiavellianism and narcissism) significantly and positively associated with impulsiveness (Motor Impulsiveness, Non-planning impulsiveness and Attentional impulsiveness) and aggression (Verbal Aggression, Physical Aggression, Anger and Hostility). Boys expressed higher average levels of dark traits, impulsiveness and aggression than girls; and dark traits and gender predicted impulsiveness (44%) and aggression (35%).

Conclusion. The study has significant implications especially in educational and school settings.

Keywords. Dark triad personality traits, machiavellianism, narcissism, psychopathy, impulsivity, aggression.

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Introduction

Paulhus and Williams (2002) proposed that Dark Triad is a constellation of further three personality traits i.e., narcissism, psychopathy and Machiavellianism that are associated with various interpersonal problems and behaviors which are naturally considered cataclysmic. All these traits share main features such as emotional coldness, social aversion, duplicity, impulsiveness and aggressiveness, with latter two prevailing in children and adults. This is evident from content shared on social media that is believed to develop these dark traits such as self-glorification, emotional distantness and aggressive tendencies. Examples of scathing posts about statuses and activities of others (e.g., on Facebook) denote Dark triad traits in action related to neurotic behaviors (Garcia & Sikström, 2014). The five factor models of personality: openness, conscientiousness, extraversion, agreeableness, and neuroticism (OCEAN) or Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience (HEXACO) faced criticism because they did not include socially malevolent personality traits present in clinical and normal populations or did not provide antisocial behaviors (Muris et al., 2017; Veselka et al., 2012). Hence Dark triad of personality traits (Paulhus & Williams, 2002) clearly and uniquely define three personality traits that are socially aversive and represent the dark side of human nature.

Impulsivity

From the past ten years of empirical research on the dark triad personality traits suggests there are no clear consensus on these traits or their relations to other human behaviors e.g., dark traits relate to impulsivity but not procrastination in male and female college students; male students scored higher on impulsivity than female students. Impulsivity was significantly associated with procrastination however, procrastination was not predicted by any dark traits (Sargent, 2019). Surprisingly, Machiavellianism was positively related to planning (possibly opposite to procrastination) in men but negatively for women. In addition, narcissism in men negatively associated with non-planning impulsivity and so did Machiavellianism, but positively with psychopathy. For women, all dark traits were positively associated with non-planning impulsivity. with all in women. Finally, psychopathy and Machiavellianism like above studies was positively related to impulsivity (Szabó & Jones, 2019). The constructs of dark triad traits had strong associations with impulsivity and they are considered manipulative and callous in nature (Wackler, 2021). In the same manner, Crysel, Crosier and Webster (2013) investigated associations of dark triad personality traits (i.e., Machiavellianism, narcissism, and psychopathy) with impulsiveness and behaviors of risk taking and sensation seeking. Their findings indicated that there was a positive relationships of dark traits with impulsive behavior and sensation seeking as well as with risk taking behaviors.

Aggression

Dark traits of personality predict aggression in adults (Barlett, 2016); and have unique relations with direct and indirect forms of aggressive behaviors in adolescents (Klimstra et al., 2014); and common dark factor (i.e. callousness and manipulation) predicting aggression. However, the individual dark traits distinctively predicted different sides of aggression. Hostility was positively predicted by Machiavellianism, narcissism negatively predicted hostility and psychopathy positively predicted physical aggression (Jones & Neria, 2015). Psychopathy exhibited a strong positive relationship with cyber aggression and neither Machiavellianism nor narcissism had any relationship (Pabian et al., 2015). Sher and Fatima (2016) found dark traits predicted bullying and victimization in adolescents; in particular Machiavellianism and psychopathy predicted bullying, and narcissism, victimization. Lyons et al. (2019) reported dark personality traits predicted aggressiveness with increased interest in sex. For this purpose, dream content was analyzed, and the findings revealed Machiavellianism and psychopathy associated with aggressive dreams while narcissism and psychopathy with sexual dreams.

With some conflicting results, this brief review suggests, dark traits Machiavellianism, psychopathy and narcissism predict various forms of impulsivity and aggression. The major question is, do these relationships hold true for school-going adolescents in Pakistan? And if so, can we validate and confirm various of forms of impulsivity and aggression in male and female adolescents that could be accounted by the dark traits? We expect dark triad personality traits would predict impulsivity and aggression and their various kinds in school-going adolescents. Relationship strengths among these factors would be stronger in boys than girls.

Method

Sample
A convenient sample of 200 school-going boys and 200 girls ($N = 400$) o age ranging to 14-17 years ($M =14.73$, $SD = .86$) studying in 8-10 grades were taken from private and government schools and were included in the study, anyone above or below this age or grade range were excluded from the study.

Assessment Measures
Dark Triad of Personality (Short-D3). Developed by Jones and Paulhus (2014) D3-Short which is a questionnaire that is self-reported and it consists of 27 items that assess Dark Triad traits, further divided into three subscales each consisting 9 items: Machiavellianism (M, e.g., *It's not wise to tell your secrets*), Narcissism (N, e.g., *People see me as a natural leader*), and Psychopathy, (P, e.g., *I like to get revenge on authorities*). Each item was measured on a 5-point Likert scale where 1 = disagree strongly to 5 = agree strongly. Scores of each subscale were calculated by reverse coding 5 items (11, 15, 17; narcissism and 20, 25; psychopathy) and after that the mean of the 9 items within each subscale was calculated. The questionnaire was adapted and translated by Sher and Fatima (2016) in Urdu to assess the above dark triad traits for Urdu speaking communities. Reliability ($r = .68$ to $.74$) of Short-D3 was moderate (Fatima, 2016).

Barratt Impulsiveness Scale (BIS-11). BIS-11 is a self-report measure which consists of 30 items that measures impulsiveness (Stanford et al., 2009) which was originally created in the 1990s by Dr. Barratt and International Society for Research on Impulsivity. It has six first-order factors (attention, motor, self-control, cognitive complexity, perseverance, and cognitive instability impulsiveness) and three second-order factors (attentional impulsiveness [AI], motor impulsiveness [MI], and non-planning impulsiveness [NI]). Each item was responded on a 4-point Likert scale of 1 = Rarely/Never to 4 = Almost Always/Always. Total scores of this scale can range in 30-120 and higher scores indicated higher levels of impulsivity. The measure was translated in Urdu for this study, and its internal consistency was high moderately (Cronbach's α = .71 to .83) within an acceptable range (Patton, Stanford, & Barratt, 1995).

Aggression Questionnaire (AQ). Developed by Buss and Perry (1992), AQ has 29 items and is divided further in four subscales that measure physical aggression (PA, 9 items, item 7 reversed scored), verbal aggression (VA, 5 items), anger (A, 7 items, item 4 reversed scored), and hostility (H, 8 items). Each item was measured on 5-point rating scale that ranges from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). High composite subscale scores expressed higher PA, VA, A and H. The test-retest correlations for PA ($r = .80$), VA ($r = .76$), A ($r = .72$) and H ($r = .72$); and for the total scale, $r = .80$ (Buss & Perry, 1992). The Urdu version of AQ was translated and adapted by Iftikhar and Malik (2014) and test-retest correlations for PA ($r = .80$), VA ($r = .79$), A ($r = .77$) and H ($r = .82$); and for the total scale, r = .93 (Iftikhar & Malik, 2014).

Procedure
We used a cross sectional design and correlated dark triad personality traits, aggression and impulsivity in school children. Sample of study was attained from various schools both private and government. Initially, for data collection concerned authorities of government and private schools were sought for permission. Second, parental consent was solicited, followed by participants signing consent forms. Participants were informed that they had the right to withdraw from the study without penalty whenever they wanted; and researcher assured

them that their results would anonymous and confidential. Researcher described all the participants about significance of this research and briefly introduced the study. Urdu versions of D3-Short, BIS-11 and AQ along with demographic information sheets were handed down to the participants to complete. Participants took 30-40 minutes to complete the questionnaires and were grateful for their participation in the study. Questions posed by participants before, during or after the completion of the questionnaires were answered.

Results

The results revealed significant positive relationship among dark triad personality traits, impulsivity ($r = .61$, $p < .001$) and aggression ($r = .56$, $p < .001$) see Table 1. Similarly, dark triad personality traits M, P and N had positive and significant relationships with AI, MI and NI and A, H, PA and VA for details see Table 1. The coefficients of these associations were less strong than coefficients of composite scores of scales, largely because subscales had fewer items than the complete scales. These results confirmed our first hypothesis, i.e., dark triad traits positively associated with impulsivity and aggression in adolescents; and accounted for large variance in the outcome variables (see Table 2).

Table 1
Correlations among Scales and Subscales (N=400)

Scale/Subscale	G	D3-Short	M	N	P	BIS-11	AI	MI	NI	AQ	A	H	PA	VA
G	-	.37*	.30*	.21*	.33*	.44*	.39*	.42*	.30*	.35*	.27*	.24*	.36*	.30*
D3-Short	-	-	.75*	.68*	.87*	.61*	.38*	.52*	.59*	.56*	.52*	.56*	.33*	.44*
M	-	-	-	.16*	.55*	.52*	.23*	.44*	.56*	.36*	.41*	.35*	.16*	.28*
N	-	-	-	-	.44*	.36*	.33*	.30*	.27*	.39*	.28*	.42*	.20*	.39*
P	-	-	-	-	-	.52*	.31*	.46*	.51*	.54*	.51*	.52*	.38*	.35*
BIS-11	-	-	-	-	-	-	.78*	.91*	.82*	.66*	.47*	.55*	.51*	.67*
AI	-	-	-	-	-	-	-	.65*	.41*	.63*	.36*	.54*	.53*	.66*
MI	-	-	-	-	-	-	-	-	63*	.57*	.39*	.47*	.46*	.60*
NI	-	-	-	-	-	-	-	-	-	.49*	.41*	.39*	.35*	.48*
AQ	-	-	-	-	-	-	-	-	-	-	.84*	.86*	.81*	.77*
A	-	-	-	-	-	-	-	-	-	-	-	.68*	.60*	.51*
H	-	-	-	-	-	-	-	-	-	-	-	-	.54*	.58*
PA	-	-	-	-	-	-	-	-	-	-	-	-	-	.52*
VA	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note. G = Gender, D3-Short = Dark Triad of Personality, M = Machiavellianism, N = Narcissism, P = Psychopathy, BIS-11 = Barratt Impulsiveness Scale, AI = Attentional Impulsiveness, MI = Motor Impulsiveness, NI = Non-planning Impulsiveness, AQ = Aggression Questionnaire, A = Aggression, H = Hostility, PA = Physical Aggression, VA = Verbal Aggression
*$p < .001$

Table 2 demonstrates the presence of significant gender differences in the dark triad personality traits, aggression and impulsivity and their subscales. Boys in all these measures with large effect sizes (Cohen's d range = .50-.98) scored higher than girls, supporting our second hypothesis.

Table 2

Independent sample t-test for determining the difference between Men and Women in D3-Short), BIS-11, and AQ and their Subscales (N=400)

Scale/Subscale	Girl M(SD)	Boy M(SD)	t	p	95% CI LL	95% CI UL	d
D3 short	9.5(.95)	10.32(1.04)	-7.97	.001	-.99	-.60	.82
M	3.23(.48)	3.51(.40)	-6.37	.001	-.37	-.19	.63
N	3.87(.51)	4.06(.31)	-4.36	.001	-.26	-.10	.46
P	2.42(.37)	2.74(.53)	-7.13	.001	-.41	-.23	.71
BIS-11	78.94(7.06)	87.35(9.86)	-9.80	.001	-10.09	-6.72	.62
AI	23.02(2.68)	25.64(3.32)	-8.68	.001	-3.21	-2.02	.87
MI	29.96(3.28)	33.36(3.98)	-9.32	.001	-4.11	-2.68	.98
NI	29.07(3.78)	31.68(4.29)	-6.47	.001	-3.40	-1.82	.64
AQ	96.01(10.87)	104.81(12.0)	-7.67	.001	-11.05	-6.55	.76
A	22.76(3.61)	24.73(3.27)	-5.71	.001	-2.64	-1.29	.57
H	26.95(3.93)	28.95(4.03)	-5.03	.001	-2.78	-1.22	.50
PA	27.65(3.94)	30.49(3.36)	-7.76	.001	-3.56	-2.12	.77
VA	18.64(3.09)	20.63(3.04)	-6.47	.001	-2.58	-1.38	.64

Note. D3-Short = Dark Triad of Personality, M = Machiavellianism, N = Narcissism, P = Psychopathy, BIS-11 = Barratt Impulsiveness Scale, AI = Attentional Impulsiveness, MI = Motor Impulsiveness, NI = Non-planning Impulsiveness, AQ = Aggression Questionnaire, A = Aggression, H = Hostility, PA = Physical Aggression, VA = Verbal Aggression, *d* = Cohen's *d*

Results of stepwise method of multiple regression showed that gender and dark traits are significant predictors of BS-11. Results indicated the two predictors gender and dark traits explained 44% of the variance $F(1, 399) = 96$, $p < .001$, $R^2 = .19$. The dark triad traits Machiavellianism ($\beta = .42$, $p < .001$), narcissism ($\beta = .23$, $p < .001$) and psychopathy ($\beta = .19$, $p < .001$) were found to significantly predict impulsivity, as did gender ($\beta = .44$, $p < .001$) while the other variables were held constant. Results of stepwise method of multiple regression showed that significant predictors of aggression are gender and dark traits. Results indicated the two predictors gender and dark traits explained 35% of the variance F (1, 399) = 58, $p < .001$, $R^2 = .12$. The dark triad traits narcissism ($\beta = .17$, $p < .001$) and psychopathy ($\beta = .47$, $p < .001$) were found to significantly predict aggression, as did gender ($\beta = .35$, $p < .001$) while the other variables were held constant.

Table 3

Multiple Regression (stepwise) showing Dark Triad Personality Traits and Gender as predictors for Impulsiveness and Aggression (N=400)

Variable	B	SE	*B*	R^2	ΔR^2
			BIS-11		
Step 1				.19	.19
Constant	70.53	1.35			
Gender	8.41	.85	.44*		
Step 2				.35	.35
Constant	45.00	2.80			
Gender	5.94	.80	.31*		
D3-Short					
M	.96	.09	.42*		
Step 3				.41	.40
Constant	27.31	3.98			
Gender	5.12	.78	.26*		
D3-Short					
M	.90	.09	.39*		
N	.58	.09	.23*		
Step 4				.43	.42
Constant	30.12	3.98			
Gender	4.67	.77	.24*		
D3-Short					
M	.70	.10	.30*		
N	.42	.10	.17*		
P	.42	.11	.19*		
			AQ		
Step 1				.12	.12
Constant	87.20	1.81			
Gender	8.80	1.14	.35*		
Step 2				.32	.32
Constant	62.22	2.80			
Gender	4.89	1.07	.20*		
D3-Short					
P	1.32	.12	.47*		
Step 3				.35	.34
Constant	47.68	4.60			
Gender	4.58	1.05	.18*		
D3-Short					
N	.55	.14	.17*		
P	1.11	.13	.39*		

Note. D3-Short = Dark Triad of Personality, M = Machiavellianism, N = Narcissism, P = Psychopathy, BIS-11 = Barratt Impulsiveness Scale, AQ = Aggression Questionnaire
*$p < .01$

16

Discussion

The study revealed significant positive relationships of dark traits with impulsivity in school children. Higher levels of M, P and N predicted impulsivity, much like previous studies in adolescents and adults (Crysel, Crosier & Webster, 2013; Jones & Paulhus, 2011; Malesza & Ostaszewski, 2016; Wackler (2021) also instituted that all constructs of dark traits are related with impulsivity.

We found that all dark traits of personality were significant predictors of impulsivity in boys and girls (see also Jones & Paulhus, 2011; Sargent, 2019). In a study with older participants (undergraduate students) Szabó & Jones (2019) showed similar results. M significantly positively associated with motor and attentional impulsiveness (but not non-planning impulsiveness). Neuroticism negatively associated with NI, but not with motor and attentional impulsiveness, but P with all dark traits. Jones and Paulhus (2011) in a previous study using regression analysis did not find any significant relationship between M and impulsivity in undergraduates (where 43% of them were East Asian) however, they did find all dark traits were significantly and positively associated with impulsivity in adults. However, these authors used a different scale of impulsivity (functional and dysfunctional subscales of Dickman's (1990) inventory). In this study they were able to compare college-going undergraduates and mature adults and found undergraduate females expressed positive significant associations among dark traits and dysfunctional impulsivity, and positively significant associations between N and functional impulsivity. Male undergraduates on the other hand expressed positive associations between M and functional impulsivity suggesting M reduced this kind of impulsivity. In the adult sample, dark traits positively predicted dysfunctional impulsivity in men and women (except N in women); and all dark traits positively predicted functional impulsivity in women but only N in men (Jones& Paulhus, 2011). Sporadic associations between dark traits and impulsivity can be based on various factors, like types of instruments used, size of the sample and homogeneity of variance in gender and age samples; nevertheless, taking all these studies into consideration we do believe dark traits do predict impulsivity.

We also found significant positive association of dark traits with aggression in school children. This aggression included physical aggression (e,g., hitting biting and threatening others etc) and verbal aggression (e.g., being argumentative, angry and hostile etc). Zhu and Jin (2021) in a metanalysis found, dark traits and aggressive behaviors were significantly positive. Muris, Meesters, and Timmermans (2013) found similar associations among adolescents (12-18 years) and Jones and Neria (2015) in adults. These latter investigators found, dark traits were positively associated *(r= .19-.58, p < .05)* with physical, verbal, anger and hostility except N with hostility. In other adult studies, dark traits were positively associated with aggression and its various forms (Barlett, 2016; Dinić & Wertag, 2018; Knight et al., 2018). As said above, in one interesting study, Lyons et al., (2019) looked at dark traits and aggressive behavior and sexual dreams in adults and found all traits positively and significantly associated *(r= .15-.34, p < .05)* with aggressive dreams (also with sexual dreams) P expressing the highest association.

Like many previous studies, we found boys scored significantly higher on dark traits, aggression and impulsiveness than girls. In a ten year review, Furnham, Richards, and Paulhus (2013) found dark traits were higher in men than women (also see Jonason & Davis, 2018). These gender variances in dark traits can be explained in evolutionary terms where men increase the chances of spreading their genes through physical and social mechanisms over women (Buss & Duntley, 2008). Furthermore, boys also scored higher on aggression than girls aligned with what Björkqvist (2018) found i.e., boys were more physically aggressive than girls, but both gender were equal in expressing aggression verbally. Similarly in adults, Sher et al., (2019) explored that

men tend to be more aggressive and high in impulsivity than woman. Literature terms with studies that suggest aggression with impulsivity positively relate and our results are not different; for example Brennan and Baskin-Sommers (2019) found that the people who had aggressive behavior displayed high impulsivity, specifically physical aggressive behavior which leads to hostile impulsive decisions. In a meta-analysis review, all different forms of impulsiveness were positively related to all the forms of aggression. (Bresin, 2019).

Our results showed gender as predictor of aggression and impulsiveness. According to analysis of Kamal (2016) Pakistani society's gender roles, behavior wise men had a tendency of being aggressive, controlling and dominant while on the other hand women were to be impulsive, stubborn and emotional. Moreover, generally Pakistani population had a tendency to be impulsive and aggressive when it comes to expressing their emotions (Khan, et al., 2008; Shah, et al., 2009).

Limitations and Recommendations

The researcher lament on not assessing a greater number of schools because of time and resource limitations. If we had gotten these schools our geographical spread and sample size would have increased improving generalizability of our findings. We do think future studies should be carried out with diverse ethnic backgrounds, sampling cities and rural locales and selecting groups that represent different socioeconomic strata. We also believe qualitative studies should be carried out on this topic to look at in-depth understanding of aggression and impulsivity in school children.

Conclusion

We conclude, dark traits possess mild to moderately associate with aggression and impulsiveness in school children. Our results aligned with many studies that have used school children, adolescents and adults differing in age-based samples. Along with dark traits, gender also contributes to predicting aggression and impulsiveness in these children.

The study is not diagnostic in nature but does present some semblance of prevalence of dark traits, aggression and impulsiveness in school children. This data could be used by school teachers, administrators and parents as a baseline to compare dark traits in schools befitting all stakeholders. Teachers, parents and others could be alerted about children that get higher scores on dark traits, which could be used as indicators for aggression and impulsiveness; and the possibility of identifying children who might express bossiness or bullying as a result. This could certainly contribute to developing awareness for schools and parents, and the development of anti-bully programs that would help intervene aggressiveness and impulsiveness in children.

Declaration

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Research Article

Effectiveness of Integrated Model of Psychological Intervention and Cognitive Behavioral Therapy for Obsessive Compulsive Disorder: A Comparative Study

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Background. Current study aims to explore the effectiveness of the integrated model of psychological intervention (technique comprising the combination of Neurolinguistic Programming-NLP and Hypnosis) in comparison to CBT (Cognitive Behavior Therapy) and pharmacotherapy (medication for OCD) to reduce the severity of symptoms of Obsessive Compulsive Disorder. Yale-Brown Obsessive Compulsive Scale (Y-BOCS) was used to screen out the study participant.

Method. The study comprised of 24 participants aged, 20-35 years of both genders (male=12, and female=12).

Results. Findings suggested that the integrated model (M=2.25, SD= .91) showed better treatment outcomes [$F (2, 397) = 18.49, p< .001$] in comparison to those of psychotherapy (M=3.65, SD=1.44) and pharmacotherapy (M=6.44, SD=1.49) respectively.

Conclusion. Further comparative studies could be done in future comparing the efficacy of the proposed model with other therapeutic approaches with and without pharmacological treatment.

Keywords. Obsessive compulsive disorder, psychological intervention, cognitive behavioral therapy, neuro-linguistic programming, hypnosis

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Introduction

Obsessive Compulsive disorder (OCD) is a psychological disorder characterized by persistent repetitive, intrusive and irrational thoughts images, or impulses (urges) which are mostly hard to control despite the persistent attempts, followed by compulsive acts to pacify the obsessions for apparently temporary relief (Abrantes et al., 2019). The themes of obsessions are usually related to contamination, harm, hoarding, sexual, somatic and religious preoccupations, while the most common compulsions include washing, checking, repeating, ordering, counting, and hoarding (Abba-Aji et al., 2020).

The exact cause of OCD has still not been identified, however considerable research has commenced in the past two decades to interpret the underlying biological mechanisms of OCD (Alsubaie et al., 2020). The brain images of the patients with OCD show differences in brain function as compared to individuals without OCD indicating a Neuro-biological basis of an imbalance in the neurotransmitters. This disorder is equally prevalent in both adult males and females. This condition is found to be due to a combination of various factors like genetic, environmental, biological, neurological and psychological.

The Obsessive Compulsive Disorder is generally treated through various modes of treatment. The symptoms of OCD can be treated or reduced through drugs i.e. pharmacological and other approaches like psychotherapies and complementary therapies while one of the commonly used psychotherapies to treat symptoms of OCD has been behaviour therapy such as Exposure & Response Prevention (ERP), (Ansari, Mishra, Tripathi, Kar, & Dalal, 2020) which is claimed as one of the strongest treatment regimens (Asghar et al., 2020). People struggling with OCD also use different cognitive patterns e.g. reassurance, rationalization, distractive strategies, thought-stopping and suppression techniques (Chakraborty, & Karmakar, 2020). Some other evidence-based research has also shown the effectiveness of using cognitive-behavioural therapy (CBT) for the disorder i.e. combination of cognitive & behaviour techniques (Rector et al., 2001). CBT mainly focuses on focusing on cognitive patterns and their relation to emotions and behaviours (Deepthi, Kommu, & Smitha, 2018). Techniques of CBT such as cognitive techniques which aimed at identifying, challenging, and changing dysfunctional beliefs (Fontenelle, & Miguel, 2020). However, studies have indicated that many clinical experts also believe, that the most effective form of CBT for OCD is a combination of exposure, response prevention which is behavior that's refraining from performing rituals, discussion regarding repercussions of dysfunctional beliefs, and relapse prevention. Hardly any evidence from controlled trials has been noted that supports cognitive therapy without exposure and response prevention or behavioral experiments has proven highly effective when the patient is willing to do the work that CBT requires which includes behavioral homework, thought record etc.

However, one of the most recent treatment approaches that have emerged as effective is the combination of complementary therapies such as Hypnosis & Neuro-linguistic Programming (NLP). Hypnosis when merged with CBT with better results as compared to CBT alone while treating different Psychiatric disorder (French, & Lyne, 2020). Milton Erickson, known as the father of hypnosis also effectively applied hypnoanalytical techniques to treat obsessional neurosis (Gottwald et al., 2018). Reframing has been utilized as thought changing technique of hypnosis by inducing trance (Hama, & Ahmed, 2018), while hypnotically induced dissociation was also used for a successful treatment of OCD (Janardhan-Reddy, Sundar, Narayanaswamy, & Math, 2017).

Neuro-Linguistic Programming (NLP), is a systemic imaginative method of psychological intervention along with it being a consolidative cognitive approach (Jaisoorya et al., 2017). Though not sufficient literature is available on NLP as a treatment of OCD effective results have

been found where with the use of NLP, the requirement of general anaesthesia for MRI (Magnetic Resonance Imaging) has been reduced in claustrophobic patients (Kumar, & Somani, 2020). Another study proved the efficacy of NLP with significant improvement in psychological difficulties and perceived quality of life (Lenhard et al., 2017). Despite quick effects (Morein-Zamir, Shapher, Gasull-Camos, Fineberg, & Robbins, 2020), acceptability for NLP has been less, majorly due to its academic prejudices and misunderstandings of NLP as a consolidated tool (Nicolini, Salin-Pascual, Cabrera, & Lanzagorta, 2017).

NLP technique named "Part integration" also known as "Visual Squash" focused on prior learnings and changing them resolving the conflicts, the thought-challenging technique and thought record resolved the core beliefs. Furthermore, self-hypnosis focusing on personalized management hypnosis completes the therapy ensuring the maintenance and relapse prevention and anchoring was set to keep good control of the obsessions and compulsions. Hence the amalgam of all three proved to be the most effective intervention for clients of Obsessive-Compulsive Disorder when compared to Cognitive Behavior Therapy or pharmacotherapy.

Obsessive Compulsive Disorder-OCD is considered a complex disorder and treatment modalities usually are not available except for medication and a few techniques of psychotherapeutic interventions. This disorder affects mostly the young generation since it shows onset during the early years of life, hence compromising the individual's mental health and effective functioning. The study aims to attempt to devise and implement a comprehensive mode of psychological treatment that is cost and time-effective. The treatments already available usually are time like CBT or Pharmacological usually cause other side effects for mild and moderate cases, however, the severe cases need medical treatment. This study aims to introduce an effective integrated intervention model that is a combination of complementary therapies and cognitive techniques. Moreover, it aims to draw comparisons between the effectiveness of various modes of treatment. An improvement in OCD symptoms is expected on treatment particularly the Integrated Model indicating better therapeutic outcomes when compared to Cognitive Behavior Therapy alone.

Method

Intervention Groups
1. **Group A (Pharmacological Model)**
   Receiving medication for OCD symptoms (e.g +SSRIs)
2. **Group B (CBT Model)**
   Receiving Cognitive Behavior Therapy only, including
   - Thought Challenging
   - Homework Assignments
   - Any other technique based on the case requirement
3. **Group C (Integrated Model of Psychotherapy)**
   Receiving a combination of techniques from NLP, Hypnosis and CBT
   - Part Integration (Technique from NLP)
   - Self-hypnosis (Technique from Hypnosis)
   - Thought Challenging (Technique from CBT)

Participants

Participants included patients already diagnosed with Obsessive Compulsive Disorder by the respective psychiatrists, ages ranging from 20 to 35 years. The size of the sample was 24 with a preference for an equal gender ratio.

The sample of the study consisted of all individuals who were under psychiatric treatment.

Assessment Measures

The consent from the participants was taken. The demographic sheet was devised to gather basic information about the participants e.g., age, gender, education etc.

The Yale-Brown Obsessive Compulsive Scale. Y-BOCS was used as the primary measure. This rating scale is designed to rate the severity and type of symptoms in patients with obsessive-compulsive disorder (OCD) and is intended for use as a semi-structured interview. It comprises 19 items out of which only items 1-10 (excluding items 1b and 6b) are used to determine the total score. The total Y-BOCS score is the sum of items 1-10 (excluding 1b and 6b), whereas the obsession and compulsion subtotal-ls are the sums of items 1-5 (excluding 1b) and 6-10 (excluding 6b), respectively (Opakunle, Aloba, Opakunle, Oyewole, & Osokoya, 2017).

Procedure

A total of 24 individuals with equal ratio of both genders, ranging from age 20 to 35 years with the diagnosis of OCD were included. Participants were approached at different psychiatric units of the hospitals from Islamabad and Rawalpindi, already diagnosed by the respective psychiatrists. The participants were further divided into three groups comprising eight participants each. The first group included individuals who were just put on pharmacological treatment alone, the second group with patients who were given CBT and the third group to which the proposed model was applied. Y-BOCS was administered in all groups to obtain pre and post-intervention severity levels of OCD.

The proposed model comprised of a combination of techniques from NLP, Hypnosis and CBT. In the initial sessions, the Part Integration technique, a technique from Neuro Linguistic Programming was applied to the clients. In the sessions to follow, a thought-challenging technique from another approach was included along with self-hypnosis and anchoring being a part of the developed integrated intervention model. Self-hypnosis and anchoring (resourceful state) were practiced during sessions along with it being a home task of every session. The study comprised three phases. Phase I was the assessment and baseline phase, and phase II was the Intervention phase, which was further distributed into two groups and each group underwent six sessions. Phase III was post-assessment and the last phase was of follow-ups.

Data Analysis

Statistical Package for Social Sciences (SPSS, 25) has been used to analyze the data of the study. Alpha reliability analysis was done to see the psychometric properties of YBOCS during the pre-assessment and post-assessment phases. A paired sample t-test was used to see the difference between the pre-assessment and post-assessment phases of CBT, the Integrated model of psychotherapy and pharmacotherapy. ANOVA was used to see the comparative differences in effectiveness between CBT, the Integrated model of psychotherapy and pharmacotherapy.

Results

Study results revealed that participants of the study after receiving the intervention showed a reduction in psychological symptomatology.

Table 1

Psychometric Properties of Study Major Variables (N =24).

Measures	k	α	Range Min	Max	M	SD	Skew.	Kurt.
OCD (Pre-phase)	10	.76	23	47	34.5	6.09	-.16	.044
OCD (Post-phase)	10	.78	0	34	15.1	9.74	.40	-.60
Obsessions (Pre-phase)	5	.81	12	24	17.71	3.54	.36	-.45
Obsession (Post-phase)	5	.83	0	16	8.38	4.43	-.24	-.36
Compulsions (Pre-phase)	5	.79	10	23	16.79	3.09	-.56	-.55
Compulsions (Post-phase)	5	.81	0	19	6.79	5.63	.77	-.40

Note: Skew = Skewness; Kurt = Kurtosis.

      Results in the table indicate that the psychometric properties of the instrument are sound. The range of skewness and kurtosis is also in normal range. The value of Cronbach's alpha indicates that Yale Obsessive Compulsive Scale is psychometrically a sound instrument.

Table 2

Paired sample t-test analysis between Pre test group and Post test on OCD symptoms (N=24).

Variable	YBOCSPRE M	SD	YBOCSPOST M	SD	t	p	95% CI LL	UL	Cohen's d
OCD	34.50	6.09	15.17	9.74	8.77	.000	14.77	23.89	2.38

Note. YBOCSII Yale Brown Obsessive Compulsive Scale; PRE=Pre-Assessment Phase; POST= Post Assessment Phase; M= Mean; SD= Standard Deviation; CL = confidence interval; LL = lower limit, UL = upper limit.

      Results of Paired-samples t-test indicate that level of OCD symptoms significantly decreased in post assessment phase after receiving intervention as compared to pre assessment phase. The differences in mean values are indicative that individuals presented less stress symptoms in post assessment phase

Table 3

Paired sample t-test analysis between Pre test group and Post test groups on OCD symptoms (N=8).

Variable	YBOCSPRE M	SD	YBOCSPOST M	SD	t(df)	p.	95% CI LL	UL	Cohen's d
CBT	35.38	5.80	12.63	8.99	4.99(6)	0.002	11.98	33.51	3.01
IM	33.75	3.84	8.88	5.76	14.49(6)	0.000	20.81	28.93	2.32
PHARMA	34.38	8.48	24.00	7.48	4.01(6)	0.005	4.26	16.4	2.04

Note. YBOCSII= Yale Brown Obsessive Compulsive Scale; CBT=Cognitive Behavior Therapy; IM= Integrated Model; Pharma=Pharmacological Group;PRE=Pre-Assessment Phase; POST= Post Assessment Phase; M= Mean; SD= Standard Deviation; CL = confidence interval; LL = lower limit, UL = upper limit.

      A paired-sample t-test indicated that the level of OCD symptoms was significantly decreased in the post-assessment phase after intervention as compared to the pre-assessment phase. Statistically, significant differences have been indicated. All intervention groups showed

improvement in pre and post-phases; however, the Integrated model has shown a significant improvement in comparison to the rest.

Table 4
One Way ANOVA to Investigate Differences based on OCD symptoms among patients in Group A *(Pharmacological Model), Group* B *(CBT Model) and Group* C *(Integrated Model of Psychotherapy) (N = 24).*

Variables	Group A (n = 8)		Group B (n = 8)		Group C (n = 8)		F (2,397)	η^2	Post hoc
	M	SD	M	SD	M	SD			
									1>2>3
OCD	6.44	1.49	3.65	1.44	2.25	.91	18.49***	.08	

***p<.001.

Table 4 shows differences among *patients in Group* A (Pharmacological Model), Group B (CBT Model) and Group C (Integrated Model of Psychotherapy) regarding OCD symptoms. Results show significant differences based on OCD symptoms [F(2, 397) = 18.49, p< .001]. Patients in Group C (M=2.25, SD= .91) have fewer OCD symptoms than patients in Group A (M=6.44, SD=1.49) and patients in Group B (M=3.65, SD=1.44).

Discussion

The present study was conducted to assess the effectiveness of an integrated model of psychological intervention for OCD comprising of techniques from cognitive behavior therapy (CBT), Hypnosis and NLP along with pharmacotherapy over pharmacotherapy and CBT alone. Moreover, it drew a comparison of overall effectiveness among various therapeutic regimes such as pharmacotherapy, CBT & the integrated model. It was assumed that there would be a significant difference in pre and post-assessment of psychological symptoms of OCD after receiving Integrated model treatment in comparison to the other two. Likewise, it was also hypothesized that any of the three interventions would prove effective in general in their capacity.

With the advancement in the field of practising psychology, although traditional psychotherapies hold their importance in different capacities, however, complementary therapies have shown scattered results for different symptoms. A study highlighted that the inclusion of alternate therapies into psychological health practice enhances the outcomes and the results improve quality of life and they last long (Raynal, Melioli, & Chabrol, 2019).

In the current study, reduction of symptoms in OCD has been noted in different groups receiving different types of interventions; independent or combination. Three groups were formed as per the type of intervention being received; Pharmacotherapy, CBT and Integrated Model (Combination of cognitive, behavioral and complementary therapy techniques).

Results of the Paired-sample t-test indicate that OCD symptoms significantly decreased as assessed in the post-assessment phase in all three groups after receiving intervention as compared to the pre-assessment phase as seen in the difference of the mean value of pre and post-assessment. Results of the present study also indicate that pharmacotherapy tends to be effective along with participants after receiving cognitive behavior therapy presented a decrease in psychological symptoms in the post-assessment phase. Moreover, the integrated model in treating OCD patients also yielded positive outcomes and maximum reduction in psychological symptoms has been noted as compared to other groups. Already existing controlled trial data suggest that higher SSRI doses produce a somewhat

higher response rate and somewhat greater magnitude of symptom relief in the treatment of OCD (Robinson, Rose, & Salkovskis, 2017). Similar results were obtained from different research in past in which complementary therapies were used in combination with traditional treatments and have produced strong results. The findings are consistent with already existing data which emphasize the importance of combination therapy compared to a single approach in the case of OCD (Radhakrishnan, Jose, & Thennarasu, 2017).

Various psychological interventions can be used with diverse population groups such as individuals having various psychological or physiological symptoms. In previous research, multiple complementary therapies and conventional therapies were used and results proved it as an effective treatment for addressing the psychological symptoms among such populations (Torres et al., 2017). In the present study, the integrated model is used majorly along with other therapeutic approaches to address the symptoms of OCD of which the integrated model was most effective. Wheaton and Gallina, (2019) found long-term effectiveness for Post-traumatic stress disorder, hence proving the same for anxiety-ridden related disorders like OCD.

The study results showed a noticeable indication that the integrated model is useful and effective for the treatment of psychological symptoms among patients of OCD. The goal of the integrated model is comparable to cognitive behaviour intervention which is also comparable with pharmacotherapy which aims to reduce symptoms, improvements in the functioning of individuals and have long-lasting effects. The complementary therapies utilize imaginal technology taking less effort and more engagement, which makes it easier for the individual to have an experiential understanding since it involves sensory experience in the absence of actual stimuli (Kosslyn, Ganis, & Thompson, 2001). Mental imagery has already proven to be an effective approach to OCD (Holmes & Mathews, 2010). Hypnosis and CBT, in combination also have produced promising results with OCD in another study

(Moore & Burrows, 1991). The methodology of complementary therapies, NLP and hypnosis are slightly different from that of CBT and traditional therapies, so the individuals generally show more interest since they do not involve in-depth personal experience but rather a work of the associated feelings, as Jahan, Tariq and Nadeem (2022) found the communication patterns utilized by an NLP therapist were more effective to gain positive results. Therefore, the significant improvement in group C might be due to the therapeutic work from multiple dimensions like addressing cognitions and providing imaginal exposure in an introspective fashion (like accessing the subconscious mind and self-suggestive procedures).

Using the integrated model, this goal is achieved by making the client experience the comprehensive treatment modality and collaboratively helping him/her in problem-solving and modifying their maladaptive cognitions and behaviors by using various cognitive and behavioral techniques along with techniques from complementary therapies. The outcome yields improved health status of the patient. The therapy resulted in reduction of symptoms in post assessment phase.

Conclusion

The present study proposes an imperative contribution in Pakistan as now a day's a big number is seen to suffer from the distress of psychological conditions such as Obsessive compulsive Disorder and in majority cases, relapse rate is high or the treatment plans are long and expensive. Therefore, there is a dire need for such researches and studies to draw attention of people towards advanced therapeutic approaches. The rationale of the present study is to assess the effectiveness of Integrated Model of Psychological Intervention in comparison to Cognitive Behavior Therapy and pharmacotherapy in reduction of psychological symptoms among patients of OCD. There is very limited evidence about the efficacy of complementary therapies for the treatment of symptoms in OCD patients, so the

integrated model is of great worth and value for mental health practitioners and an effective treatment modality for the patients particularly in Pakistan.

Declaration.

Ethical Approval. The topic under study was evaluated by the committee and has been approved as it is not going to harm any physiological and psychological functioning of the individual.

Conflicts of interest. None.

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Research Article

Impact of Communication Patterns and Relationship Dissatisfaction on Emotional Distress among Married Individuals

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Abstract

Background. Marriage satisfaction is a crucial component of numerous people's lives and has been linked to greater life satisfaction as well as the psychological health of married people in Pakistan. The purpose of this research study was to find out the impact of different communication patterns and relationship dissatisfaction on emotional distress among married individuals.

Methods. A cross-sectional study was conducted in which sample of the present study consisted of (N=226, M=1.35, SD=.48) married individuals (n=148 males and n=78 females) from Islamabad. Survey method was used to collect the data. Purposive sampling technique was used for selecting the sample. Perceived Emotional Distress Inventory (PEDI), Communication Pattern Questionnaire (CPQ) and Couple Satisfaction Index (CSI) were administered to married individuals.

Results. The findings demonstrated that relationship dissatisfaction, self-demand/partner withdraw, and partner demand/self-withdraw communication patterns are all highly significant predictors of emotional distress, and that among married people, constructive communication pattern is a negative predictor of emotional distress.

Conclusion. Effective communication often acts as a protective barrier against emotional suffering in married couples. When couples honestly and actively listen to one another, they are better able to understand and feel more connected to one another. This can lead to a more helpful and harmonic connection, which reduces the likelihood of emotional suffering.

Keywords. Emotional distress, constructive communication pattern, self-demand/partner withdraw, partner demand/self-withdraw communication patterns, relationship dissatisfaction.

Foundation University Islamabad

Introduction

Family formation starts with marriage. In a marriage, two people meet each other's psychological, physical, and emotional needs. It is a sophisticated, sensitive, shared, sympathetic, and complex partnership. According to Guerrero et al. (2011) marriage has a substantial influence on how we currently define a meaningful and rich existence. The ability to comprehend and empathize with your partner's experiences, pay attention to their point of view, and be aware of and sensitive to their needs are all important communication patterns in a close relationship (Wasylkiw et al., 2010).

Communication is essential to a partnership; without it, a husband and wife cannot have a connection (Guerrero et al., 2011). According to Gottman (1998), unhappy married couples tend to communicate negatively more frequently. In contrast to constructive communication, which has a good emotional impact on married individuals, unfavorable communication was defined in the study as communication that has a negative emotional impact. However, not all negative communication tends to predict the dissolution of a marriage; rather, only those interactions that exhibit the four apocalyptic horsemen disapproval, defensiveness, disrespect, and withdrawal have been linked to this phenomenon (Arunachalam & Doohan, 2013; Driver & Gottman, 2004).

When assessing the effects of a relationship, communication quality is crucial. Demand-withdraw communication patterns are associated with situations where one partner contacts the other about an issue while the other person attempts to avoid the conversation (Caughlin & Vangelisti, 1999). According to Klinetob and Smith (1996) and Kluwer et al. (1998) this classification typically occurs when a partner becomes irritated and feels that the marriage is not working, so they try to change the subject or minimize the disagreement. Study also described that females are most likely to desire for change and males are most likely to withdraw because in marital relationship females face more inequality than males (Heena et al., 2007). In particular, wife demand/husband withdraw seems to be highly connected with distress in a relationship,

this is also reported that withdrawal patterns in either the husband or wife are related to distress in marital relationship (Stanley et al., 2002).

Smith et al. (2008) state that a distinct sense of contentment, pleasure, and approval that one spouse feels for the other is what they refer to as marital happiness. A person's physical and mental health can be affected by ineffective interactions (Kiecolt-Glaser & Newton, 2001). Abbas et al. (2018) found a negative link between marital satisfaction and anxiety and depression in people who were married. The study focused on stress, anxiety, depression, and marital satisfaction among Pakistani women who were not employed. Because of this strong correlation, researchers discovered that people who are happily married had a ten-fold lower chance of exhibiting depressive symptoms than people who are experiencing marital problems. Marital problems like separation, other marital stresses, and divorce have been shown to commonly cause severe emotional distress (Swindle et al., 2000).

Regardless of society, the marriage partnership is the most important relationship in a person's life. Sternberg (2006) argues that intimacy, desire, and commitment are the cornerstones of a marriage. According to Thompson-Hayes and Webb (2008), these foundations are used to convey both verbal and nonverbal messages. This desire for bonding is satisfied not just by the marriage link but also by a close, trustworthy relationship in which married individuals show love and concern for one another (Compton, 2005; Baumgardner & Crothers, 2014; Hindman, 2015). Married couples with high levels of marital satisfaction report reduced stress levels, stronger social support levels, and an improved capacity to deal with subpar living situations (Canel, 2013; Shoko, 2011). Research indicates that in South Africa, married women are treated with greater humaneness than single, divorced, or widowed women. Personal well-being and physical health are positively correlated with marital happiness as well (Shoko, 2011).Research has shown that marital issues both cause and result in depression (Rehman & Munroe, 2006). Put another way, several studies have suggested that

marital dissatisfaction causes symptoms of depression (Beach & O'Leary, 1993). There is probably a reciprocal relationship between relationship satisfaction and depression (Whisman, 2001).

Hashmi et al. (2007) found a substantial correlation between emotional distress and marital satisfaction. Communication patterns are regarded to be the main factor impacting a married couple's relationship quality, and they also predict marital emotional pain. Communication patterns are specific modes of communicating that one spouse supports in an attempt to encourage or help the other, and they are also linked to expectations of better levels of marital pleasure (Bradbury et al., 2000; Sullivan et al., 2010). Sadly, not many research have examined the association between relationship dissatisfaction and these three communication styles, as well as how they impact emotional discomfort in Pakistan. New research on emotional distress, relationship unhappiness, and communication styles in Pakistan may have a big impact on people's lives and society as a whole. Developing specialized treatments and support networks can be aided by an understanding of these processes. It may also function as a resource for culturally aware therapeutic approaches that improve mental health and positive interpersonal interactions within Pakistani society. Furthermore, studies of this kind can increase awareness, dispel stigma, and encourage candid conversations about mental health all of which can enhance interpersonal connections and the general well-being of society.

Objectives
1. To assess the impact of constructive communication pattern, self-demand/partner withdraw communication pattern, partner demand/self-withdraw communication pattern and relationship dissatisfaction on emotional distress among married individuals.

Hypotheses
1. Constructive communication pattern is a negative predictor of emotional distress among married individuals.
2. Self-Demand/ partner withdraw Communication pattern positively predict emotional distress among married individuals.
3. Partner demand/ self-withdraw communication pattern positively predict emotional distress among married individuals.
4. Relationship dissatisfaction is a positive predictor of emotional distress among married individuals.

Method
Sample
The sample of the current study consisted of husbands and wives from Islamabad city. The standards parameter Solvins formula was used for study sample collection. The formula of the study was n=N/1+N(e)2. The initial sample consisted of 250 participants but 24 data forms were incomplete so after elimination of these forms sample of the study included (*N*=226, *M*=1.35, *SD*=.48) participants (*n*=148 males and *n*=78 females). Purposive sampling technique have been used for selecting the sample. The demographic factors that defined the sample included age, gender, socioeconomic status, number of years married, age gap between spouses, number of children, and joint/nuclear family structure. The participants were at least a year into their marriage. The subjects of the study were heterosexual individuals who had been formally wedded as husband and wife by the state. Excluded were those who had separated or divorced from their partners. Married individuals with professional diagnoses of anxiety and depression were not included in the study.

Table 1

Frequency and Percentage of Demographics Variable of Study (N=226)

Demographic Variables	f	%
Age		
Early adulthood (19-35)	81	35.8
Middle adulthood (35-55)	101	44.6
Late adulthood (older than 55)	44	19.4
Gender		
Male	148	65.5
Female	78	34.5
Socio Economic Status		
Low	26	11.5
Middle	107	47.3
High	93	41.2
Number of children		
no children	93	41.2
1 – 3	97	42.9
4-6	36	15.9
Year of marriage		
less than 5 years	94	41.6
5 to 10 years	96	42.5
more than 10 years	36	15.9
Family system		
Joint	133	58.8
Nuclear	93	41.2
Age gap between couples		
less than 5 years	116	51.3
5-10 years	91	40.3
more than 10 years	19	8.4

Assessment Measures

Perceived Emotional Distress Inventory (PEDI). Perceived Emotional Distress Inventory (PEDI) was develop by Moscoso et al. (2012). It consist of 12 items self-report stems to predict the presence of emotional distress among married individuals. It has four subscales that are anxiety (4 items), anger (4 items), depression (2 items) and hopelessness (2 items) recognizing the differences between expressing and repressing anger.

People rate how much they experienced each emotional distress-related symptom in the preceding month, "including today" (all the time), on a 5-point scale that goes from 0 (not at all) to 4. The inventory's overall score might be between 0 and 48 points. Higher scores reflect perceived emotional suffering at higher levels. The ratings for

each individual PEDI category are simply added up to produce a Global Severity Index raw scores (GSI). There are no cut-off scores for the PEDI because it is not a diagnostic tool. The instrument's developer wanted to compare the participants in the study samples because the tool was only intended to be used for research. The PEDI elements should be regarded as ordinal variables in terms of statistics. The reliability of the scale was. $\alpha= 0.74$ which shows the scale was reliable to use for married individuals.

Couples Satisfaction Index (CSI-32). Couple satisfaction index (CSI) was designed to assess one's satisfaction in a relationship (Funk & Rogge, 2007). It has 32 items. Comparing CSI-32 to other existing measures of marital satisfaction, it is thought to be more specific, accurate, and able to provide more information. Likert scales go from highly sad to extremely cheerful, with five points. There are 128 possible CSI-32 scores. Relationship satisfaction increases with a higher score, and relationship discontent is evident when the score is less than 84.5. The alpha reliability of the scale is high i.e. ($\alpha= .88$). CSI scales proved to be more than just a straightforward self-report measure after going through item-level analysis to assess the present level of precision. This proves that CSI only evaluates the level of satisfaction felt by married people who are in committed relationships.

Communication Pattern Questionnaire (CPQ). The CPQ is a 35-item self-report questionnaire designed to evaluate married people's coping mechanisms for marital problems (Christensen & Sullaway, 1984). The scale has five points, ranging from 1 (extremely unlikely) to 5 (highly likely). Constructive Communication (CC), Self-demand/Partner-withdraw (SDPW), and Partner-demand/Self-withdraw (PDSW) are

the three subscales that make up the scale. 10 Items that are included in constructive communication subscale are 2, 6, 8, 23, 25, 27, 1, 24, 25 and 26. Self-demand/ partner withdraw subscale included 13 item (3, 7, 9, 11, 13, 15, 17, 19,21, 28, 30, 32 and 34) and partner demand/ self-withdraw subscale included 13 items (4, 5, 10, 12, 14,16, 18, 20, 22, 29,31, 33 and 35). The alpha reliability of the scale is $\alpha= 0.78$ to use on married individuals.

Procedure

The quantitative study in which correlational predictive research designed was conducted to examine the impact of communication patterns and relationship dissatisfaction on emotional distress among married individuals for present research. A survey method were used to gather the data. The participants were individually approached at their respective places i.e. their homes and work places. There were (N=226, M= 1.35, SD=.48) married individuals (n=148 males and n=78 females) and they were selected following purposive sampling technique. Following obtaining their agreement, individuals were informed of the study's objectives and asked to participate by providing responses to all questions. They were told that the information they provided would be kept confidential and utilized exclusively for study. After that, SPSS was used to compute and analyze the data. The analysis was used to formulate the outcomes.

Ethical Considerations

The chairman of the institutes and the Ethical Review Board, Department of Psychology, IIUI, Ethics Committee, all granted their ethical permission. The participants also gave their informed consent, which was verified in terms of the matters' confidentiality and privacy.

Results

Table 2

Linear Regression Analysis for Predicting Emotional Distress from Constructive Communication Pattern (N=226)

Variables		Model Emotional distress
	B	
Constant	16.20	
Constructive communication	-.89	
R^2		.39
F		828.43***

Note. B = Coefficient of Regression, CI = Confidence interval, LL = Lower Limit, UL = Upper Limit ***$p < .001$
Upper Limit ***$p < .001$

Table 2 shows linear regression among constructive communication pattern and emotional distress. The result indicated that constructive communication negatively predict emotional distress among married individuals (F=828.43, B= -.89, P<.001) with an R^2 of .39. This means that the more often a person engages in constructive communication, the less likely it is that the sample will experience emotional distress. Constructive communication refers to active listening to each other, shares feelings, and works together to resolve conflicts which contribute to low level of emotional distress within marital relationship.

Table 3

Linear Regression Analysis to Emotional Distress from Self-Demand/ Partner Withdraw Communication Pattern (N=226)

Variables		Model Emotional Distress
	B	
Constant	9.88	
Self-demand/partner withdraw	1.35	
R^2		.78
F		777.45***

Note. B = Coefficient of Regression, CI = Confidence interval, LL = Lower Limit, UL = Upper Limit ***$p < .001$

Table 3 shows linear regression among self-demand/ partner withdraw communication pattern and emotional distress. The result indicated that self-demand/ partner withdraw communication pattern positively predict emotional distress among married individuals (F=777.45, B= 1.35, P<.001) with an R^2 of .78. In a self-demand/partner withdraw communication pattern, emotional distress can arise due to a lack of effective communication and understanding. When one partner tends to make demands on themselves, possibly setting high standards or expectations, and the other withdraws, it creates a dynamic where one may feel overwhelmed, while the other feels the need to distance themselves. Self-demand/ partner withdraw tendency frequently results in a

breakdown in communication, which can lead to emotional separation, feelings of inadequacy, and dissatisfaction. Self-demanding partners may feel more stressed and anxious, and withdrawing partners may feel under pressure or misinterpreted.

Table 4

Linear Regression Analysis to Predict Emotional Distress from Partner Demand/ self- Withdraw Communication Pattern (N=226)

Variables		Model Emotional distress
	B	
Constant	8.13	
Partner demand/ self-withdraw	1.45	
R^2		.76
F		718.79***

Note. B = Coefficient of Regression, CI = Confidence interval, LL = Lower Limit, UL = Upper Limit ***p< .001

Table 4 shows linear regression among partner demand/ self-withdraw communication pattern and emotional distress. The result indicated that partner demand/ self-withdraw communication pattern positively predict emotional distress among married individuals (F=718.79, B= 1.45, P<.001) with an R^2 of .76. Predicting emotional distress based on communication patterns in a self-withdrawal/partner-demand entails recognizing symptoms of stress, miscommunication, or unmet requirements. Demanding communication may suggest a need for reassurance or connection, while withdrawal may indicate a wish for separation. When these patterns collide or people believe their needs are not being addressed on a regular basis, emotional distress may result.

Table 5

Linear Regression Analysis to predict Emotional Distress from Relationship Dissatisfaction among Married Individuals (N=226)

		Model Emotional distress
Variable	*B*	
Constant	43.20	
Relationship dissatisfaction	1.43	
R^2		.74
F		725.27***

Note. B = Coefficient of Regression, CI = Confidence interval, LL = Lower Limit, UL = Upper Limit ***p< .001

Table 5 shows linear regression among relationship dissatisfaction and emotional distress. The result indicated that relationship dissatisfaction positively predict emotional distress among married individuals (F=725.27, B= 1.43, P<.001) with an R^2 of .74. When individuals are dissatisfied in their marriages, it can lead to feelings of loneliness, sadness, and frustration.

This dissatisfaction may stem from various sources such as communication issues, unmet needs, or differing expectations which leads to emotional distress.

Discussion

The current study evaluated married people's emotional discomfort, communication styles, and relationship unhappiness. Data collection was done on 226 married individuals that was living in Islamabad through purposive sampling technique. Informed consent was taken from the sample. Analyses of data provided imperative results.

The 1st hypothesis of the present study indicated that constructive communication pattern negatively predict emotional distress among married individuals was supported by the results of regression analysis (table 2). A negative coefficient suggests that as the independent variable (constructive communication) increases, the dependent variable (emotional distress) tends to decrease. Effective communication is crucial for any marriage to succeed and survive a lifetime, as well as to lessen couples' mental pain, according to the research. (Paixão et al., 2018). In a married relationship, effective communication fosters closeness and improves understanding (Nyarks & Hope, 2019). Happy married couples are more adept at managing difficult emotions than unhappy married couples, and research indicates that happy communication has a unique predictive value for the success of the marriage (Markman et al., 2010).

The 2nd hypothesis of the present study was that self-demand/ partner withdraw communication pattern is a predictor of emotional distress among married individuals was supported by the results revealed by linear regression analysis table i.e. table 3. When it comes to communication, married people with one emotionally distressed spouse tend to be less optimistic, more pessimistic, and unpleasant than couples without such a partner (Gabriel et al., 2010). A particularly powerful predictor of emotional distress in married people has been found to be self-demand/partner withdrawal (Byrne et al., 2004; Du Rocher et al., 2004). According to several studies (Benazon & Coyne, 2000; Gabriel et al.,

2010; Jackman et al., 2006; Uebelacker et al., 2003), depressive symptoms are specifically linked to more negative and fewer positive communication behaviors. Heene et al. (2007) found that higher levels of the partner demand/self-withdrawal (PD/SW) and self-demand/partner withdraw (SD/PW) patterns were associated with a diagnosis of depression in both male and female patients.

Table 4 of linear regression analysis shows that Partner demand/ self-withdraw communication pattern predict emotional distress among married individuals (hypothesis 3). Empirical studies show that couples with a depressed spouse display more partner demand, self-withdrawal, and mutually helpful communication deficits compared to couples without depression (Byrne et al., 2004). The frequency with which both partners engage in demand and withdrawal behaviors as well as avoidance and offensive conflict resolution techniques is also typically associated with higher degrees of depressive symptoms (Byrne et al., 2004; Papp et al., 2009, 2010). One communication style that is regularly observed in married persons who are experiencing marital discontent and emotional discomfort is a partner demand/self-withdraw pattern (Baucom et al., 2015).

The 4th hypothesis, Relationship dissatisfaction is a predictor of emotional distress among married individuals was also supported by the results revealed by table 5 i.e. linear regression analysis. There is strong evidence that decreased relationship satisfaction in married couples and non-marital couples is strongly correlated with a partner's or spouse's depressive symptoms (Heene et al., 2005; Kouros & Cummings, 2011; Whisman et al., 2004). According to several studies, marital discontent is a predictor of upcoming depressive symptoms (Beach & O'Leary, 1993). Previous research has also discovered that emotional suffering and relationship dissatisfaction are associated, with one influence being the married person's gender. Research shows that wives have higher levels of emotional pain when it comes to relationship dissatisfaction compared to husbands (Almeida & Kessler, 1998)

The current study has some limitations and suggestions. First limitation was that the sample of the study was married individuals and future researches may consider married couples. The data was collected from Islamabad only and future researches may study these variables from different cities of Pakistan. The population which was included in the study were not clinical and future researches may consider clinical population to study these variables. The sample size was small to generalize the results. Therefore, future researches may increase sample size to generalize the findings of the current study. The final sample consisted of 226 married individuals i.e. Only 78 females, compared to 148 males, so the groups are not equal which may affect the analysis. Future researches may take equal group of male and female

The present study has number of implications that can be applied on married individuals who are emotionally distressed and are also dissatisfied with their marriages. According to the results of the study, high levels of marital satisfaction are significantly related to positive communication patterns which shows the importance of positive communication patterns i.e. constructive communication pattern, spending time together, talking and supporting one another. Married people frequently steer unhealthy communication habits because they find it difficult to have healthy communication, especially when talking about critical concerns. Married persons perceive their participation in joint activities and time spent together as an investment made by one partner in the marriage. This investment is perceived as a type of confirmation that leads to better levels of marital pleasure.

Research on communication pattern relationship dissatisfaction and emotional distress in Pakistan can provide valuable insights into cultural nuances, helping to tailor interventions and support systems. Understanding these dynamics can contribute to improving relationship satisfaction, mental health awareness, and fostering healthier communication patterns within the specific cultural context of Pakistan. Additionally, research findings may inform mental health policies and interventions, promoting overall well-being in the country.

Conclusion
In summary, the research presents compelling evidence about the importance of communication styles, emotional distress, and dissatisfied partnerships among married individuals. Based on the study's findings, emotional distress in marriages is highly predicted negatively by constructive communication patterns but positively by relationship dissatisfaction, partner-demand/self-withdraw and self-demand/partner withdraw communication patterns. The bulk of marital problems are caused by the husband and wife's inadequate communication methods, as the study's findings reveal. Due to this, both parties go through emotional turmoil and eventually lose interest in their relationship. It is necessary for two people to comprehend one another. Matrimony, which brings about immense happiness, requires that partners read each other's body language and vocal cues.

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Research Article

Meta-Analysis of the NICHD Investigative Interview Protocol for Child Sexual Abuse Cases

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Abstract

Background. Forensic interviews are pivotal to the investigation of child sexual abuse cases. Following best practice, evidence-based guidelines when conducting such interviews is essential in obtaining a credible and reliable testimony. The investigative interview protocol developed by the National Institute for Child Health and Human Development (NICHD) incorporates these guidelines into a structured interview procedure. An integral part of the NICHD protocol is to promote open-ended, invitational interviewer prompts. The current research was conducted to observe the impact of the NICHD Protocol in encouraging invitational prompts and discouraging suggestive prompts when compared to non-protocol interviews.

Methods. A systematic review and meta-analysis on the impact of the NICHD protocol was conducted, including 11 studies selected following inclusion criteria. The inclusion criteria were determined through the PICO framework. The included literature were experimental studies comparing the NICHD protocol with other structured or unstructured interview methods in interviews conducted with children in suspected cases of child sexual abuse (CSA), with a focus on assessing the quality of investigation using interviewer prompts as a dependent measure. Electronic online databases and Registers/websites including PubMed, PsycINFO, PsycArticles, Web of Science, Wiley Online Library, Cochrane Library, Science Direct, Google Scholar, OSF, Dissertation Abstracts International, and ProQuest Dissertations and These were searched for both peer-reviewed articles and grey literature. The analysis used a random effect model that computed separate weighted mean of the effect sizes shown in independent studies for prompts namely: Directives, Option-posing, Suggestions, and Invitations.

Results. Results of the analysis indicated that overall, interviews with the NICHD protocol had less directives (g= -0.9106), option-posing (-0.9178) and suggestive prompts (g= -0.5516), and more invitational (g= 1.9859) prompts than non-protocol interviews.

Conclusion. These results corroborate with the findings of previous studies. However, these findings should be considered with caution due to the detection of high levels of heterogeneity.

Keywords. Eyewitness testimony, Investigative interviewing, Meta-analyses, Child sexual abuse, NICHD protocol, Interviewer prompt

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Introduction

Child sexual abuse (CSA) is a widespread public health issue that causes profound harm to victims, their families, and society (Hailes et al., 2019). Professionals that work with cases pertaining to sexual abuse of children are faced by several difficulties. For the majority of such investigations, there is a scarcity of physical evidence, and the nature of psychological symptoms is not always reliable to differentiate between non-abused and abused children (Kuehnle & Connell, 2012). These are some of the reasons that hamper the accurate detection of sexual abuse in children. Therefore, such hurdles place greater emphasis on the disclosure of the victims for both investigation and treatment purposes. Nevertheless, there are a plethora of variables that can impact the reliability of their reports such as high-stress levels (Chae et al., 2014), attention span (Goodman et al., 2017), and delayed recall (McElvaney, 2015). More particularly, certain social influences such as suggestive interviewing techniques can increase the children's vulnerability to reliably report the event (Otgaar et al., 2018). The understanding of investigators in regards to the validity and reliability of the testaments given by young victims, and the impact the conditions under which an interview is being carried out has on the victim's disclosure has received much attention in the last three decades (Baugerud & Johnson, 2017). The current literature emphasises a scientific approach, resulting in the creation of innovative, theoretically grounded methods. These methods aim to foster the establishment of rapport and support changes in disclosure strategies (Meissner et al., 2017), improve accurate and detailed memory recall (Fisher & Geiselman, 2017), and elevate the evaluation of deception in interview accounts (Vrij, 2018). Literature also recommends the usage of open-ended questions and discourage the usage of suggestive prompts (Lamb et al., 2008). One such structured investigative interview protocol has been developed by National Institute for Child Health and Human Development (NICHD) (Orbach et al., 2000). The NICHD protocol provides explicit guidelines regarding the techniques and prompts that the interviewers can use to obtain an expansive, suggestion-free account from the witnesses (Orbach et al., 2000). This meta-analysis was conducted to answer two questions. First, is the NICHD protocol more effective than other standard interviewing techniques in promoting the use of open-ended, invitational prompts? Second, is the NICHD protocol more effective than other standard interviewing techniques in reducing the use of leading and close-ended prompts (suggestions, option-posing prompts and directive prompts)?

Recommendations Regarding Interviewer Prompts

For forensic interviews that investigate child abuse, there is presently a clear consensus on the best practice guidelines. One of the main purposes of most established interview protocols is to limit prompting by the investigator so that the testimony received is in the interviewee's own words (Lamb et al., 2008). Such accounts are called free narratives and can best be produced by using questions that encourage elaborate responses such as broad, open-ended prompts (Wilson & Powell, 2012). Studies suggest accounts elicited from free recall memory are more credible than when it is provided (accurately or inaccurately) solely in response to the interviewer's prompts (Orbach & Pipe, 2011). This is further corroborated by a meta-analysis conducted by Lavoie et al. (2021) involving 23 studies showed that overall, open-ended questions were moderately effective on the children's descriptive disclosure of a sensitive experience.

Numerous protocols and guidance documents have been curated on these best practice guidelines such as the American Professional Society on the Abuse of Children (APSAC) guidelines (Saywitz et al., 2011), the Corner House Forensic Interview Protocol

(Anderson, 2013) MOGP (Home Office, 1992), Cognitive Interview (Fisher & Geiselman, 1992), the NICHD Protocol (Lamb et al., 2007), the Step-Wise Interview (Yuille et al., 1993), and the Scenario Model (Rispens & van der Sleen, 2017). While these documents have been developed based on similar principle, they vary in the degree to which the emphasise the application of these best practice guidelines (Smethurst, 2023). Literature indicates that even trained interviewers may fail to adhere to the scientifically backed recommendations. Investigators often provide very limited opportunities for children to answer open-ended questions and have a heavy dependency on asking directed or option-posing questions even very early on in the interview (Lamb, 2016). Therefore, research recommends that interviewers should receive proper training with supervision and adhere to investigative interview protocols that are structured or semi-structured in nature (Powell et al., 2010). Compared to other approaches, the NICHD protocol stands out as a highly structured guidance protocol, placing strong emphasis on strict adherence to its guidelines (Myklebust et al., 2023). Moreover, it has undergone extensive empirical research (Anderson et al., 2014).

The NICHD Protocol

A focal theme of the extensively used NICHD investigative interview protocol has been to facilitate the usage of open-ended questions by the investigator and building rapport between the interviewer and the interviewee (Benia et al., 2015). The NICHD protocol divides the forensic interview into multiple phases and provides elaborate guidelines for each phase. In the introductory phase, the investigators introduce themselves and explain to the child about the task at hand, what is expected of them, and the ground rules of the interview. The second phase is called the "Pre-substantive phase". This phase focuses on the rapport development between the interviewer and the interviewee and aims to provide a supportive and comfortable environment for the child. During this phase, the investigator asks the child to talk about an event unrelated to the one under investigation. Before transitioning to the final phase, the interviewer asks non-suggestive, open-ended questions so that the child can make an allegation or identify the incident under investigation, after which the interview moves toward the free recall phase. If this does not happen, the investigator then carefully proceeds to give more specific prompts until the incident is not identified by the child. In the final phase called "Substantive Phase", interviewer initially gives open-ended invitational prompts so that an in-depth narrative of the incident can be obtained in the child's own words. This may then be followed by "cued invitations" so that the investigator can obtain details about a specific part of the allegation made by the child. In cases where the investigator feels that the information is still incomplete, he/she may cautiously proceed to ask close-ended questions.

Literature indicates that interviewers trained to use the NICHD Protocol and adhere to its guidelines are more likely to use open-ended prompts as compared to those interviewers who do not follow this approach (e.g. Orbach et al., 2000; Yi et al., 2016). Moreover, interviewing child witnesses properly has great relevance in the judicial setting. A study conducted by Pipe et al. (2013) showed that the guilty verdict given to suspects was higher in cases where the interviewer adhered to the guidelines of the NICHD protocol as compared to the cases where untrained investigators conducted the interview. Therefore, good quality case evidence is often linked to good interviewing.

The NICHD Protocol is considered to be amongst the most extensively researched and empirically validated investigative interview protocols (Fernandes et al., 2024; Herman, 2009). Till date, three bodies of work that synthesise literature regarding the NICHD

44

protocol exist. Lamb et al. (2007) published a literature review detailing development of the protocol and evaluated its effectiveness to improve the quality of the investigation. Lamb et al. (2008) later published a book, updating the review and summarising both field and laboratory studies that investigated the protocols effectiveness. According to the authors, the NICHD protocol improved the quality of an investigation by encouraging free recall, and improving the questioning techniques and other strategies employed by the interviewer. However, to the best of this researcher's knowledge, limited information could be gathered regarding strategies they had employed to retrieve included studies. Additionally, a study conducted by Benia et al. (2015) has subjected the NICHD protocol to a systematic review and meta-analysis. The study contributed greatly to the field of forensic interviewing as, subjecting the aggregation of literature to a meta-analysis enables the researcher to yield conclusive results that are statistically backed regarding the effectiveness of any intervention. However, as noted by Benia et al. (2015) themselves, only five studies were available that met their inclusion criteria. Furthermore, at the time that this review was conducted, the researchers could identify only one study that directly compared the NICHD Protocol to other structured or semi-structured interview models. Additionally, the review also provided very limited qualitative or quantitative information regarding the quality assessment of the included studies.

Aim and Scope of Current Review

Since the last review conducted in 2015, there have been several research papers that have made direct comparisons of the NICHD Protocol against other protocols (see Erens et al., 2021; Otgaar et al., 2019; Price et al., 2016). Furthermore, current research has also expanded to new geographical and cultural territories which can have implications regarding its universal applicability and efficacy with victims of child abuse belonging to non-western cultural and ethnic backgrounds (see Sumampouw et al., 2019; Yi et al., 2016). Therefore, an expansion in the field of research for the use and effectiveness of NICHD protocol as well as the methodological gaps of previous reviews may justify a revision of the already present literature synthesis.

In light of the above identified gaps, the current research aims to expand the present literature by identifying all experimental researches evaluating the effectiveness of the NICHD Protocol in improving the quality of an interview by comparing the type and number of interviewer prompts/questions used in the NICHD protocol and non-protocol interviews for suspected cases of child sexual abuse. Interviewer prompting is considered a dependant measure of the quality of an investigative interview and it is assumed that the quality improves with greater use of invitational prompts and minimal use of option-posing, directives and suggestive prompts (Lamb et al., 2007). It also aims at estimating the weighted mean of the effect sizes shown in independent studies in order to summarise the results regarding the effectiveness of NICHD protocol for interviewer prompting. Additionally, the current review aims to administer Risk for Bias assessment to evaluate the quality and methodological rigorousness of the included studies.

Method

Search Strategy

A systematic search was conducted to locate the peer-reviewed and non-peer-reviewed articles of interest. Search on various electronic online databases (5) and Registers/websites (3) which included PubMed, PsycINFO, PsycArticles, Web of Science, Wiley Online Library, Cochrane Library, Science Direct, and Google Scholar were performed in late 2021 to the start of 2022. For grey literature, additional databases (3) including OSF, Dissertation

Abstracts International, and ProQuest Dissertations and Theses were searched. The databases were searched using a combination of keywords pertaining to NICHD Investigative Interview Protocol, Child sexual abuse and Interviewer prompts, in line with the study's PICO framework and previous studies conducted in this field. We employed database-specific subject headings for each concept, combining related terms within each concept using the Boolean operator "OR." Subsequently, sets of terms for different concepts outlined above were combined using the Boolean operator "AND." Across all databases, text word searches incorporated adjacency operators (e.g. "NEAR/3") and truncation symbols (e.g. "*") as needed to capture variations in term endings and spellings. No restrictions were applied at the time of search. We also examined the reference lists of retrieved articles and previous reviews for additional references.

Inclusion and Exclusion criteria

The inclusion and exclusion of researches was determined through the PICO framework, which was based on the criteria previously outlined by Benia et al. (2015), with the exception that we also included non-peer-reviewed literature. After conducting the quality assessment, we included studies that (1) were either published in peer-reviewed journal, grey literature, dissertations/thesis or published abstract for which full articles can be retrieved; (2) compared intervention with at least one comparison group that was interviewed using either a standard or any other approach which may include experimental (RCT), quasi-experimental, or pre-post-test design; (3) had interviews conducted with children in suspected cases of child sexual abuse (4) reported interviewer prompt as a dependant measure for the quality of investigation.

The included studies in this meta-analysis must have defined the prompts as follows:

- Invitation: These are open ended statements, questions or utterances that encourage a free recall response from the interviewee. Such prompts may use general cues or cues based on any detail that the child has previously disclosed.
- Directives: A "cued-recall" prompt which directs the interviewee's attention towards information that they have already disclosed and requests further, specific details usually using wh-questions (who, what, when, where, how).
- Option-posing: prompt which directs the interviewee's attention towards information that they have not previously disclosed, requesting the interviewee to approve, disprove, or select an option given by the interviewer.
- Suggestive: The interviewer presents new information during the interview and suggests what answer is expected from the interviewee or give statements or ask questions which involve information that has not been disclosed by the interviewee.

Studies that had participants with the diagnosis of moderate to severe developmental delays or any other psychological disorder based on the diagnostic criteria of DSM-5 or ICD 10 were not included in our study. We also did not include articles focusing on Revised NICHD Investigative Interview Protocol as they are primarily focused on rapport building than interviewer questioning.

Data Screening and Extraction

Studies retrieved databases underwent title and abstract screening via Rayyan software to determine relevance, following removal of duplicates. Two independent screeners used a screening form, and any disagreements were resolved through discussion. Irrelevant articles were excluded based on title and abstract; those

not meeting inclusion criteria were also excluded. If any uncertainty arose, full-text articles were retrieved for further assessment. Percentage agreement and Cohen's Kappa were used to measure inter-rater reliability. The percentage agreement was found to be at 85.8%. Additionally, the value of Cohen's kappa calculated at this stage was .61, showing substantial agreement between the two coders, taking into account any possible agreement by chance between the two raters (Mchugh, 2012) and is considered to be within acceptable range (e.g., Pears & Sutton, 2021).

The author developed a 52 item coding sheet that helped identify important information pertaining to participant characteristics (interviewee age, gender, nature of reported abuse, interviewer training duration and delivery agent), study design (type of experiment, and sample sizes in experimental and comparison group) and outcome measure (means and standard deviations of all categories of interviewer prompts for both experimental and comparison group). The full text articles were initially coded for their identifying information and eligibility criteria after which only the eligible articles were coded for study design, participant, intervention group and outcome characteristics.
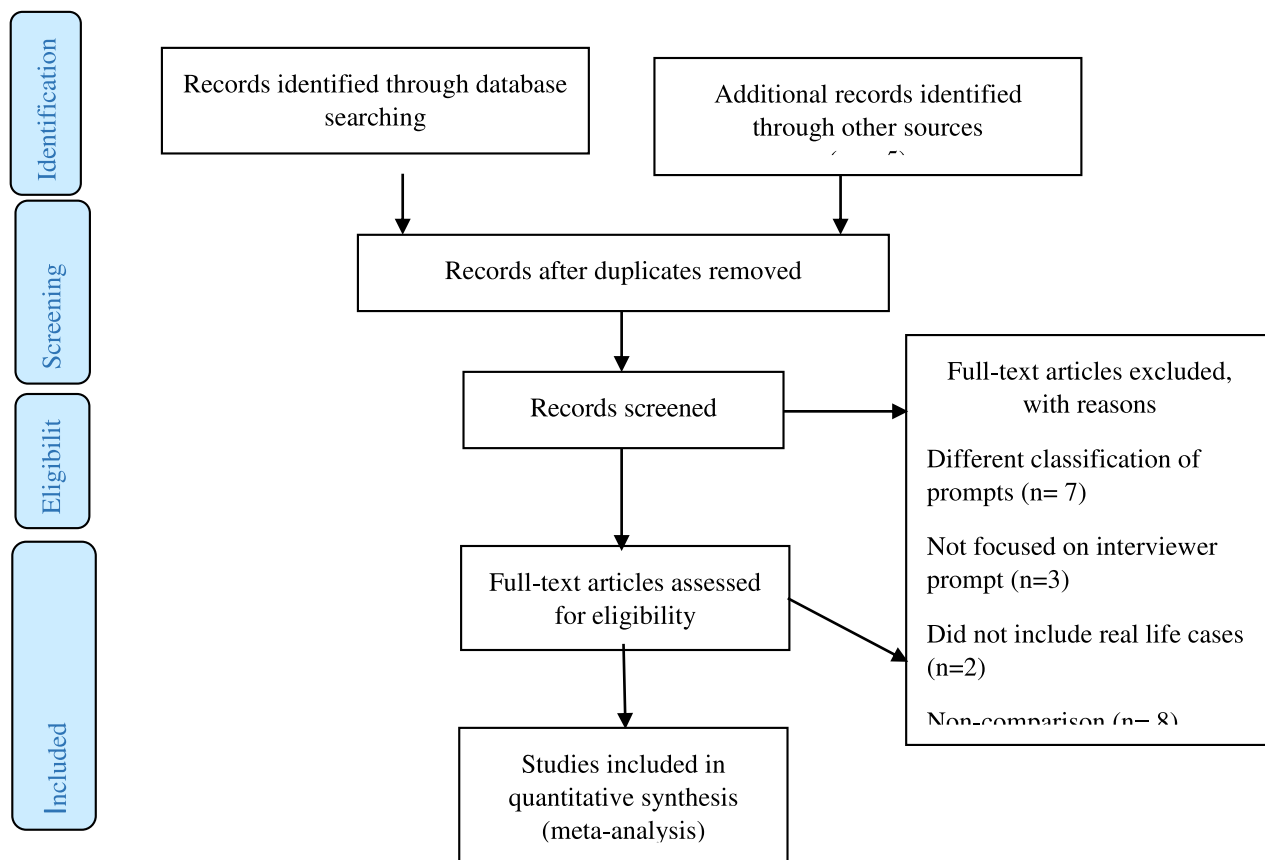

Table 1. *PRISMA Flow diagram for included studies*

Assessment of Risk of Bias

In order to assess the quality and methodological rigorousness of the included individual studies, Risk of Bias was calculated with the help of a modified version of ROBINS-1. It is considered a well-established tool that is both valid and reliable in determining the quality of non-randomised studies (Thode et al., 2021). In comparison to its contemporaries, ROBINS-1 uses an absolute scale approach (Sterne et al., 2016) meaning that rather than assessing whether bias favours a specific outcome (positive or negative), it concentrates on quantifying the overall magnitude or extent of bias without specifying its direction. It also places a study on a common, comparable metric as that of an RCT (Schünemann et al., 2019), enabling in a more consistent and reliable quality assessment approach across different research designs. This was used as the eligible studies selected after the full-text screening process were identified to be non-RCTs. We added an additional domain to titled "other sources of bias" relating to possible biases associated with article funding source, allegiance of the author and authors' possible conflict of interests. Studies were coded as either "low", "moderate", "high" or "unclear" for biases risk on each domain based on the criteria outlined by ROBINS-I tool.

Data Analysis Strategy

The Meta-Analysis was conducted using the random effects model as it accounts the random, study level differences of the included studies pertaining to their research designs, settings, sample size, data collection methodologies etc. This model also aids in a more balanced distribution of weights assigned to each study in order to ensure that the study's significance is not overly impacted by its sample size (Bornstein et al., 2010). Using this model is also consistent with past literature that suggest that variability in researches looking at child maltreatment and exposure may stem from variances in methodological approaches and operational definitions commonly employed in this research domain (Azzopardi et al., 2019).

Statistical analyses in were conducted in R using the Meta-Analysis packages "metafor", "meta", and "dmetar". This included summary estimates of effect sizes, assessment of heterogeneity, sensitivity analysis, and publication bias analysis. This study provides summary estimates of effect sizes using Hedge's g (using means and standard deviations; see Table 1) to quantify the difference between the intervention and comparison group in the included studies as it is preferred for studies with small sample size. Effect sizes were calculated at 95% confidence interval. Forest plots were also constructed to provide a visual summary and display study level effect sizes.

Additionally, variability between the outcome of the included studies, heterogeneity (variability), was computed through: Q, I^2 and Tau statistics. Assessing heterogeneity helps us gauge how diverse the data set of the included studies is and hence, how reliable the pooled summary measure might be. Q statistics assesses for the presence of heterogeneity, I^2 quantifies the variation because of heterogeneity and tau statistics provides information regarding the variability contributed by the true effect sizes of research, not just due to chance. Higher values across these statistics indicate higher levels of heterogeneity. Guidelines provided by Higgins and Green (2011) were used to report I^2 statistics and are as follows: 0%= variability because of chance, 25%=low variability, 50%=moderate variability, and 75%=high variability. In case heterogeneity was detected (p < .05), analysis was performed twice, with and without outlying studies so that no relevant data was excluded from the analysis. This helped reduce the chances of introducing any additional bias. Sensitivity analyses (procedures to assess the impact of independent variable on dependent variables by removing studies from the meta-analysis in a stepwise approach) was

used to identify such studies (e.g., Tawfik et al., 2019).

In addition to this, an assessment of publication bias was carried out through the help of funnel plots, Egger's Test and P-curve (e.g., Horry et al., 2021). These assessments operate on the assumption that bias may arise due to the tendency to publish only statistically significant results. The funnel plot is a visual tool in which the studies are represented by dots across and if these dots assemble in an inverted funnel shape, it indicates absence of publication bias (Peters et al., 2008). Egger's test is a statistical method that assess the presence of publication bias by examining the relationship between the effect sizes and their standard errors. If the p value is less than $p < 0.05$, it suggests the presence of publication bias (Egger et al., 1997). P-curve analysis is another visual and statistical tool that looks at the distribution of p-values of the included studies. If p-values tend to concentrate around 0.05 (the common cut-off for statistical significance), it could suggest the presence of publication bias or selective reporting (Simonsohn et al., 2014a).

Protocol Registration

The protocol has been registered on Open Science Framework and can be accessed through the DOI: 10.17605/OSF.IO/YN5W6.

Results

Study Characteristics

An overview of the characteristics of included studies indicated that 66.3% of the participants (interviewees) were females, whereas males constituted 29.4% of the participants and 4.3% did not specify. The overall age range of the sample ranged between 3-17 years with the mean age being 9.23 years (ranging from 8.4-9.8 years). Fondling was the most reported form of abuse at 40.6%, followed by reports of penetration a t 15% and indecent exposure at 3.3 % respectively. The interviews in the included studies were conducted by either police officers (64.46%) or social workers (43%). Additionally, variation in the reported duration of the training conducted with the interviewers ranged from 2 to 5 days. In regard to comparison/control group interview techniques, majority of the studies used a standard interviewing technique. These were generally defined as a typical method of investigation that the interviewers would use in their everyday practice that were not based on any clearly identifiable guidelines or structured protocols. Four of the included studies compared the NICHD protocol to a semi-structured or structured approach such as Memorandum of Good Practices (Lamb et al., 2009; Price et al.,2016), Tree House Method (Erens et al., 2021) and Dutch Scenario Model (Otgaar et al.,2019).

Risk of Bias

ROBINS-1 tool with an additional factor of "other sources" of bias was used to test for the methodological rigorousness of the included studies in our meta-analysis, showed low risk of bias. Any study without any major flaw which scored "low" in at least six domains was considered to have overall low levels of risk of bias.

Meta Analyses of Interviewer Utterances

Our study included eleven data sets from eleven studies, for interviewers prompts as dependant measure of interviewer quality were coded for both experimental and comparison groups. Since four prompt types are targeted in our research, we divided our systematic review and meta-analysis accordingly.

Table 2

Descriptive statistics for prompts included in meta-analyses

Study	Sample size (n)		Invitation (M, SD)		Suggestions (M, SD)		Directive (M, SD)		Option posing (M, SD)	
	NICHD	Control	NICHD	Control	NICHD	Control	NICHD	Control	NICHD	Control
Cyr & Lamb., 2009	83	83	20.7 (12.40)	6.60 (5.60)	2.90 (3.20)	5.40 (3.60)	13.20 (11.90)	27 (17.10)	9.60 (9.30)	23.10 (17.60)
Cyr et al., 2012	45	45	0.37 (0.17)	0.08 (0.047)	0.05 (0.04)	0.07 (0.05)	0.27 (0.11)	0.37 (0.10)	0.20 (0.10)	0.32 (0.10)
Dion & Cyr, 2008	17	17	19.50 (7.20)	6.20 (4.50)	2.50 (1.40)	6.20 (3.70)	12.60 (7.60)	21.10 (15.30)	9.30 (6)	14.10 (9.70)
Erens et al., 2021	38	30	35 (17)	11 (12)	6 (9)	25 (33)	57 (26)	57 (22)	113 (74)	118 (57)
Orbach et al., 2000	55	50	14.53 (9.90)	4.30 (3.22)	4.62 (5.35)	9.10 (7.59)	26.24 (22.85)	44.96 (29.50)	9.78 (8.06)	28.60 (18.15)
Lamb et al., 2008	50	50	22.72 (11.31)	6.40 (4.27)	3.58 (3.78)	8.24 (7.63)	21.38 (15.45)	41.88 (27.12)	14.44 (12.85)	28 (22.14)
Otgaar et al., 2019	50	49	0.34 (0.16)	0.06 (0.04)	0.06 (0.06)	0.02 (0.02)	0.43 (0.12)	0.76 (0.11)	0.18 (0.08)	0.16 (0.10)
Price et al., 2016	48	46	0.56 (0.19)	0.01 (0.02)	0.03 (0.03)	0.11 (0.09)	0.16 (0.08)	0.41 (0.15)	0.13 (0.09)	0.34 (0.13)
Sternberg et al., 2001	50	50	15 (7.44)	5.56 (3.57)	3.12 (3.27)	6.64 (4.13)	17.54 (11.07)	26.36 (14.46)	12.30 (6.94)	21.56 (12.29)
Sumampouw et al., 2019	50	24	0.34 (0.16)	0.04 (0.05)	0.06 (0.06)	0.03 (0.05)	0.43 (0.12)	0.44 (0.13)	0.18 (0.08)	0.49 (0.14)
Yi et al., 2016	36	36	0.11 (0.11)	0.04 (0.05)	0.19 (0.1)	0.25 (0.09)	0.37 (0.08)	0.39 (0.13)	0.35 (0.26)	0.31 (0.12)

Invitational Prompts

All eleven studies included in our review reported that interviews conducted using the NICHD protocol contained more open-ended invitational prompts as compared to non-protocol interviews. Furthermore, these results in all of the included studies were statistically significant. Six studies examined and reported age-related differences regarding the interviewer prompts (Cyr & Lamb, 2009; Lamb et al., 2008; Orbach et al., 2000; Price et al., 2016; Sternberg et al., 2001) and details relevant to experienced abuse (Cyr & Lamb, 2009; Erens et al., 2021; Lamb et al., 2008; Orbach et al., 2000; Price et al., 2016). Overall, these studies reported that the majority of abuse-relevant details were elicited in response to invitational prompts. Moreover, results of these studies indicated that more invitations were given by the interviewers in the NICHD protocol group regardless of the participant's age as compared to non-protocol group. Also, older children reported more details relevant to the case being investigated as compared to younger children (the cut-off age being 6-7 years for this group) in response to invitational prompts. Results of the meta-analysis showed a combined effect of g= 1.9859 (95% CI=1.47; 2.5), p<.0001. This indicates that there is a large difference between the number of open-ended prompts asked by interviewers in the NICHD protocol and the comparison group, and the protocol group contained significantly more invitational prompts. The effect sizes amongst the studies showed significant heterogeneity (tau^2 =0.5172, p<0.0001; I^2= 84.5, 95% CI= 73.9, 90.8). Due to high heterogeneity, sensitivity analysis was conducted in which study carried out by Price et al. (2016) was identified as an outlier. The removal of this outlier showed a slight reduction in g (Hedge's g= 1.7815; CI=1.4607, 2.1023; p < 0.0001), however, the difference between the two groups was still significantly large. Moreover, this reduced the level of heterogeneity (tau^2 = 0.1446, p= 0.0016) so that 66.2% of heterogeneity could be contributed to between study differences. Egger's test and P-curve analysis did not indicate presence of publication bias.
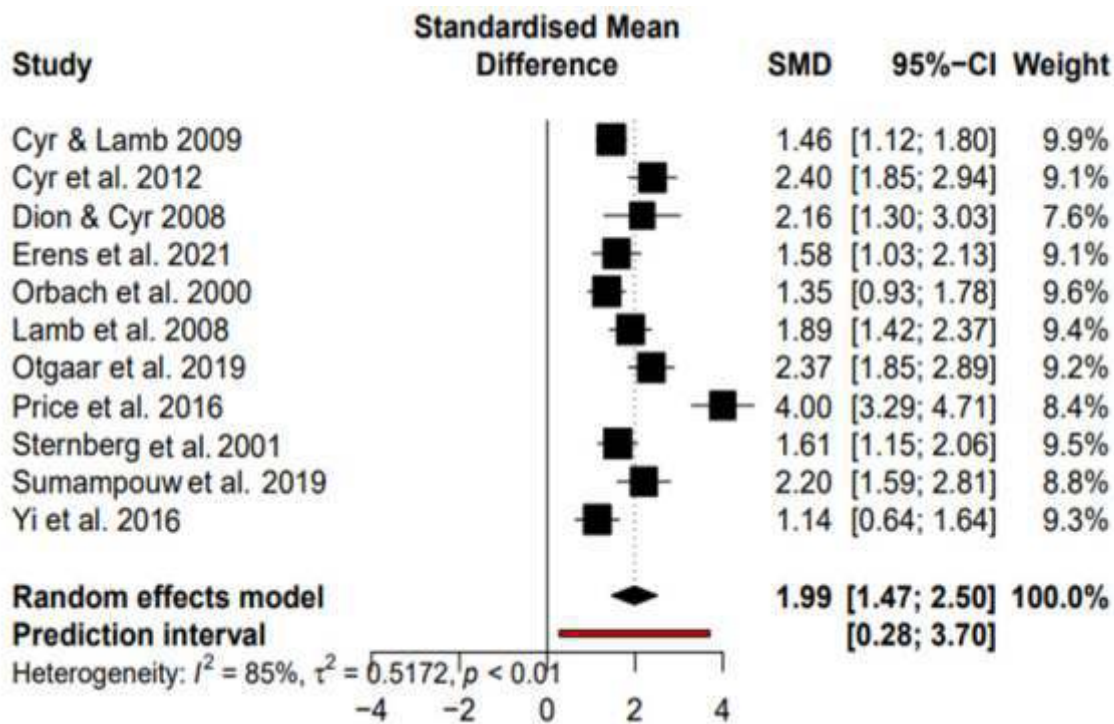
Figure 1. *Meta-Analysis of Invitations*

Suggestive Prompts

All eleven studies reported that the difference between protocol and non-protocol interviews for suggestive prompts were statistically significant. Nine studies reported that investigators in the NICHD protocol group asked fewer suggestive questions as compared to non-protocol group. On the other hand, studies conducted by Otgaar et al. (2019) and Sumampouw et al. (2019) did not support these results. The outcome of meta-analysis indicated the presence of a moderate effect size as indicated by Hedge's g= -0.5516 (95% CI=-0.99; -0.103), p= 0.0207. This indicates that there is moderate difference between the number of suggestive prompts asked by interviewers in the NICHD protocol and the comparison group, and the non-protocol group contained significantly more suggestive prompts. Results showed significant heterogeneity (tau^2=0.3913, p<0.0001; I^2= 88.0, 95% CI= 80.6; 92.6). Sensitivity analysis indicated results from studies conducted by Otgaar et al. (2019) and Sumampouw et al. (2019) as outliers. The removal of these outliers showed an increase in g (Hedge's g=-0.8075, 95%CI=-0.9818; -0.6332, p< 0.0001). This indicates that, in exception of the two excluded studies, the overall results indicate that there are significantly more suggestive prompts in non-protocol interviews and that the difference between the two group is large. This reduced heterogeneity (tau^2 = 0.0287, 95%CI=0.0; 0.161) so that 0% of heterogeneity (I^2= 0.0, 95%CI= 0.0; 64.8) could be contributed to between study differences. Funnel plot and Egger's test indicated absence of asymmetry, and P-curve analysis did not indicate presence of publication bias.
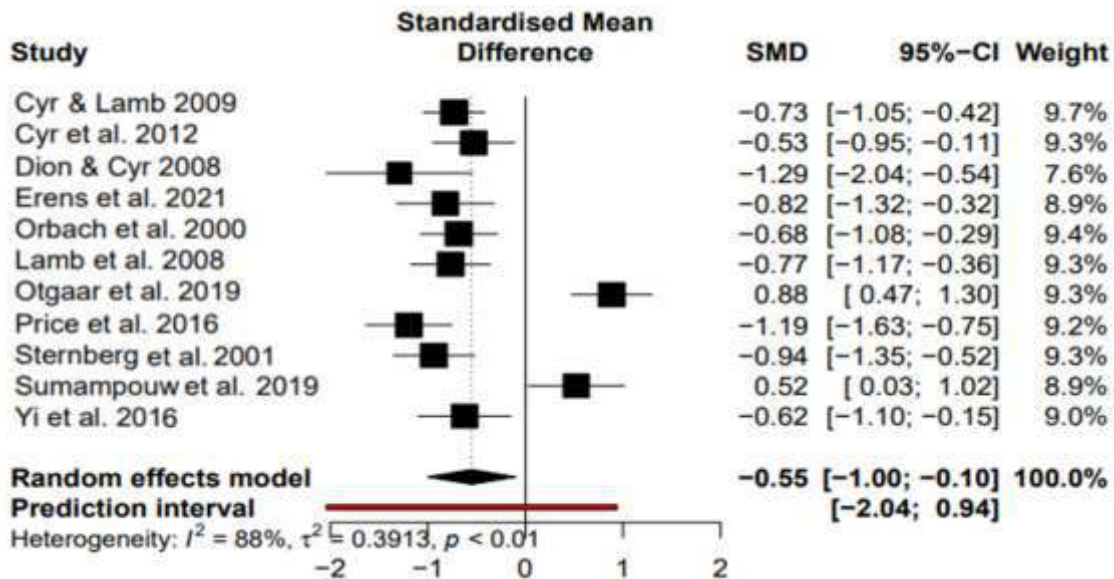
Figure 2. *Meta-Analysis of Suggestive*

Directive Prompts

Eight of the included studies reported that non-protocol interviews contained more directive questions as compared to protocol interviews. All of these studies, except for one conducted by Dion and Cyr (2008) reported the results as being statistically significant. On the other hand, three studies conducted by Erens et al. (2021), Sumampouw et al. (2019) and Yi et al. (2016) reported very little difference or non-treatment effect between their participant groups. The combined effect size for Directives was g= -0.9106 (95% CI= -1.48,-0.34), p=.0051. This

indicates that there is a large difference between the number of directive prompts asked by interviewers in the NICHD protocol and the comparison group, and the non-protocol group contained significantly more directive prompts. The effect sizes amongst the studies showed significant heterogeneity (tau^2=0.657, p<0.01; I^2= 90.2 ,95% CI= 84.5, 93.8). Results from Otgaar et al. (2019) and Price et al. (2016) were identified as outliers through sensitivity analysis. The removal of these outliers showed a decrease in g (Hedge's g= -0.58; 95% CI= -0.88, -0.29; P= 0.0017). This reduction indicates that the difference between the groups was influenced by outliers and post their removal, we observe a decrease in the difference from large to moderate levels, albeit it still being statistically significant. Moreover, this reduced the level of heterogeneity (tau^2 = 0.1044, p=0.0034). Egger's test indicated lack of asymmetry and P-curve analysis did not indicate presence of publication bias.
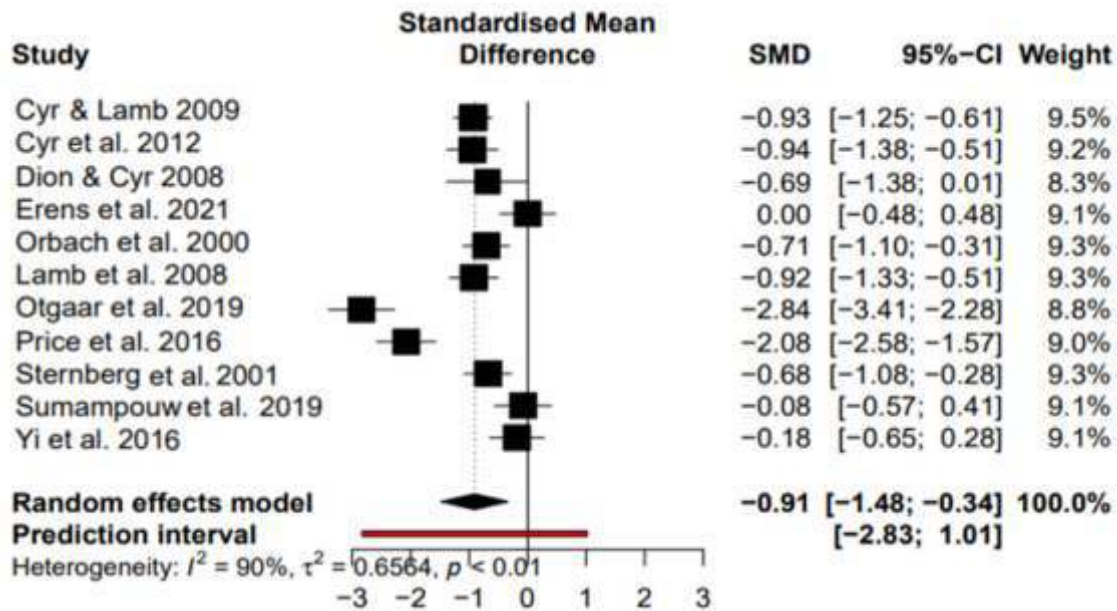
Figure 3. *Meta-Analysis of Directives*

Option Posing Prompts

Eight of the included studies reported that non-protocol interviews contained more option- posing questions as compared to protocol interviews. All of these studies, except for one conducted by Dion and Cyr (2008) reported statistically significant results. The greatest difference can be observed in the study conducted by Sumampouw et al. (2019). On the other hand, three studies conducted by Erens et al. (2021), Otgaar et al. (2019) and Yi et al. (2016) reported very little difference or non-treatment effect between their experimental and comparison groups. The mean of effect sizes was g= -0.9178 (95% CI:-1.54; -0.29, p= 0.0081. This indicates that there is a large difference between the number of option-posing prompts asked by interviewers in the NICHD protocol and the comparison group, and the comparison group contained significantly more option-posing prompts. High variability amongst studies was indicated (tau^2=0.7937, p<0.0001, I^2= 91.6. 95%CI= 87.0; 94.6). Results from Otgaar et al. (2019), Sumampouw et al. (2019), and Yi et al. (2016) were identified as outliers. The removal of these outliers showed a slight increase in g (Hedge's g=-0.9687 ; CI=-1.41, -0.53; p= 0.0013), still indicating large effect. This indicates that the outliers did not heavily influence the difference between

53

protocol and non-protocol interviews for option-posing prompts. Moreover, this led to a reduction in the level of heterogeneity (tau²= 0.2298, 95%CI= 0.06, 1.13) so that 78.8% of heterogeneity could be contributed to between study differences. Egger's test and P-curve analysis did not indicate presence of publication bias.
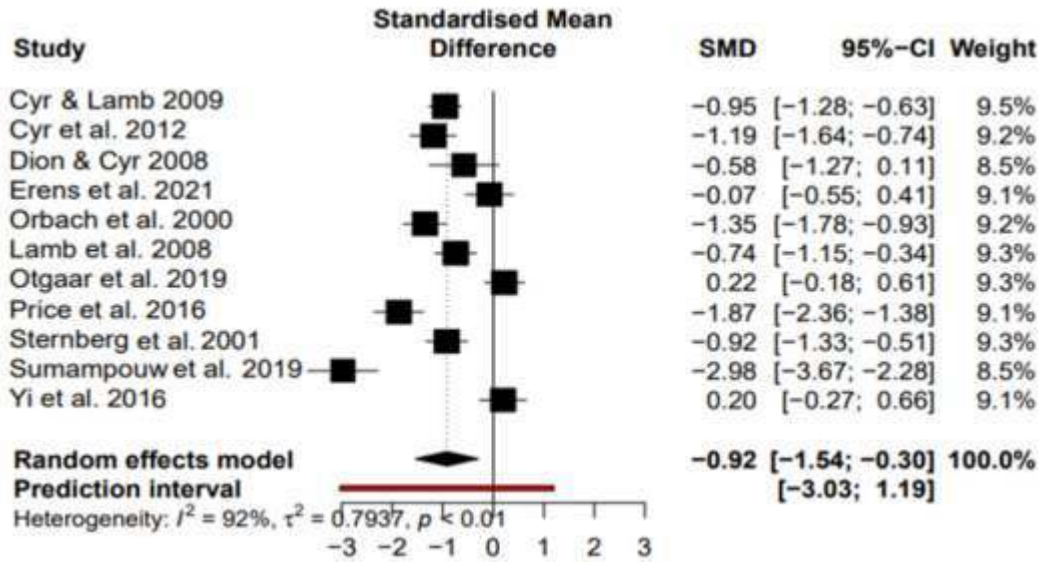

Figure 4. *Meta-Analysis of Option Posing*

Discussion

The purpose of this research was to synthesise and amalgamate the effect sizes regarding the impact of the NICHD protocol in comparison to other interviewing techniques in promoting the usage of open ended questions and reducing the usage of close-ended questions. This meta-analyses showed that interviewers who used the NICHD protocol asked more invitational/open ended questions and less directive, option-posing and suggestive questions in comparison to non-protocol interviews. However, the effect sizes driven from the results of each included individual study, for each prompt type show large effects and corroborates with the trends indicated by combined effect sizes.

For suggestive prompts, two out of eleven studies (Otgaar et al., 2019; Sumampouw et al., 2019) indicate that protocol interviews yield more suggestive prompts as compared to non-protocol interviews. These results are not supported by previous literature. Upon further inspection to understand this heterogeneity, the following points were identified. Otgaar et al. (2019)

proposed that this disparity may be due to the "philosophical underpinnings" of the comparison protocol (The Scenario model), encouraging greater use of directive prompts in comparison to other kinds of prompts (including suggestive line of questioning). Additionally, the Scenario protocol in also built around "best practice guidelines" that discourage the use of suggestive questioning. Sumampouw et al. (2019) posits that the standard practices of Indonesian police officers place a heavier reliance on using directive and option-posing questions to gain disclosure. This may limit the opportunity of asking suggestive questions. The two authors suggest that, while the proportionally low number of suggestive prompts in the comparison groups is a promising feature of those techniques, it cannot be considered as an indicator of them being good quality practices. This is because they place heavier reliance on directive and option-posing prompts, both of which are not in line with best practice guidelines

Overall, our results corroborate with the findings of previous reviews conducted by Benia

54

et al. (2015) and Lamb et al. (2007). These studies report on NICHD protocol's effectiveness in using questioning techniques that are in line with the well-accepted, best practice guidelines in the field of forensic interviewing. This is an important finding as, in addition to other factors, previous literature has established a strong relationship between the interviewers asking open-ended question and its facilitation with children reporting detailed, accurate descriptions of sensitive experiences (Lavoie et al., 2021). More closed questions reduce the likelihood of obtaining elaborate accounts (Erens et al., 2021). Similar results have often been replicated in laboratory settings, placing importance of obtaining "free recall narratives" elicited by invitational prompts (e.g., Goodman et al., 1991; Hutcheson et al., 1995). Additionally, prioritizing open-ended questioning is also linked with increase in supportive comments given to the child witness; thus improving rapport, encouraging the child to be more cooperative and increasing chances of accurate disclosure (Hershkowitz et al., 2006). As a result, the relative quantity of each type of question and prompt used can be an indicator to assess the overall quality of forensic interviews investigating child abuse. Therefore, based on our results we can conclude with some certainty that the NICHD protocol produces better quality investigative interviews as compared to other standardized and non-standardized protocols.

The current study was successful in bridging certain literature gaps. Firstly, the review synthesized the results of the available literature by subjecting them to statistical analysis, which was done in only one more research conducted by Benia et al. (2015). Therefore, this study provides corroboration to the present consensus regarding the impact of the NICHD protocol. Secondly, while the total number of studies may still be considered low evidence base, this meta-analysis included 6 additional studies in comparison to the previous meta-analysis. Furthermore, these additional articles provided diversity in the data pool in terms of geographical locations in which the studies were conducted (Erens et al., 2021; Sumampouw et al., 2019; Yi et al., 2016) and comparison interview protocols (Erens et al., 2021; Lamb et al., 2008; Otgaar et al., 2019; Price et al., 2016). An important finding was that invitational prompts were unanimously greater in number in all protocol interviews as compared to non-protocol regardless of geographical or comparison protocol. This diversity, particularly in the context of comparison interview protocols does to an extent fill the gap identified in the previous meta-analytical review. Lastly, the current review assessed the quality of the evidence included by conducting risk of bias along with publication bias assessment. This has helped us establish that the results of this meta- analysis may need to be considered with caution as several studies indicated possible risk of bias in various fields, particularly in the area related to "other source of bias" due to the involvement of the developers of the protocol in a given study. Additionally, conducting the publication bias analysis, particularly p-curve analysis, was useful as it showed p-hacking was not evident in evidence base. negating the likelihood of selective reporting in published literature (Gadbury & Allison, 2012).

Limitations

While attempts were made to ensure the rigorousness of this review, certain limitations in the current review are present. The major limitation of this study is that we found substantial heterogeneity within outcome variables even in post-outlier removal results except for suggestive prompts. This poses challenges for the interpretation of our results. Summary effect sizes may not be entirely reliable as significant heterogeneity implies that the NICHD protocol may not be effective in a consistent manner across its application in various situations. This may impact the results of publication bias analysis, particularly of p-curve analysis as heterogeneity leads to the overestimation of true effect sizes (Van Aert et al., 2016). Moreover, due to the inclusion of small number of studies that met our

inclusion criteria, a large evidence base could not be generated to gather extensive information regarding the effectiveness of the NICHD protocol in facilitating the use of prompts in accordance with the best practice guidelines. While several other article that studied the NICHD protocol were identified, they did not focus on evaluating the protocol in comparison to a control group but focused on evaluating certain components of testimonies given by children.

Implications and Future Directions

The results of this review have implications for policymakers, child protective services, social services, police departments, and forensic and clinical psychologists amongst other fields that are involved in the investigation of child abuse cases. It is important to note evidence (e.g. Lavoie et al., 2021) supports that the use of open ended questions positively relates to the disclosure of sensitive information by child witnesses. However, in regards to future researches, there are certain limitations that should be addressed. Moderator analysis should be conducted to identify possible factors that may impact the consistency of the application of the NICHD interview protocol in improving quality of investigation. It is also important to study the effectiveness of invitational prompts for different victim population be that pertaining age (pre-school children who may not have developed conversational skills or may have limited vocabulary to answer open ended questions), personality characteristics (e.g. children who are reluctant to trust and open up), and geographical region (e.g. how children from different culture interact with a person of authority) etc. In expansion of this, it is important to study how invitational questions can be tweaked and what flexibility protocols such as that established by the NICHD allow for such tweaks so that the practices can be best suited to the witness in question.

In regards to Pakistan, to the best of our knowledge, there is presently no evidence backed structured guidelines/protocol that has been implemented by policy makers at national level

regarding forensic investigation child abuse cases (Malik, 2012). Moreover, there is a scarcity in indigenous literature that can potentially encourage and guide such decision making. Considering child abuse is a persistent and rising concern in Pakistan (Mehnaz, 2018), it is important that the gap pertaining to the areas of detection, intervention and investigation of child abuse be catered to. Our results indicate the NICHD protocol's effective in improving interview quality is also generalizable to non-western, Asian countries and hence, can possibly be adapted within the context of Pakistan.

Declarations

Data sharing. The article is based on already published work, so data sharing is not applicable for this article. However, extracted data is provided in Table 2 of the article.

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Human and animal rights. This article does not include data collection by any of the authors. However, ethical review was done by the departmental ethical committee.

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Psychological Determinants of Volunteerism in Context of Theory of Planned Behavior

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Abstract

Background. The present study was aimed to investigate the relationship among helping attitude, subjective norms of helping behavior, community related efficacy, and volunteerism among volunteers. Moreover, it also focused to ascertain the role of demographics (gender, education, duration of volunteering, monthly family income) across all study variables.

Method. Measures of Helping Attitude Scale (Nickell, 1998), Subjective Norms of Helping Behavior Scale (Khattak, 2019), Community Related Efficacy Scale (Reeb et al., 1998), and Bales Volunteerism-Activism Scale (Bales, 1996), were used to assess the study variables. The sample consist of 350 volunteers including 134 men and 216 women.

Results. Results showed that helping attitude, subjective norms of helping behavior, and community related efficacy positively predicted volunteerism. Findings revealed that female volunteers were high on helping attitude, and subjective norms of helping behavior and low on volunteerism as compared to male volunteers. Moreover, significant differences were observed on education, monthly family income, type of volunteering and duration of volunteering in relation to study variables.

Implications. Implications of the study involve the significance of volunteerism as a component of pro-social behavior, drawing the attention of both academics and professionals. Limitations and suggestions for future researches had also been discussed.

Keywords: Helping attitude, subjective norms, community related efficacy, volunteerism, theory of planned behavior.

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Introduction

The significance of citizen cooperation, collaboration, and solidarity is steadily increasing. A growing number of individuals experience social ostracism, resulting in potential disruptions like unemployment, homelessness, or complete marginalization. Each year, millions of people globally dedicate a substantial portion of their time and energy to volunteer work. Individuals from diverse backgrounds engage in volunteer activities for various causes, including the elimination of poverty, the promotion of basic health and education, the provision of essential daily life needs, the management of crises, and the opposition to violent and socially oppressive conflicts (Bauer et al., 2020).

Numerous national and international non-governmental organizations, along with other civil society groups and various social and political movements, are established on the principles of volunteerism (Westlake et al., 2019). The Theory of Planned Behavior (Ajzen, 1991). posits that an individual's intention to volunteer is influenced by three key factors. According to this particular theory, the determinants that directly affect one's inclination to partake in a health behavior involve the individual's attitudes toward the behavior, their perception of subjective group norms linked to the behavior, and the level of control the individual believes they possess over the behavior. Previous research has utilized the TPB to elucidate older adults' participation in charitable programs(Green et al., 2016) and older adults' involvement in charitable programs (Kashif et al., 2015) and predict various social behaviors among young people, including healthy eating behaviors (Hyde & Knowles, 2013). In Pakistan, there exists a robust tradition of altruism, and the country's predominant religion actively encourages this practice. Numerous individuals dedicate their time to assisting the underprivileged in diverse ways, driven by their religious convictions (Laible et al., 2021). In religious communities, volunteering is often esteemed more than financial contributions, possibly because it enables individuals to vividly showcase their commitment to religious principles (Frost & Edgell, 2022). Previous literature emphasized the necessity of investigating volunteerism within the framework of a theoretical model. Consequently, the current study adopts the theory of planned behavior as its foundational theoretical framework. While numerous studies have delved into helping behaviors and the concept of volunteerism among the general population, limited attention has been directed towards individuals who engage in volunteerism willingly and strategically.

The present study puts forth several factors that are hypothesized to influence volunteerism. Notably, factors such as the attitude towards helping, subjective norms related to helping behavior, and community-related efficacy have been extensively regarded as key predictors of volunteerism (Chetty & Bhagwan, 2021). A helping attitude is a predisposition that motivates individuals to enhance the well-being of others, thus playing a role in fostering volunteerism (Gukiina & Lamunu, 2021). When individuals witness another person's suffering, they naturally experience significant emotional reactions, which serve as crucial motivators for assisting others in times of need. Volunteers must exhibit confidence in carrying out their responsibilities; thus, perceived control can be depicted as the individual's sense of command over their behavior within their environment (Hagger et al., 2022). The detailed description of the variables is given as follows:

Helping Attitude

Altruistic orientations have a crucial component known as helping attitudes, which is independent of human, monetary, or social resources that could deteriorate with age (Noyens et al., 2019). Helping attitude speaks of concerns or compassion that is directed toward the well-being of others and driven by a desire for deep human connection (Berry et al., 2018). Another construct that has been taken up in the present study is subjective norms of helping behavior which is also acting as a predictor; the detailed explanation of the variable is as follows.

Subjective Norms of Helping Behavior

Subjective norm is the person's assessment of whether significant individuals see the behavior favorably or unfavorably, and it serves as a proxy for a general assessment (Eidhof & de Ruyter, 2022). Helping behavior is also influenced by other-concern. People are more likely to assist persons they like and care about, identify with, and with whom they have favorable emotions. Therefore, everything that can be done to strengthen relationships with such people will probably result in more people being helped (Noyens et al., 2019). Community related efficacy is another predictor variable which may serve to facilitate volunteering behavior.

Community Related Efficacy

The concept of community-related efficacy captures the individual's degree of confidence in their ability to make positive impact to the community through their service efforts (Huang et al., 2020). General self-efficacy denotes individuals' ideas in their generic capacities, whereas, community service self-efficacy relates to individuals' unique beliefs in their skills to help the community through their voluntary work. It assesses a unique concept by centering on self-evaluation of functional competence concerning the delivery of personal services that contribute to the community and are connected to overall self-efficacy (Harp et al., 2017).

Volunteerism

The act of working without payment for philanthropic reasons is known as volunteering. It represents a unique kind of prosocial activity. Volunteering, as contrast to unplanned acts of service, is a planned action facilitated by an organizational body (Zboja et al., 2020). It is the behavior of a person who is willing to help and support a group, community, or organization without expecting money (Hansen et al., 2019). It involves strategically planned long term activities that benefit the neighborhood, community and organization (Alias & Ismail, 2015). Volunteers are individuals who engage in behavior without

anticipating any reward and frequently participate in formal organizations (Gukiina & Lamunu, 2021). Numerous studies have been done on the exploration of study variables. Few of them are mentioned below.

Donations of time, money, blood, and other resources are examples of helping behavior. People who contribute their time and effort are known as volunteers (Ajmal et al., 2021). Volunteerism is more prevalent among those who value doing good deeds and the organizations that support it. Additionally, the act of volunteering is likely to improve people's attitudes about charitable organizations and assisting others. For instance, volunteering helps others, but it also offers deeper personal benefits to the volunteer themselves. Regardless of whether they were motivated by altruism or ego, they would subsequently want to keep volunteering. However, considering the extremely limited resources and staff that many non-governmental organizations operate with, Volunteering may also be an eye-opening experience, offering volunteers a personal encounter with the real needs faced by these organizations (Condon, 2017).

Family involvement can spark volunteering, as individuals are more likely to participate when their loved ones do too. Volunteering often needs a starting point, and this often comes from home (Dou et al., 2018). Parents and other household members teach their children to be charitable. Volunteering intention and behavior are influenced by how an individual's volunteering activity interacts with other facets of their life, particularly their social network. For instance, being a volunteer may lead to a person being perceived positively by others, which may reaffirm the importance of volunteering and raise motivation to continue doing so (Noyens et al., 2019).

Voluntary self-efficacy is the capacity or assurance to carry out volunteer work in a variety of circumstances (Harp et al., 2017). It was found to be connected with the direction of volunteers' actions, the amount of effort they put forth, in addition to how long they were able to endure in spite of difficulty (Usher & Schunk, 2017). The greater the

volunteers' self-efficacy, the more determined they are to carry out a behavior and accomplish their objectives. At the local level, volunteers may strengthen ties to their neighborhoods and help create social networks for both themselves and the larger community. As a result, communities become stronger and more self-reliant, and residents and organizations are better equipped to handle emergencies and disasters (McEwen et al., 2019).

For the current study Theory of Planned Behavior (Ajzen, 1991) based on Theory of Reasoned Action (Sarver, 1983) has been considered as a theoretical framework. This theory suggests that our actions stem from a willingness to act, also known as intention. This intention is influenced by three key factors: attitudes toward the explicit behavior, subjective norms about certain behavior, and perceived control about truly implementing this explicit behavior (Hagger et al., 2022). The conceptual framework indicates that helping attitude, subjective norms of helping behavior, and community related efficacy are predictors for volunteerism.

In a study of 192 males and females, the influence of gender on prosocial behavior was examined and it was discovered that, on average, females scored higher than males (Gates & Dentato, 2020). Results of a long-term study revealed that, despite its strength waning, educational level has long been a significant predictor of volunteering (Yousefirad & Zoghi, 2021). Furthermore, the resource theory of volunteering suggests that individuals with higher incomes are more desirable to organizations looking for volunteer help (Dou et al., 2018).

Rationale

Volunteering can assist people in demanding professions avoid burnout and keep a positive outlook on all aspects of their lives. Teenagers can gain a positive sense of self through volunteering, and it can put young adults in close quarters with a broader, more diverse collection of people. People can build a sense of generativity by volunteering, which makes them feel important to society in ways that go beyond their jobs. Older persons have

the chance to take stock of their past deeds, make amends for regrettable choices and actions, and develop a feeling of integrity about their lives while assisting others.

One viable route for students to understand societal issues and acquire a variety of skills in professional-relevant community organizations or settings is volunteering (Chetty & Bhagwan, 2021). Tendency to help others exists among all individuals, but not all of them engage in volunteerism. Therefore, this study will determine the factors which lead individuals towards volunteerism. In several studies volunteerism has been studied as a predictor, findings of the past researches suggest a new perspective to study volunteerism as an outcome variable. Prior literature highlighted the need to examine the phenomenon of volunteerism in backdrop of theoretical model so as to capture the cognitive, normative and behavioral determinants of volunteerism. Therefore, in the present study, theory of planned behavior is taken up as a basic theoretical premise. Multiple studies have explored helping behaviors and the phenomenon of volunteerism among general population, rarely the focus has been given to those who are willfully and strategically involved in volunteerism i.e. volunteers. People of Pakistan holds strong altruistic values in them. Regardless of the state of the economy, people are more willing to volunteer when they are aware of the benefits. Due to the social and political upheaval in Pakistan, helping others has negative repercussions rather than praise and recognition, which discourages the general population from acting altruistically more frequently. This study shows the benefits of volunteering and emphasizes its importance as a form of helping others also known as pro-social behavior closely linked to giving money or donations.

The major objectives of the present study were to investigate the relationship among helping attitude, subjective norms of helping behavior, community related efficacy, and volunteerism among volunteers. It also endeavored to investigate the role of various demographics in

relation to study variables.

Hypotheses

Following were the hypotheses for the main study.

1. Helping attitude is likely to have a significant positive relationship with subjective norms of helping behavior, and community related efficacy.
2. Helping attitude, subjective norms of helping behavior, and community related efficacy are likely to be significant positive predictors of volunteerism.
3. Women volunteers are more likely to express helping attitude, community related efficacy, and volunteerism as compared to men.
4. Volunteers who are more educated are likely to express more helping attitude, higher community related efficacy, and enhanced volunteerism as compared to less educated volunteers.
5. Volunteers with extended duration of volunteering are more likely to express higher levels of helping attitude, community related efficacy, and volunteerism as compared to those with lesser volunteering experience.

Method

Sample

The study incorporated a purposive sampling approach within a cross-sectional research design for data collection. Sample ($N = 350$) comprised of volunteers who were approached from different private and government non-profit organizations of Islamabad and Rawalpindi. The sample consisted of both men ($n = 134$) and women ($n = 216$). Age range of the sample varied between 23 years to 29 years ($M = 26.45$; $SD = 3.42$).

Inclusion Criteria. Individuals who had been volunteering in one or more non-profitable organizations regularly at least for one hour, on at least once a month basis for the minimum 6 months or more on unpaid basis are included with consideration given to their psychological and physical wellbeing.

Exclusion Criteria. Individuals who randomly participate in volunteering activities without being member of any non-profit organization and are paid for the volunteering activities are not included in the sample.

Descriptive statistics and demographic details of the sample are given below.

Table 1. Descriptive Statistics of the Sample ($N = 350$)

Demographics	f	$\%$	Demographics	f	$\%$
Gender			Duration of Volunteering		
Men	134	38	6 months – 12 months	148	64
Women	216	62	12.1 months – 24 months	109	36
			24.1 months – 48 months	93	26
Education			Nature of Volunteering		
Graduate	198	56	Monetary	64	18
Postgraduate	178	44	Logistics	73	19
Type of Non-Profit Organization			Field work	158	43
Government	47	14	Healthcare	81	20
Private	303	86			
Monthly Income			Occupation		
< PKR 50,000	183	52	Student	232	66
PKR 50,001 – PKR 100,000	108	30	Employed	118	34
> PKR 100,000	59	17			

was achieved for this scale.

Assessment Measures

The main study employed the following instruments.

Helping Attitude Scale. To assess volunteers' beliefs, feelings, and behaviors associated with helping, Helping Attitude Scale (Nickell, 1998) was taken**.** It was proposed by Nickell (1998) and consists of 12 items with no subscale. It's a 4-point Likert scale, score range is from 1 (strongly disagree) to 4 (strongly agree). Possible score range of the scale is 12 to 48. Reverse scoring of item 1, 6, 9, 11 is required. The test-retest reliability of the helping attitude scale is .84. The internal consistency for the scale is .86 as reported by Nickell (1998). This study established the reliability of the scale using Cronbach's alpha, which resulted in a value of .89.

Subjective Norms of Helping Behavior Scale. To assess volunteers' thoughts, feelings, and judgment regarding others' approval of their behavior, Subjective Norms of Helping Behavior Scale was used**.** It was proposed by Khattak (2019) and comprised of 8 items with no subscale. It's a 4-point Likert scale, score range is from 1 (almost never) to 4 (always). Possible score range of the scale is 8 to 32 with a cut off score of 20. High score indicate higher subjective norms of helping behaviors. No reverse scoring of item is required. The reliability of the subjective norms of helping behaviors is .81 as reported by Khattak (2019). Whereas, in the present study alpha reliability of .77

Community Related Efficacy Scale. This scale is focused on measuring the self-appraisal of effective aptitude (Bandura, 1982) in context of the community's benefit from the individual services. It was developed by Reeb et al. (1998), and comprised of 10 items with no subscale. It's a 4-point Likert scale, score range is from 1 (strongly disagree) to 4 (strongly agree). Possible score range of the scale is 10 to 40. High score indicate increased community related efficacy and low score represents less community related efficacy. No reverse scoring of item is required. Reliability of community related efficacy was consistently over .90, representing high internal consistency with numerous undergraduate samples (Reeb et al., 1998). In the present study alpha coefficient of .84 was achieved for this scale

Bales Volunteerism-Activism Scale. It was established by Bales (1996). The Bales Volunteerism-Activism Scale comprises of 15 items with three subscales as; Sense of Effectiveness (5 items); Sociability (6 items); and Feel Good Factor (4 items) with rating scale of 4-point Likert scale where 1 (strongly disagree) to 4 (strongly agree). Score range for the questionnaire is from 15-60. Higher scores on the scale indicates increased volunteerism and low scores indicate less volunteerism. In order to control the response, bias the score of items 2, 4, 6, 8, 9, 10, 11, 13 and 15 are reversed. The reliability of the scale was reported .74 by (Craig et al., 2021). In the present research reliability of .89 was attained for this scale.

Descriptive statistics of scales used in the present study are given below.

Table 2 Descriptive Statistics for Scales (*N* = 350)

Scales	*k*	*a*	*M*	*SD*	Kurt.	Skew.	Range Potential	Range Actual
Helping Attitude Scale	12	.89	24.23	9.73	.92	.94	12-48	15-45
Subjective Norms of Helping Behavior Scale	8	.77	18.04	7.15	.29	.55	8-32	13-30
Community Related Efficacy Scale	10	.84	22.12	9.70	.30	.76	10-40	11-38
Bales Volunteerism Activism Scale	15	.89	35.59	9.85	.74	.45	15-60	16-58

Table 2 shows the Cronbach alpha reliabilities of all the scales and subscale fall in an acceptable range between .77 to .89 which indicates that the scales are internally consistent and measures the constructs reliably.

Procedure

For the purpose of data collection volunteers were approached individually while visiting various government and private non-profit organizations within Rawalpindi, Islamabad. Formal permissions from the non-profit organizations were acquired for the data collection. Respondents were asked about the free time so we can have the forms filled according to their convenience. Booklet comprising the questionnaires was given to participants and they were individually informed about the explicit purpose of the study. They were instructed to read and understand each statement and then select the one that best reflected their own situations and viewpoints. It was clearly stated that all of the related documents would be treated in strict confidence and used solely for research. In order to optimize the completion of surveys, there was no time limit on their fulfillment. Afterwards respondents were thanked for providing the valuable information and their precious time.

Results

Analysis performed for the results of main study include correlation analysis to examine the relationship between all study constructs. Regression analysis was performed to assess the variability caused by the predictors to the outcomes, while to assess the effects of moderator on the outcome the moderation analysis through Andrew Hayes Process Macro SPSS was used. Group differences across various demographic variables were calculated through t-test and analysis of variance.

Table 3. Pearson Product Moment Correlation Across all Study Variables ($N = 350$)

S. No	Variables	1	2	3	4
1	Helping Attitude	-	.33**	.34**	.39**
2	Subjective Norms of Helping Behavior		-	.37**	.31**
3	Community Related Efficacy			-	.35**
4	Volunteerism				-

Note. $*p < .05,$ $**p < .01,$ $***p < .001$

Results based on Pearson Product Moment Correlation indicate that helping attitude is significantly positively aligned with subjective norms of helping behavior ($r = .33,$ $p < .01$), community related efficacy ($r = .34,$ $p < .01$) and volunteerism ($r = .39, p < .01$). Similarly, subjective norms of helping behavior is also significantly positively related with community related efficacy ($r = .37, p < .01$) and volunteerism ($r = .31, p < .01$). In addition, Multiple Hierarchical Regression was computed to determine the predictive role of helping attitude, subjective norms of helping behavior and community related efficacy among volunteers (see Table 4).

Table 4. Multiple Hierarchical Regression Analysis Predicting Volunteerism ($N = 350$)

Predictors	R^2	ΔR^2	F	B	t	95 % CI LL	95 % CI UL
				Criterion variable: Volunteerism			
Model 1	.19	.19	5.71**				
Constant					8.32	33.98	55.17
Helping Attitude				.67**	6.22	0.22	0.39
Model 2	.31	.12	4.72**				
Constant					8.32	34.98	54.17
Helping Attitude				.69**	6.22	0.25	0.43
Subjective Norms of Helping Behavior				.55*	4.59	0.43	0.50
Model 3	.51	.20	6.43**				
Constant					8.32	36.91	45.37
Helping Attitude				.69**	6.22	0.43	0.56
Subjective Norms of Helping Behavior				.57*	4.59	0.57	0.62
Community Related Efficacy				.60**	5.38	0.26	0.36

Note. $*p< .05, **p< .01, ***p< .001$

Table 4 indicates the impact of helping attitude, subjective norms of helping behavior and community related efficacy on volunteerism. In model 1 helping attitude accounts 19% variance in predicting volunteerism. Findings revealed that the predictor subjective norms of helping behavior accounts 12% variance with $F = 4.72$. In model 3 community related efficacy was found to be a significant positive accounts 20% variance in predicting volunteerism.

Group Differences

A 2x2x3 Multiple Analysis of Variance (MANOVA) was used to examine how gender, education, and monthly income affect the study variables. The study included both men and women, and two education categories (graduation and post-graduation), and income consisted of three groups (Group 1 = <PKR 50,000; Group 2 = PKR 50,001 – PKR 100,000; Group 3 = >PKR 100,000).

Table 5. Multivariate Analysis of Combined Effect of Gender, Education and Income on Study Variables ($N = 350$)

Variables	Gender Men ($n = 134$)		Women ($n = 216$)		Education Grad. ($n = 198$)		Post Grad. ($n = 178$)		Income Groups Group 1 ($n = 183$)		Group 2 ($n = 109$)		Group 3 ($n = 59$)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Community Related Efficacy	33.12	3.96	36.21	4.43	33.12	3.96	36.21	4.43	33.00	4.22	36.28	4.07	39.13	4.21
Volunteerism	42.32	4.56	39.16	4.24	40.32	4.56	45.16	4.24	40.31	4.23	42.97	2.21	45.37	2.82

Note. Wilk's $\Lambda = 4.16$ ($p = 0.00$); F = 10.21 ($p = 0.00$); Group 1 = <PKR 50,000; Group 2 = PKR 50,001 – PKR 100,000; Group 3 = >PKR 100,000

Table 5 indicates that women being highly educted and belonging to higher income group have more tendency towards increased community related efficacy and social mindfulness as compared to men, whereas men being highly educted and belonging to higher income group are more likely to engage in volunteerism as compared to women. However no combined significant differences were found in relation to helping attitude and subjective norms of helping behavior.

Table 6. Differences Across Duration of Volunteering in Relation to Study Variables (*N* = 350)

Variables	Group 1 (*n* = 125)		Group 2 (*n* = 132)		Group 3 (*n* = 93)		F	p	Post hoc i>j	D (i-j)	95% CI LL	UL
	M	*SD*	*M*	*SD*	*M*	*SD*						
Helping Attitude	35.14	3.41	36.57	3.60	38.78	1.84	5.10	.00	3>1,2	2.97	4.76	9.28
SNHB	21.62	4.09	24.48	4.64	27.63	4.66	4.20	.01	3>1,2 ; 2>1	3.55	2.36	4.33
CRE	33.82	4.20	35.79	4.23	37.35	4.05	6.25	.00	3>1,2 ; 2>1	3.45	1.56	6.90
Volunteerism	33.21	4.51	36.57	3.20	39.18	3.81	5.58	.00	3>1,2 ; 2>1	4.12	4.22	7.01

Note. Group 1 = 6 months − 12 months; Group 2 = 12.1 months − 24 months; Group 3 = 24.1 months - 48 months. SNHB = Subjective Norms of Helping Behavior; CRE = Community Related Efficacy

Table 6 shows that individuals that are involved in the role of volunteering for 24.1 months - 48 months, experience higher level of helping attitude, subjective norms of helping behavior, community related efficacy and volunteerism as compared to those participants who are volunteering for lesser durations because after a certain duration of volunteering the person gets experience and increase in learning and personal skills. However, no significant differences were found related to social mindfulness in relation to duration of volunteering.

Table 7. Types of Volunteering Across Men and Women (*N* = 350)

Type of Volunteering	Men (*n* = 134)		Women (*n* = 216)	
	f	%	*f*	%
Monetary	21	11	44	21
Logistics	10	8	59	28
Field Work	57	44	64	30
Healthcare	36	28	27	12
All of the above	12	9	21	9

Table 7 indicates that male volunteers are more likely to engage in voluntary activities including field work and logistics, on the other hand female volunteers are more active and participative in healthcare and monetary type of volunteering. However, there are significant number of volunteers who participate and give their time and attention to all sorts of volunteering activities, irrespective of their gender.

Discussion

The current study aims to study the effect of helping attitude, subjective norms of helping behavior, and community related efficacy on volunteerism of the volunteers. The volunteer workers in particular were taken, and data was collected from different residential areas and non-profit organizations of Rawalpindi and Islamabad. Inclusion criterion for the sample was strictly followed. The minimum education level of the participants was intermediate so that they must understand the questions asked in the questionnaire booklet.

Findings have shown that helping attitude positively predicted volunteerism. The more an individual possess tendencies towards helping others, the more they are likely to engage in volunteerism. A person who has a helpful attitude appreciates assisting others and can lessen a wide range of negative emotions in their daily life. The more selfless or generous someone is, the happy he seems to be. The findings of a study show direct

positive and significant effect of helping attitude on volunteering intention (Ghamdhan et al., 2019). These findings are best explained by temporal self-regulation theory, which explain the modest association between intention and behavior (Harp et al., 2017). This can be explained through the prosocial personality model by Penner (2002) (as cited in Bauer et al., 2020) which suggests that people who care about others (other-oriented empathy) and like to help (helpfulness) are most likely to volunteer.

Results have shown that subjective norm of helping behavior is positively related with volunteerism i.e. with the increase in subjective norms of helping behavior volunteerism also increases. Previous research has shown a substantial positive association between subjective norms of helping conduct and the phenomena of volunteerism in older widowed women living with their families, which may be a symptom of their underlying sense of connection and drive to help their family members (Lachance, 2020). The most reliable predictor of volunteering intentions across all cases was found to be subjective norm, which was also crucial for encouraging volunteering (Gates & Dentato, 2020). Findings of the present research are enlightened by the norm of reciprocity which proposes that when individuals do something cooperative for someone else, that person feels obligated to help out in return, illuminates the findings of the present study. Evolutionary psychologists believe this norm likely emerged because individuals who recognized the benefit of kindness had a greater chance of survival and reproduction (Noyens et al., 2019).

In the present study, results show that community related efficacy positively predicted volunteerism. Greitemeyer and Sagioglou (2018) evaluated prosocial conduct and attitudes in their research, and their findings indicate that females scored higher on prosocial behavior and offered more assistance than males. Peers and teachers tend to see girls as being more helpful than boys (Huang et al., 2020). Students with higher community related efficacy also have greater intentions to engage in future prosocial behavior (Gershon & Cryder, 2018). These results can be justified by Bandura's self-efficacy theory (as cited in Steven et al., 2017) which highlights the individual's self-perceptions as critical determinants of successful behavioral outcomes. It means that if an individual possess increased community related efficacy, he is more likely to exhibit volunteer behavior.

The findings of present study suggest that women exhibited higher helping attitude, subjective norms of helping behavior and community related efficacy as compared to men, these results are similar to findings of a research by Frost and Edgell (2022)) which states that women are more likely to engage in long-term caregiving roles for disadvantaged groups, while men are more likely to participate in acts of physical bravery or risk-taking for the benefit of others. In a study on how gender influences helping behavior, In another research found that 11-year-old female adolescents considerably outperformed 11-year-old boys in helping a younger kid with a task (Fingerhut & Hardy, 2020). These findings could be justified using Hoffman's postulate suggesting that women generally exhibit a higher inclination to empathize, placing themselves in the perspective of others, and tend to experience greater emotional resonance compared to men (Hoffman, 1977 as cited in Yousefirad, & Zoghi, 2021).

Results of the present research indicated that volunteers having higher level of education reported higher level of helping attitude, subjective norms of helping behavior, community related efficacy, and volunteerism as compared to those having lower level of education. These results are in line with previous researches e.g. results of a study shows that more educated people may be better at internalizing the norms of helpful behavior, resulting in a more altruistic society in which they live (Westlake et al., 2019). Results of a long-term study revealed that, despite its strength waning, educational level has long been a significant predictor of volunteering (Meijeren et al., 2022). Greitemeyer and Sagioglou

(2018) present a convincingly extensive list of contributions to draw the conclusion that level of education is the strongest and most reliable predictor of volunteer participation. Carbone and McMillin (2019) confirmed this finding and stated that volunteerism is more prevalent among the highly educated.

Study results demonstrate that people who possess higher financial status i.e. have higher monthly income are more likely to have increased level of community related efficacy, and volunteerism. However, no significant differences were found concerning helping attitude and subjective norms of helping behavior regarding monthly family income. Helping attitudes and subjective norms of helping are cognitive components which are not effect by monthly income. Empirical studies found that people belonging to lower socioeconomic status possessed more helping attitude (Greitemeyer & Sagioglou, 2018). However, Income groups bring facilitation to volunteers so that they can perform and continue volunteer work. Some sociologists believe that because volunteering can signify privilege, it's more appealing to those with means than those without. Resource theory posits that recruitment favors higher-income individuals as they may be perceived as more desirable volunteers (Ghamdhan et al., 2019).

Findings of the current research stated that individuals that are involved in the role of volunteering for longer period of time, experience higher level of helping attitude, subjective norms of helping behavior, community related efficacy and volunteerism as compared to those participants who are volunteering for lesser durations because after a certain duration of volunteering the person gets experience and increase in learning and personal skills.

Conclusion

The current study revealed that helping attitude, subjective norms of helping behavior, and community related efficacy are positively related to the volunteerism. Theory of planned behavior provided valuable insight to understanding the phenomenon of volunteerism. There are significant group differences among gender, income groups, duration of volunteering, and education of the volunteers.

Implications

The present findings represent an important step in understanding the sheer importance of voluntary behavior. Most research on community related efficacy has concentrated on assessing whether service-learning programs successfully raise students' community related efficacy; however, the current study also makes significant theoretical influences to the comprehension of community related efficacy. To promote volunteerism in society by spreading awareness about its positive outcomes. This study encourages academics to partner with various volunteering organizations (NGOs, NPOs, local government, and private sector) to develop opportunities and ensure accessibility for young volunteers. Additionally, cooperation with other organizations will guarantee that volunteers can choose the volunteer project based on their interests. Furthermore, the present research ensures the motivation of young people to volunteer and emphasizes how participating in volunteering helps individuals make a real difference in society.

Limitations and Suggestions

The highly selected nature of this sample may have reduced variance in measures, decreasing the strength of relationships among constructs. Since examining situational elements that volunteers encounter was outside the purview of this study, we focused instead on how attitudes about the volunteer activity affected helping behavior. Future studies should examine the impact of contextual factors (such as socioeconomic position) on how people perceive different volunteer duties and the dimensions along which those perceptions vary. In addition to examining the volunteering process more deeply from the volunteer's point of view, which is the subject of the current study, non-profit organizations should also be considered.

The results of the current study's conclusions could be examined in multiple contexts in future research (e.g., the social benefits of volunteering in groups vs. by oneself). The research's self-report, cross-sectional design is another drawback. Self-report measures are susceptible to biases like social desirability, therefore a longitudinal study would be ideal for this research to track changes in attitudes toward volunteering over time. Research that follows volunteers over their entire involvement with an organization, collecting data from them at various stages, could provide additional evidence to support these conclusions.

Declarations

Ethics approval and consent to participate. The study was approved by The Punjab Higher Education Commission, Pakistan. Permission to collect data was taken from the participants, and informed consent was taken from tha participants of the study.

Consent for publication. Consent approved by the authors.

Availability of data and materials. Not applicable.

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Author's contribution. A.Z conceived the idea, supervised the research project from data collection to data analysis and reporting results. S.D.T, K.L, S.A search appropriate scale, collected the data, analyzed the data, prepared a result and contributed in the preparation of this manuscript under the supervision of A.Z. All authors contributed equally in this manuscript and are responsible for the content. All authors have read and approved the manuscript, and ensure that this is the case.

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Personality Inventory for DSM-V-Brief form (PID-V-BF): Translation and Validation

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Abstract

Background. DSM-5 proposes a new trait model of personality for the diagnosis of personality disorders. This model constitutes five major domains encompassing maladaptive personality traits that are considered pathological ends of the famous five-factor model. Their domains were named antagonism (agreeableness), detachment (extraversion), disinhibition (conscientiousness), negative affectivity (neuroticism), and psychoticism (openness). This inventory used to operationalize this model is called Personality Inventory for DSM-V. This study utilizes the brief form of the inventory with twenty-five items for having a structurally comparable and lexically valid version of this inventory to use with the Pakistani population.

Method. Items of the scale were translated by bilingual exerts into the targeted language through standardized procedures and Confirmatory factor analysis was then run on the sample of 300 adults between the ages of 19-64 ($M = 27.36$, $SD = 9.32$).

Results. CFA revealed the satisfactory fit of the model after adding covariance. The obtained value for chi-square was 616.86 ($df = 267$) which indicates adequate fit of the model. RMSEA =.06 also meets the criteria and specifies a good fit for the model. Similarly, fit indices for the model also meet the minimum criteria (IFI=.91, TLI, .90, CFI = .91). Hence, all the five domains of the trait model were confirmed into local culture and depict good reliability coefficients.

Conclusion. It was concluded that the Urdu version of the PID-V was proved to be satisfactory and acceptable for further use in the Pakistani context.

Keywords. Personality inventory for DSM-V, DSM. translation, validation, confirmatory factor analysis.

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Introduction

In contemporary accounts, the famous diagnostic system of the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American Psychiatric Association, 2013) advanced the diagnosis of personality disorders. In Section III of the DSM-V, it provided an empirically derived pathological personality model which is regarded as the composite model of personality (Anderson, Sellbom, & Salekin, 2018; Al-Dajani, Gralnick, & Bagby, 2016). This system was designed to overcome the deficiencies of the DSM IV axial system which elucidate the phenotypic diversity of personality pathology (Lowmaster, Hartman, Zimmermann, Baldock, & Kurtz, 2020; Morey, Benson, Busch, & Skodol, 2014; Widiger & Trull, 2007). This system bridges the categorical and dimensional models (Al-Dajani et al., 2016). On the one hand, it assesses interpersonal functioning and on the other end, it assesses pathological personality traits (Waugh et al., 2017).

This newly introduced model fundamentally works with maladaptive traits of personality that were broadly categorized into five factors (Krueger, Derringer, Markon, Watson, & Skodol, 2012). These domains\factors were named Antagonism, Detachment, Disinhibition, Negative Affectivity, and Psychoticism (Widiger & Crego, 2019). Experts called this model an equivalence of the five-factor model and labeled it as a dysfunctional alternative to FEM (Griffin & Samuel, 2014; Wright & Simms, 2014). Antagonism is believed to be the low end of the agreeableness of the five-factor model (Gore & Widiger, 2013). Detachment is considered the low end of extraversion (Kotov et al., 2017). Disinhibition is contemplated as the lower end of conscientiousness (Wright et al., 2012). Negative affectivity is believed to be aligned with neuroticism (Heath et al., 2018; Krueger & Markon, 2014). However,

concerning psychoticism, there is disagreement as to whether psychoticism aligns with openness or not (Chmielewski, Bagby, Markon, Ring, & Ryder 2014; Gongora & Solano, 2017; Gore & Widiger, 2013; Watson, Stasik, Ro, & Clark, 2013).

DSM operationalized this model through a self-report instrument that was designed to capture these broader five domains and their relevant traits (Zimmermann, Kerber, Rek, Hopwood, & Krueger, 2019). This instrument is called Personality Inventory for DSM-V (PID-V) which originally contains 220 items with twenty-five facets (Krueger et al., 2012). The original version of the Personality Inventory for DSM-V (PID-V) was too extensive and lengthy which in turn makes it quite demanding and time-consuming to utilize it in diagnostic situations and research milieu (Thimm, Jordan, & Bach, 2016). To overcome this shortcoming, shorter forms of PID-V have also been developed such as 100 item form of this inventory called PID-V-SF and 25 items form called DSM-V-Brief Form that measures personality pathology at the domain level (Krueger Derringer, Markon, Watson, & Skodol, 2013; Maples et al., 2015). This brief form of PID-V has been the subject of current research.

In clinical settings, surveys and questionnaires are widely used to collect information from patients, such as patient's subjective assessments of their current states. Although it may be more convenient to use an existing questionnaire, sometimes a questionnaire that measures the construct of interest may not be readily available, or the published questionnaire may not be available in the language of the targeted respondents. Consequently, investigators may need to create a new questionnaire or translate an existing one (Tsang, Royse, & Terkawi, 2017). The global consensus is that instruments should be tested for their

relevance in new and novel settings and their psychometric properties should also be explored in cultures other than their own (Foxcroft, Roodt, & Abrahams, 2001). This step also proves to be much more cost-effective and time-saving than developing a new scale (Bukhari & Masood, 2020). The PID-V-BF was also developed originally in Western contexts and English. Due to its clinical relevance, many researchers attempt to translate the PID-V-BF into their cultures. Previously, it was translated into Italian, French, and Danish language (Combaluzier, Gouvernet, Menant, & Rezrazi, 2018; Fossati, Somma, Borroni, Markon, & Krueger 2017). The multicultural applicability of the PID-V-BF is confirmed by these studies, which confirm the five domains of the inventory in their respective samples. As personality traits are an important part of clinical evaluation in every culture including ours, it may be helpful to assess both adaptive and maladaptive personality traits because they can work in tandem to fully and completely characterize a person's personality (Lengel & Mullins-Sweatt, 2017). PID-5 could assess the level of this personality impairment and pathological traits in clinical settings (Bach, Markon, Simonsen, & Krueger, 2015). Moreover, it was reported that the alternative personality model operationalized on PID-5 was judged by clinicians as a more beneficial tool than the previous axial approach (Morey, Benson, Busch, & Skodol, 2015) perhaps due to the possibility of unavoidable effects, such as strengthening links to disordered identities. Given the significance of this model for the DSM-V which was operationalized on the PID-V, the present research translates and reports the psychometric properties of PID-V-BF in the Pakistani context. The scale was translated into Urdu because the majority of Pakistanis comprehend it better than any other language spoken in this area. It will also be convenient to use the PID-V-Urdu version in future studies.

Method

Objectives
There were two key objectives for this study:
1. To translate the PID-V-BF into the Urdu language.
2. To establish the psychometric properties of the PID-V-BF (Urdu version).

Assessment Measure

Personality Inventory for DSM-V-BF. The English version of PID-5-BF (Krueger et al., 2012) contains twenty-five items and was published by APA. This inventory measures broad-ranging quintuples of dysfunctional traits of personality consisting of five items each. These domains are classified as Negative Affectivity (e.g., "I worry about almost everything" and measured by 8, 9, 10, 11, 15), Detachment (e.g., I often feel like nothing I do matters and measured by sequential numbers: 4, 13, 14, 16, 18), Antagonism (e.g., It's no big deal if I hurt other people's feelings and measured by sequential number: 17, 19, 20, 22, 25), Disinhibition (e.g., People would describe me as reckless and measured by sequential number: 1, 2, 3, 5, 6) and Psychoticism (e.g., I often have thoughts that make sense to me, but that other people say are strange and measured by sequential number: 7, 12, 21, 23, 24). Four-point Likert extending from 0 (very false) to 3 (very true) has been used to measure responses on this inventory. The gross score for the inventory range between 0 and 75 which is the sum of scores on five domains. On the domain level, a total score may vary from 0 to 15. The higher score in each domain suggests dysfunction in that domain and the high score on the overall suggests overall personality dysfunction. Moreover, raw scores on each domain and overall scores were advised to convert into average scores. Reliability values of the PID-5-BF are α = .78 (Detachment), α = .81 (Negative Affectivity), α = .74 (Antagonism), α = .74 (Disinhibition), α = .81 (Psychoticism) and α = .78 for PID-5-BF's total scores. The inventory is open access and available on the APA's website.

Phase- I: Translation of PID-5. *For* the current study, from the source language (English), the PID-V-BF inventory was translated into the Urdu language. To translate the inventory into Urdu

language, standard procedures were followed (see (Brislin, 1970). For this purpose, six bilingual experts (familiar with both Urdu and English) were requested to provide their services. Experts included MPhil (n= 2) and Ph.D. degree holders (n = 2) in psychology and Urdu linguists (n = 2). They were requested to put special focus on the inherent meaning of every item and to ensure that all the items are culturally understandable, appropriate, and relevant. Additionally, they were told to choose simple words that are frequently used in everyday speech rather than complex dictionary words. Each expert carefully adhered to the guidelines and made every effort to provide the most accurate translation possible. Six translations were obtained and were latterly assessed in the committee approach. All the translations were then subjected to a committee approach for translation equivalence and of course for literal equivalence. The committee contains three members and all of them were bilingual. They were presented with the booklet containing all six translations of the inventory and were asked to carefully review and evaluate each translation for the sake of selecting one final translation. They thoroughly check each item in all the six translations and finalized the most appropriate and relevant translation for each item. Along with the items, instructions were also finalized by the members of the committee.

The next step in this regard is the backward translation of the scale that was forward-translated before. For this three bilingual experts were contacted, and they were asked to translate the Urdu version into the English language. Two of the experts have Ph.D. and MPhil degrees in psychology and one has a Master's degree in English. These experts were requested to translate the items into English by putting a special focus on maintaining the real meaning of each item and by maintaining semantic equivalence or maximization of content similarity with the Urdu version. After getting back the backward translations of all the items, again all the items were subjected to a committee approach to assess them. Members of the committee were the same that were approached for the first committee approach. For the committee approach, all three translations were arranged in a booklet for each evaluator to run the evaluation process more smoothly. Members were given instructions to assess the resemblance between the original inventory and the translated inventory and to choose the items that most closely matched the original inventory in terms of semantics.

Phase II: Structural Validation of PID-5-BF. In this phase, the scale that was translated in the previous stage was validated in the Pakistani context. The objective of this stage was basically to confirm the factorial structure or construct validity of translated inventory to ensure its psychometric properties.

Sample

The sample for the present study comprised 300 adult participants. They were approached through a convenient sampling technique and were selected from different areas of Pakistan. The sample contains an equal representation of both genders (Male =150 and Female = 150). The age range of the sample was 19-64 ($M = 27.36$, $SD = 9.32$). Moreover, participants of the present study possess different levels of education from MPhil\PhD ($n = 41$) to graduation 14\16 years ($n = 107$) and from metric\intermediate (n = 73) to middle education ($n =9$). Additionally, participants also represent different social strata or socio-economic classes of Pakistan i.e., from the lower class ($n = 112$), the middle class ($n = 117$), and the upper class ($n = 34$). It was ensured that the sample should be representative and illustrate all the sections of the society. Lastly, participants represent different sects of Islam i.e., *Ahle Sunnat* ($n = 77$), *Ahle Sunnat Deoband* ($n = 75$), *Ahle Sunnat Barelvi* ($n = 70$), *Ahle Hadith* ($n = 39$), and *Ahle Tasheeh* ($n = 32$).

Procedure

For the current study, approval was obtained and an adult sample was approached for participation. A convenient sampling approach was used for data collection. The objectives and purpose of the study were explained to the participants, and they were assured that their responses would only be used for research purposes. Moreover, they were also told that their participation was entirely

voluntary, and did not contain any associated cost or benefit. They were also informed about their right to withdraw at any time. After they show willingness to participate there were asked to sign informed consent and were instructed to thoroughly read and follow the instructions before filling out the survey. After they fill out the questionnaire, they were thanked for their participation. The participants found the items pretty intriguing because they gave them a new perspective on how to think about themselves, and it took them an average of 15 minutes to complete the questionnaire.

Results

Table 1

Demographic Attributes of the Study Participants (N= 300)

Demographic variables	*f*	*%*
Gender		
Men	150	50.0
Women	150	50.0
Age in year		
19-64	300	100
Education		
Metric	22	7.5
Intermediate	61	20.7
Graduate	106	35.9
Postgraduate	106	35.9
Monthly income		
Low (10,000-40,000)	107	39.3
Middle (41,000-80,000)	133	48.9
High (81,000 and above)	32	11.8
Sect		
Ahle Sunnat	77	25.8
Ahle Sunnat Deoband	75	25.1
Ahle Sunnat Barelvi	70	23.4
Ahle Hadith	39	13.0
Ahle Tasheeh	32	10.7
Others	6	2.0

The demographic characteristics of the sample are displayed in Table 1 which reveals that the sample is very diverse and composed of people from different strata of society, allowing the scale to be validated on a diverse population and provide a better picture.

Confirmatory Factor Analysis

Following the data gathering on the Urdu adaptation of PID-5-BF, relevant analytical methods such as CFA, reliability analysis, inter subscale correlation, and other descriptive analyses

were used to establish the psychometric properties of the inventory in the local culture. In Amos-21, CFA was performed using the maximum likelihood method. For the evaluation of the model, RMSEA and incremental fit indices (Hooper et al., 2008) were used. RMSEA represents the model fit to the population parameter (Byrne, 2013). According to the literature values of .06 and .08 represent good fit (Awang, 2012) represent mediocre model fit. However, this index is sensitive to model parameters due to which it is considered the most important fit index (Brown, 2006; Diamantopoulos & Siguaw, 2000).

CFI, TLI, and IFI are collectively called incremental fit indexes (Hooper, Coughlan, & Mullen, 2008). These indices make the comparison of chi-square with the baseline model (McDonald & Ho, 2002). For these indexes, a value of .09 or greater reflects a good model fit (Schreiber, Nora, Stage, Barlow, & King, 2006). In the current study, it was observed that the model shows poor fit may be either because of response on items can be affected by the response on another item or because of item positioning or item content. So, it was decided to add covariance between errors terms in the model for the sake of attaining model fit. It was kept in mind to add the minimum number of covariance's as possible. Table 1 represents the model fit of this modified model.

Table 2
Model Fit Indices for PID-5-BF (Urdu Version) With Higher-order Factor Structure (N = 300)

Model	χ^2 (pdf)	χ^2/df	IFI	TLI	CFI	RMSEA
Mo	763.91 (274)	2.78	.87	.86	.87	.07
M1	616.86 (267)	2.31	.91	.90	.91	.06

Note. χ^2 = chi-square; χ^2/df = relative chi-square; IFI = incremental fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation; Mo = default model of CFA for PID-5-BF with five factors; M1 = Mo after adding covariance.

Table 2 shows the CFA of the PID-5-BF Scale (Urdu version). Values of CMIN/df and RMSEA reflect the acceptable fit of the model (see Schreiber et al., 2006). Baseline indices for this model are also adequate. Covariance between residuals significantly improves the model M1 (see Kline, 2015).
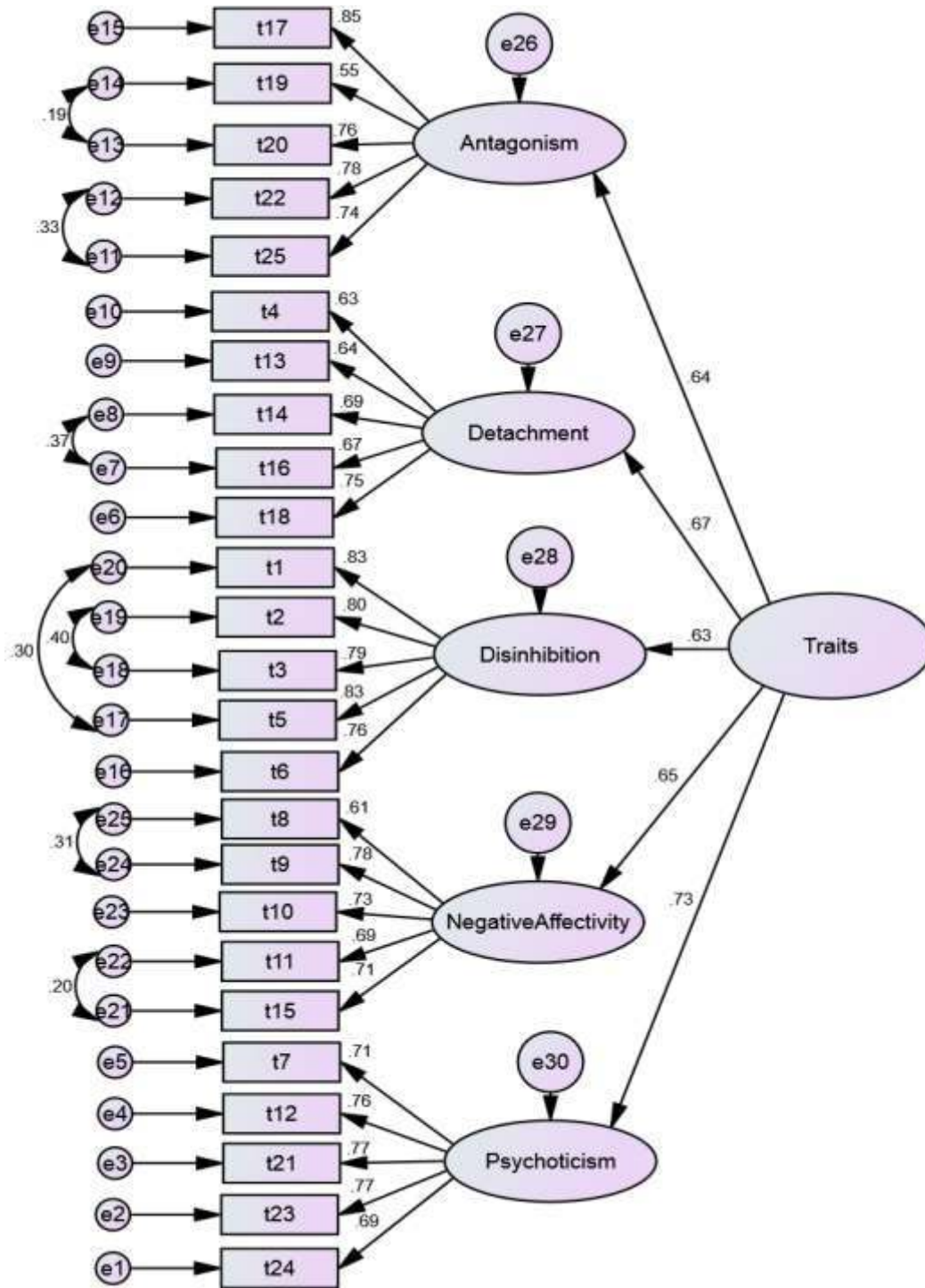
Chi Sq (df) = 616.86, CFI .90, IFI .90 , RMSEA = .06

Table 3

Factor Loadings for PID-5-BF (Urdu Version) With Higher-order Factor Structure (N = 300)

Item No.	NA	Item No.	DE	Item No.	A	Item No.	DI	Item No.	P
8	.61	4	.63	17	.85	1	.83	7	.71
9	.78	13	.64	19	.55	2	.80	12	.76
10	.73	14	.69	20	.76	3	.79	21	.77
11	.69	16	.67	22	.78	5	.83	23	.77
15	.71	18	.75	25	.74	6	.76	24	.69

Note. NA = Negative Affectivity; DE = Detachment; A = Antagonism; DI = Disinhibition; P = Psychoticism

Table 3 represents the factor loading of the five dimensions of the higher-order factor structure of the PID-5-BF (Urdu version). All the factor loadings are in the acceptable range i.e., ≥ .30 (λ = .55-.85), and load strongly and appropriately on the related factor. Figure 1 shows the Confirmatory Factor Analysis of the PID-5-BF (Urdu version). After confirming the factorial structure, the psychometric of the PID-5-BF was explored.

Table 4

Alpha Coefficients, Descriptive Statistics, and Average Inter-subscale Correlations for PID-5 (N = 300)

Subscales	No of items	α	M(S.D)	Skewness	Kurtosis	AIC
Antagonism	5	.84	4.17(3.82)	.83	.38	.50
Detachment	5	.81	6.38(3.73)	.23	-.17	.36
Disinhibition	5	.91	5.85. (4.38)	.37	-.72	.53
Negative Affectivity	5	.83	8.03(4.00)	-.03	-.60	.67
Psychoticism	5	.87	6.74(4.21)	.11	-.70	.57

Note. AIC = average interitem correlation

Table 4 represents the psychometric properties of the PID-5-BF (Urdu version). Alpha coefficients of all the subscales reflect acceptable values. Similarly, the average inter-item correlation for all the subscales were in an acceptable range and as well as the values of skewness and kurtosis.

Discussion

In the clinical context, clinicians must be able to distinguish or recognize potentially dysfunctional personality disturbance. The recently created PID-V-BF is one of the instruments that offer a valuable screening of psychopathology and could be used to help clinicians to detect maladaptive personality patterns (Porcerelli, Hopwood, & Jones, 2019). The present research aimed to translate and confirm the factorial structure of the Personality Inventory for DSM-5-BF in Pakistan. A trait-model replication in a new setting was hypothesized and to our knowledge, this study is the first to attempt to provide information on the psychometric characteristics of the PID5-BF in our culture. The translation was carried out by thoroughly following the guidelines available in the literature (see Brislin, 1970; Gudmundsson, 2009). To confirm the five dimensions of the maladaptive personality traits among adults and to verify the construct validity of the PID-5-BF, it underwent confirmatory factor analysis using AMOS 24 after being translated and evaluated by professionals. Results showed that after a minor modification—adding covariance (which was added because of the possibility of the

items' similarity) between a few error terms on the same factor—the five-factor structure of the PID-V-BF sufficiently captures maladaptive personality traits in adults. These results indicate that five-factor model is applicable to our culture as well.

Results further revealed that items load onto their relevant domains with sufficient factor loadings (i.e., > .3 see Bian, 2011). Items related to attention-seeking, canny, untruthfulness, and grandeur was loaded onto a factor named antagonism. Factor two, titled detachment, incorporated items representing abandonment, anhedonia, and emotional numbing. Similarly, disinhibition (factor III), included items that demonstrate impulsivity and irresponsibility. Likewise, in factor IV, loaded items represent the apprehension and depression that are indicators of negative affectivity. Lastly, factor V constitutes items representing peculiarity, odd and bizarre beliefs and is the depiction of the psychoticism domain. Previous studies have also replicated this five-structure model in other countries as well (Anderson et al., 2018); Bach, Maples-Keller, Bo, & Simonsen, 2016; Fossati et al., 2017). For this study, Cronbach's alpha obtained for each domain varied from .81 to.87 and was above the cutoff of .07 which pointed to the internal consistency of this measure. Reliability analyses reveal similar results with the previous studies (Anderson et al., 2018; Korycinski, 2017; Pires, Ferreira, Guedes, Goncalves, & Henriques-Calado, 2018). Moreover, the correlation between all items and overall domain scores (r= 0.36-0.67) was satisfactory. In general, the PID-5-BF maintained acceptable psychometric qualities. This study added to the cross-cultural applicability of this inventory potentially at least in its Urdu translation. The findings of the current study established that the trait model of DSM is culturally informed and is sufficient in catching maladaptive personality traits in the Pakistani sample on a domain level. The reason for validating this scale was that the categorical approach to diagnosis has well-documented flaws (Samuel, South, & Griffin, 2015). It was also observed that trait approach captures personality disorders in a better way than categorical approach (Newton-Howes, Clark, & Chanen, 2015). As a result, it is crucial for Pakistani clinicians to adopt this new approach, and recent validation will support this effort.

Implications

PID-5-BF helps clinicians and researchers to identify personality pathology or at least to pinpoint the dimensions of personality that may put any individual at risk for certain problems. Above findings suggest that we can use the well-known PID-5-BF (Urdu version) in the Pakistani context for the exploration of personality pathology or maladaptive personality traits as it shows satisfactory construct validity and reliability. We suggest that local clinics and researchers use the Urdu version of PID-5-BF for their clients and participants as it is easier for their subjects to comprehend the statements in their language than foreign language.

Limitations and Suggestions

There are some noteworthy limitations in the study that should be kept in mind concerning the interpretation of the findings. Firstly, self-report instruments were used in the study which may lead to biased results. For further studies, it is recommended that informants' reports should be utilized along with other measures. Secondly, this study was conducted on community sample, future validations should be conducted on diverse samples; specifically, further studies should include clinical samples constituted patients with personality disorders.

Availability of data and materials
Data and related materials are available from the corresponding author on reasonable request.
Ethical approval
This study was approved by the Ethical committee of National Institute of Psychology, Islamabad, Pakistan.

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Prevalence of Thanatophobia in General Population of Punjab during Covid-19 Pandemic

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Abstract

Background. The aim of this research was to check the universality of thanatophobia in general population of Punjab during COVID-19 pandemic.

Method. The study used a survey research design to conduct it, & it was quantitative in nature. In this research design, we asked multiple questions from the population of interest. The current study was comprised of general population of two areas, namely Lahore and Sargodha, from Punjab (N = 1000) with age range of 20-60 years. Data was collected through a convenient sampling technique. The scale used in the study was Collet-Lester Fear of Death (Thanatophobia) Scale, proposed by Collett-Lester (1969). The final version was published in 2003 (Lester, 2003).

Results. Analysis showed that on Pearson product moment correlation, subscales of Thanatophobia scale significantly correlated with each other in general population of Punjab at the (p < .01) level. An Independent sample t-test for gender difference showed non-significant differences in the Thanatophobia subscales. Fear of death according to age categories in the MANOVA analysis of variance indicated that there were noticeable differences. According to educational level, there were remarkable variations founded on the fear of death in the MANOVA analysis of variance.

Conclusion. This article is related to the fear of death. This falls under those concerned social issues that need to be identified and addressed on a greater scale in the form of organizing seminars, conferences, workshops etc., especially during and after the COVID-19 pandemic. The fear of death increased at a greater rate during and after COVID-19 pandemic. This study is important for clinical psychologists and counselors to know about new behaviors and new findings about thanatophobia in public during COVID-19 pandemic and to further researches in this area for exploration.

Keywords. Thanatophobia, fear of death, prevalence, and pandemic.

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Introduction

The name Thanatophobia was introduced by Freud, 1915.It's a Greek word ''Thanatos'' refers to death and "phobos" means fear. Thus, thanatophobia denote as the fear of death. Thanatophobia stands for the fear of death and dying process, activities & even thinking. It is very common to be worried about death in the elderly or for someone who is seriously ill. It's also a usual worry for people to concern about their bloodline and close friend's deaths. This new type of virus induced fear also in those who didn't have these problems before COVID-19 pandemic. Furthermore, there is no treatment for this new type of disease. The indications of these pathogens were coughing, sneezing, fever and they have harshly influenced the respiratory system of the contaminated individuals. News circulated on social media related to virus spread rate or death ratio further increased phobic reaction in public. There was research on large sample size during covid-19 pandemic in Australia on 810 individuals (Newton-John et al., 2020). They found that phobic reaction and abnormal behaviors during covid-19 expanded their impact on psychological wellness at a larger rate.

Yalom concluded that people are growing closer to death with every single breath they have taken. Death is a certain fact, and living souls are temporary (Yalom, 2008, as cited in Newton John et al., 2020).Jung's point of view on thanatophobia is that in real life is the unease of lasting life. Overthinking of individuals related to their loss of life and being scared regarding their existence. Jung believes people are more upset regarding mortality, so they can't stabilize their survival (Jung, 1953, as cited in Cetin, 2015).Death can be denoted as the finale of the main duty in life for survival, the ending of existence, winding of the living soul, vegetation, and pets (Cetin, 2015, as cited in Benzie's, 2018).From medical point of view, the end of life is known as the end of heart and mental capacity. These two systems are regarded as central processing units of the human body (Birol, 2003, as cited in Mamun, 2019).

Demographics Differences about the Thanatophobia (fear of death) Age.

The principal variable that influences thanatophobia is age, as indicated by the study from Suhail and Akram (2002, as cited in Hayat et al., 2020).) Their findings were that humans who are between 55-70 have more fear related to death (Suhail & Akram, 2002, as cited in Hayat et al., 2020) than other age categories. Their study also pointed out that fears related to death are highly common with growing older than among adults who are growing older than younger; therefore fear of death is more common among older adults.

Gender

This research was conducted by Suhail and Akram (2002, as cited in Fouzia et al., 2022) analytical gap regarding death-related fear. They also indicated that girls have a greater number of death-related fears than boys. Khaliq (2005, as cited in Rayan et al., 2023) pointed out that women showed more death-related worry than men. This investigation was supervised in China by Wu & Tang, (2002, as cited in Zaher et al., 2023). The findings were that sexuality doesn't influence death-related fears.

Educational Level

The idea behind organizing this research was to look over the worry of dying (fear of death) regarding the educational categories, self-reported anxiety, the death of oneself and others. In this survey, they incorporated 241 students. The survey was comprised of 92 graduate students and 149 undergraduate students (Bozkurt, et al., 2022). They used the Multidimensional Fear of Death Scale (MFODS) and the Death Anxiety Scale (DAS).Two of the batch of students manifest matching outcomes on worry of eroding away. Degree-holder students exhibited a lower amount of fear in every single category.

Marital Status

Numerous analyses described the role of married correlation, especially in men because they run the families and sexual distinction regarding to decay and death. The objective of organizing this study was to investigate the role of weddings in contrast to sex -related dissimilarities in fear of

death among married individuals who have babies or without babies and unmarried individuals. Additionally, they incorporated the twenty demographics and examined their impact on death related fear. The outcome of the multiple regression analysis indicated that fear of death is not influenced by marital status. But they concluded that unmarried men have a higher level of fear of death as contrast to unmarried women. Age, education, family member, also associated with fear of death (Michael, 1979, as cited in Junjie et al., 2022).

Literature Review

The COVID-19 disorder has become a huge difficulty in the entire world. This research was organized in Germany. According to this investigation, there were multiple effects of this illness, like physical, economic, mental health issues, warning, short temper issues, and fright and terror issues in humans. This study examined the COVID-19 phobias related to epidemiological, clinical, and psychosocial characteristics. This investigation also looked at the commonness of fear in public who already had identification of phobias-related problems and in mentally fit individuals. It was also investigated how much news and social media statistics and unique individuals of COVID-19 are connected together with corona anxiety or fear. It was also investigated if these people needed any healing aid regarding corona-related distress (Waheed, Muhammad, & Qaiser, 2020).

WHO (World Health Organization) has notified multiple kinds of viral diseases and plenty of humans are at considerable risk of transmitting diseases in many parts of the world. The COVID-19 pandemic was called "an extensive health disaster". It is a significant dispute for mental health since the Sudden Acute Respiratory Syndrome (SARS) in 2003.The Coronavirus was at primarily appeared in China at the end of 2019, and it expanded to 13 countries on January 24, 2020. Corona virus is an ailment that is enlarges in the entire sphere. But it was primarily acknowledged in Wuhan, China. It has seriously influenced humans and expanded the death ratio in human beings. The signs of this virus were coughing, sneezing, fever, shortness of breath, and diarrhea. They believed bats were the origin of this virus transference into living individuals. With the increased in death percentage, psychological issues increased in humans at a larger rate. For example, fears of getting infected, fear of losing loved ones, depression, losing friends were crucial issues.

Prevalence of Thanatophobia (Fear of Death) in Pakistan

Numerous surveys were regulated in Pakistani neighborhoods on suicide, like India in 2019; Bangladesh, Mamun et al, in 2020, but the local data on suicide was not accessible. The purpose of this research was to grasp the facts and figures from the details about self-killing in Pakistan. Pakistani journalism disclosed 29 suicide victims in January 2020 in Urdu as well as in English. Among these sufferers 16 cases (12 end themselves and 4 make an effort) were affiliated with COVID-19 issues. There were 12 men and 4 women. The living individuals who participated in the survey. This research was supposed to show that the most repeated difficulties among all the samples of study were budget problems and anxiety about COVID-19.

COVID-19 has expanded the difficulty level on the whole earth. Due to seclusion and solitude, lockdown issues, and the unexpected deaths of contaminated individuals, people feel worry and hopelessness. Different analyses indicated an increase in psychological issues in the course of the COVID-19 wave. The target of organizing this survey was to note the ratio of anxiety, preventive measures, and fear of Corona issues among the individuals of Khyber Pakhtunkhwa (KPK) Pakistan. They applied a cross-sectional design to this research. They managed to investigate individuals on online platforms due to solitude and lockdown difficulties. They sketched the Google form to gather the information. They gathered information through Facebook, WhatsApp, and LinkedIn. In this study, there were 501 individuals involved.

SPSS was applied for categorization and conclusion of the information. Participants of this study were researchers, Policymakers, Psychologists and Psychiatrists who wanted to examine anxiety reasons and a variety of characteristics among individuals in the course of the Corona virus outbreak (Waheed, Muhammad, & Qaiser 2020).

Prevalence of Thanatophobia (Fear of Death) in Other Countries

Prevalence in Brazil, America, and India. It was notified by the World Health Organization (WHO) that a huge quantity of specimens infected by COVID-19 were found in china in the province of Hubei on December 31st, 2019 (Cascella et al., 2020).This was a new kind of pathogen that was found in humans (Amawi et al., 2020). The new microorganism, labeled SARS-COV-2 (or new coronavirus), impact the respiratory systems of the people, and the illness was called as coronavirus (Gorbalenya et al., 2020). In Brazil between 2020 and 2021, this was the purpose of a vast amount of decay and deaths in the country; almost 200,000 people died and 8 million individuals fell victims to this virus (DATASUS, 2020).Prevalence in America. The first case was declared in America on February 2020 (Rodriguez-Morales et al., 2020), and germs outspread at a higher rate in the entire region. There were 65,000 humans in Ecuador who fell victim to this disease contamination, and America became the most disastrous region on the whole earth (Munoz, 2020). Like world Ecuador is also battling different issues, like economic issues and a low amount of health resources. So it was very problematic for them to end germs, contamination of disorders and prevention for the affected people (Hoffman and Silverberg, 2018; Kapata et al, 2020). Prevalence in India. According to the Ministry of Health and Family Welfare (MOHFW), there were a total of 1071 affected people in India on March 30, 2020 in 27 regions of India. They verified 99 individuals who have gotten and 1 case was among those from abroad, and 29 verified deaths in the region. But they implemented the SOPs and strategies of

solitude, isolation, and detachedness from others. The pathogens commonly spread-out in India are caused by the travelers who came from areas where disease was expanded in large numbers and secondly caused by people who came as Indian nationals from abroad to return home due to fear of COVID-19.

Rationale of the Study

This study was taken into consideration to notify the level of Thanatophobia among the Punjabi population. This came under those concerned social issues that needed to be identified and addressed on a greater scale in the form of organizing seminars, conferences, workshops, etc. especially during and after the COVID-19 pandemic. These issues produced problematic thinking patterns that led them toward problematic behaviors like fear of death and dying of themselves and their loved ones (they don't take part in the burial ceremony of the dead person, do not see them, or do not even think about the death of the dead Person, panic problems etc.). Specifically, this issue increased at a greater rate during COVID -19 pandemic. Due to investigation, organizing seminars, workshops develop insight into public's fear of death in order to control their own worries and help others around them. Also, it was more important to convince the public about therapeutic sessions when they don't handle their worries themselves. Additionally, this research will help find out the particular thinking processes and behaviors in a particular situation and then find solutions to their worries. Moreover, this study will be important for clinical psychologists and counselors to know about new behaviors and new findings about thanatophobia in public during COVID-19 pandemic and to further research in this area for exploration.

Method

Objectives

The present study objective is to check the universality of Thanatophobia in general population of Punjab during Covid-19 pandemic. Keeping in view the literature and the observations several objectives have been formulated.

To find that higher scores on one subscale will be associated with higher scores on other subscales.

1. To explore the associations among subscales of thanatophobia scale.
2. To explore the role of demographic variable in relation to thanatophobia and its subscales.

Hypotheses

1. Higher scores on one subscale will be associated with higher scores on other subscales.
2. Females will have scores higher on Your Own Death and Others Death subscales as compared to males.
3. Individuals in the age range of 40-50 years will have scores high on Your Own Dying and Your Own Death as compared to other age.
4. Individuals have high educational level will have lower level of Thanatophobia as compared to other levels of education.

Sample

The present survey was aimed at detecting the prevalence of thanatophobia in the general population of Punjab during the COVID-19 pandemic. The study used a survey research design to conduct the study & it was quantitative in nature. In this research design, we asked multiple questions from the population of interest. This study was comprised of a general population of two areas, namely Lahore and Sargodha in Punjab (N = 1000), with an age range of (20-60 years) 20-30 years (25%) ,30-40 years (25%), 40-50 years (25%) and 50-60 years (25%).Gender categories include male (46%) and female (54%).Socioeconomic status includes Low (9.1%), middle (66%) and high (24%). Educational level includes uneducated (9.3%), middle (6%), matric (11%), bachelor (47%), and masters (26%). Data was collected through a convenient sampling technique. The survey topic up-to-date was commonly and mostly faced by all people during the COVID-19 pandemic.

Instruments

The scale utilized in this survey consists of two main parts. The first one was informed consent, which consisted of the demographic information of the individuals. The second one was the Thanatophobia (Fear of Death) Scale.

Thanatophobia (Fear of death) Scale.The Thanatophobia (Fear of Death) scale was designed to measure four types of fears in 1969 (Collet & Lester, 1969) in the USA which consisted of 36 items and was published in 1990 (Lester, 1990, 1994). A revised version was published in 1990 (Lester, 1990, 1994) with 8 items on each scale. The final version was published in 2003 (Lester, 2003), with 7 items in each subscales, which consisted of 28 items. It is further divided into 4 subscales which include domains of Your Own Death, Your Own Dying, and Others Death and Others Dying. This is a 5-point rating scale ranging from 1 as not, 2 as slightly, 3 as somewhat, 4 as and 5 as very. The Urdu version was translated by Mahwish Aslam (2003). It also consisted of 4 subscales. It has a total of 31 items. The first subscale has 8 items, second also has 8 items, third consists of 7 items and the fourth consists of 8 items. This is a 3-point rating scale ranging from 1 as never, 2 as slightly, and 3 as mostly. This scale has a separate reliability of each subscale. The reliability of fear of Your Own Death = 0.85; Others Death = 0.86; Your Own Dying = 0.79; and 0.83 for the Others Dying. Cronbach's Alpha for the four subscales is 0.91. Many studies showed that Fear of Death is a valid scale, comparable to Templer Death Anxiety Scale, and the Multidimensional Fear of Death Scale.

Procedure

In this study, Thanatophobia in the general population of Punjab during COVID-19 was studied. The information was gathered physically, following SOPs, as well as on social media platforms. The sample N=1000 comprised a number of people with an age range of 20 -60 years, present in two areas of Punjab, Sargodha and Lahore. A sample was selected through the technique of convenient sampling. For data collection, Collet-Lester scale was used. Personal

and professional information was collected using a comprehensive demographic sheet.

There were approximately 410 participants who filled out the online form using different platforms (WhatsApp, Google form etc.). The remaining approximately 590 individuals were approached personally in different settings, like universities, houses, shops, etc. In the case of online information, Google forms were arranged and spread on social media platforms. The total time taken to fulfill the requirement of physical information gathering was 1 month, and the reply ratio was adequate. The total time taken for gathering information on social media platforms were approximately 1 month, as the feedback ratio during online data gathering was relatively steady. At the end, all the individuals were appreciated for their coordination, their support and time.

Results

This study was mainly aimed to find out the prevalence of thanatophobia in general population of Punjab during covid-19 pandemic. Results mainly involved the analysis of Demographics, Correlations, T-test, and MANOVA. The values of Skewness and Kurtosis were at normality.

Table 1
Pearson Product Moment Correlation between Subscales of Thanatophobia (N = 1000)

Thanatophobia Subscales	1	2	3	4
1 Your Own Death	_	.365**	.196**	.206**
2 Your Own Dying		_	.218**	.209**
3 Others Death			_	.219**
4 Others Dying				_

Note. **$p < 0.01$

Table 1 showed Pearson product moment correlation between Your Own Death, Your Own Dying, Others Death and Others Dying in general population of Punjab. The findings indicated that Your Own Death has significant correlation with Your Own Dying ($p < .01$). Your Own Death has significant correlation with Others Death ($p < .01$). The findings also indicated that Your Own Death has significant correlation with Others Dying ($p < .01$). Table also explained Your Own Dying also has significant correlation with Others Death ($p < .01$). Findings also revealed that Others Death has significant correlation with Others Dying ($p < .01$).

Table 2
Mean, Standard Deviation and T-Values of Male and Female for Subscales of Thanatophobia (N = 1000)

Variables	Male (n = 456)		Female (n = 554)		t (998)	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
Your Own Death	14.9	3.09	15.5	3.21	-2.93	.511	-.98	-.19	0.19
Your Own Dying	16.0	3.11	16.0	3.08	-.309	.686	-.44	.325	0.0
Others Death	14.7	3.01	15.0	2.85	-1.29	.732	-.60	.125	0.1
Others Dying	15.6	3.37	15.4	3.21	.616	.718	-.28	.538	0.0

Note. *M = Mean, SD = Standard Deviation, t = T-scores, p = Value of Significance, Cohen's d = Effect Size*

Table 2 showed non-significant mean differences on Your Own Death with t (998) = 2.93, p > .05. Results showed that female students exhibit higher score on Your Own Death (M = 15.5, SD = 3.21) as compared to male students (M= 14.9, SD = 3.09). The value of Cohen's d was 0.19 which showed small effect size. Findings indicated non-significant results on Your Own Dying t (998) = -.309, p > .05. Results showed that both male and female male students exhibit same score on Your Own Dying (M = 16.0, SD = 3.11) and (M = 16.0, SD = 3.08) respectively which shows no difference. The value of Cohen's d was 0.0 which showed small effect size. Findings also revealed non-significant mean difference on Others Death t (998) = -1.29, p > .05. Results showed that female students exhibit higher score on Others Death (M = 15.0,SD = 2.85) as compared to male students (M = 14.7, SD = 3.01).The value of Cohen's d was 0.1 which showed small effect size. Findings indicated non-significant mean differences on Others Dying t (998) = .616, p > .05. Results showed that male students exhibit higher score on Others Dying (M = 15.6, SD = 3.37) as compared to female students (M = 15.4, SD = 3.21) as the difference is minimum. The values of Cohen's d were 0.0 which showed small effect size.

Table 3

MANOVA for Mean Differences of Age of Population on Subscales of Thanatophobia (N=1000).

Variable	20-30 (n=250)		30-40 (n=250)		40-50 (n=250)		50-60 (n=250)		$F_{(12, 2985)}$	η^2	Post hoc
	M	SD	M	SD	M	SD	M	SD			
YODe	14.7	3.32	14.9	3.29	16.1	2.84	15.1	3.03	9.58*	0.02	1<2<3>4
YODy	16.0	3.41	16.0	3.09	16.6	2.75	15.4	2.97	6.50*	0.01	1=2<3>4
Ode	15.2	2.98	14.9	3.10	14.6	2.52	14.8	3.06	2.35*	0.00	1>2>3<4
ODy	15.1	3.42	15.1	3.44	16.2	3.22	15.6	2.91	6.65*	0.02	1=2<3>4

Note. *YODe = Your Own Death, YODy =Your Own Dying, Ode = Others Death, ODy = Others Dying, M = Mean, SD = Standard Deviation, F =MANOVA- scores, η^2 = Effect Size, p=.000*

Table 3 showed mean, standard deviation and F-values for Your Own Death, Your Own Dying, Others Death and Others Dying across age categories. Results indicated significant mean differences on Your Own Death across categories of age with F (12, 2985) = 0.02, p < .05. Findings revealed that participants with age range 40-50 exhibited higher level of fear on Your Own Death, Your Own Dying and Others Dying (M = 16.1, SD = 2.84), (M = 16.6, SD = 2.75) and (M = 16.2, SD = 3.22) respectively as compared to other age groups. The values of effect sizes (η^2) were 0.02, 0.01 and 0.02 respectively which indicated small effect size. Findings also revealed that participants with age range 20-30 exhibit higher fear on Others Death (M = 15.2, SD = 2.98) as compared to other age groups. The value of effect size η^2 was 0.00 which indicates small effect size. The Post-Hoc comparisons indicates significant mean differences on categories of age (p < .05).

Table 4

ANOVA for Mean Differences of Education of Population on Subscales of Thanatophobia (N=1000).

Variables	Uneducated (n=93)		Matric (n=64)		Middle (n=110)		Bachelors (n=427)		Masters (n=261)		F (16, 3980)	p	η^2	Post hoc
	M	SD	M	SD	M	SD	M	SD	M	SD				
YODe	16.3	2.7	15.2	3.0	15.8	2.4	15.0	3.2	14.9	3.1	4.46	.00	0.0	1>2<3>4>5
YODy	16.5	2.8	15.6	2.8	16.1	2.8	16.2	3.1	15.7	3.2	1.92	.00	0.1	1>2<3<4>5
Ode	15.1	2.3	14.8	2.7	14.6	2.6	14.8	3.1	15.1	2.9	0.56	.00	0.6	1>2>3<4<5
ODy	16.5	3.0	15.6	2.8	16.2	2.8	15.3	3.3	15.3	3.4	3.43	.00	0.0	1>2<3>4=5

Note. *YODe = Your Own Death, YODy =Your Own Dying, Ode = Others Death, ODy = Others Dying, M = Mean, SD = Standard Deviation, F =MANOVA- scores, η^2 = Effect Size, p=significance values*

Table 4 showed mean, standard deviation and F-values for Your Own Death, Your Own Dying, Others Death and Others Dying across education categories. Results indicated significant mean differences on Your Own Death across categories of education with F (16, 3980) = 0.00, p < .05. Findings revealed that participants who are uneducated exhibit higher level of fear on Your Own Death, Your Own Dying and Others Dying (M = 16.3, SD = 2.73), (M = 16.5, SD = 2.85) and (M = 16.5, SD = 3.01) respectively as compared to other educational levels. The values of effect sizes η^2 were 0.00, 0.10 and 0.00 respectively which indicates small effect size. Findings also revealed that participants with education level master (M = 15.1, SD = 2.39) or uneducated (M = 15.1, SD = 2.39) exhibit higher fear on Others Death as compared to other educational levels. The value of effect size η^2 was 0.69 which indicates small medium size. The Post-Hoc comparisons indicates significant mean differences on categories of education (p < .05).

Discussion

The study was conducted on the prevalence of Thanatophobia (fear of death) in the general population of Punjab during the COVID-19 pandemic. Postulate 1 revealed that higher scores on one subscale will be associated with higher scores on others subscales. The hypothesis was accepted because all four scales had remarkable relationships with each other's. Your Own Death has a noteworthy association with Others Deaths. The analysis also demonstrates that Your Own Death has an important connection with Others Dying. Analysis also elaborates on Your Own Dying has a noteworthy relation to Others Death. The result also disclosed that Others Deaths have an important connection with Others Dying.

At the University of California, the similar type of research was organized by (Davis 1984, as cited in Rayan et al., 2023). They desired to examine the association between the different parts of the Fear of Death subscales. In 1974, Lester examined the 36 items of FODS and contrasted its four subscales, which were particular in their domains. These subscales were Death of Self, Death of Others, Dying of Self, and Dying of Others. After the conclusion, four new subscales were evolved along with the four initial subscales, and the total score on the FODSS scale was examined as recommended in previous researches (Collett & Lester, 1969; Dickstein, 1978, as cited in Lester, 2015). Pearson correlations between the four new subscales for Death of Others and Knowledge of Death and Dying, for Dying of Self and Others and Knowledge of Death and Dying, with an average correlation. The total FODS scores correlated significantly with death of self, dying of self and others, death of others, and knowledge of death and dying.

The 2nd postulate revealed that females will have scores higher on Your Own Death and Others Death subscales as compared to males. This

postulate is not supported because both men and women exhibited the same findings on Thanatophobia (Fear of Death) during the COVID-19 pandemic. The outcomes are non-significant about sex discrimination. There are similar results shown in other research. Similar research was conducted by Rafique et. al, (2020)about the fear of COVID-19 among graduate and undergraduate students in Pakistan. They also want to check the demographic differences among people for Lahore during COVID-19. They check differences in age, gender, family system, etc. After statistical analyses, they concluded there are no gender differences among people in Lahore (Punjab, Pakistan).

Earlier identical studies were regulated by) Wu, Tang, & Kwok"s, (2002, as cited in K. Zaher et al., 2023). An overview of Chinese people in Hong Kong revealed that sexual particularity does not influence the fear related to death. There is no distinction between boys and girls fear of death or death anxiety. Fortner and Niemeyer (1999, as cited in Fouzia. et al., 2022) conducted a study on literature reviews of the past 49 studies. They deduce that death-related fears are not influenced by sexual variation.

All these researches create blended outcomes. Tempier, Ruff, and Franks, (1971, as cited in Rayan et al. 2023) elaborate that girls feel more fear of death as contrast to boys when calculated by the Death Anxiety Scale. This analysis exhibited that girls did not vary on fear of death schemas but on fear of dying subscales. We concluded that that DAS (Death Anxiety Scale) more focus on dying then death because it tells only fear of dying and tell about the fears of death. So further investigations are required to distinguish between about fear of death related to sexual variations. We also focused on sex differences on the FODS (Fear of Death Scale). As demonstrated by our results, there is no sex discrimination on the Fear of Death Scale.

The 3rd postulate of this investigation was that individuals with an age range between 40-50 and 50-60 years will have scores high on Your Own Dying and Your Own Death as compared to other age categories. The similar study was conducted by Sacwaiger et, al. (2020).The topic of their research was the psychological impact of COVID-19 among Pakistani adults in Lahore. They also want to check demographic differences among the Lahore adults. They concluded that there are no significant age related differences among people in Lahore.

There were many other analyses exhibited by past investigations regulated at the University of California by Devis Judy, (1984, as cited in Rayan et al., 2023). In this research, 25 men and 75 women participated. They fell between the age categories of 18-82 years, and their median age was 34.5 years. They desired to calculate the sexual variation on the subscales of fear of death with regard to age groups. Their title was examining the ─demographic variables as a forecaster of mindset related to death. They exhibited that significant positive association was found for age groups with fear of death subscales, death of others, and death of self and dying of others. Age groups have a remarkable positive correlation with subscales of fear of death. The total score of the Fear of Death Scales is significantly positively associated with age. It has been suggested fear of death is high in older adults and middle-age adults than in young people. With respect to our result, 40-50 years-olds score higher on fear of death. These age groups come under middle adulthood. So this is according to our results. May be this age is the conversion from adulthood to older adulthood and there are multiple chronic illnesses mainly in this age group, so they are more worried about their death. People over the age of 40 years, especially during COVID-19, are very prone to corona virus contamination. Due to the decline in power and chronic diseases at this age like diabetes, hepatitis, and heart disease, they identify very high fear of death as compared to other young individuals during COVID-19.

The 4th postulate was that individuals with higher educational levels will have a lower level of Thanatophobia as compared to other levels of education. Relevant research was conducted by Sacwaiger; et al. (2020).The topic of their research was the psychological impact of COVID-19 among Pakistani adults in Lahore. They concluded that

there are no educational-related differences among adults in Pakistani universities in Lahore.

The same type of investigation was organized by Kritie and Eric (2015, as cited in Hayat et al.,2020). They carried out the research related to degree of education to notify the comparison between the fear of death of self and others among university students, both graduate and undergraduate. The students were evaluated with the help of the first and second forms of the Fear of Death Scale. They indicated that the graduate individuals have lower death related fears with respect to undergraduate students.

The further investigation was supervised by Rav in 2015. The purpose of this study was to examine the degree of fear of death with regard to their educational degree and understanding. They apply the Collet-Lester Fear of Death Scale to examine the intensity of fear of death. The conclusion was that people with lower or higher educational level were less afraid of death. But the individuals who are in their halfway years have more fear of death. Those individuals who have a higher educational degree and understanding have more fear of others deaths as compared to the deaths of own self. In our outcome, those who are illiterate or more degree of education have a higher fear of death. So these survey outcomes match our results.

Practical Implications

The study was taken into consideration to determine the level of Thanatophobia among Punjab population. This came under those concerned social issues that needed to be identified and addressed on a greater scale in the form of organizing seminars, conferences, workshops, etc. especially during the COVID-19 pandemic. These issues produced problematic thinking patterns that led to issues like fear of death, dying of oneself or their loved ones or the fear that they won't be able to take part in the burial ceremony of the dead person, not see them or not even think about the death of the dead person, panic problems etc. Specifically, this issue increased at a greater rate during the COVID-19 pandemic. Investigations, seminars, and workshops provided the public with insight into people's fear of death, allowing them to control their own worries and help those around them. Also, it is more important to convince the public for therapeutic sessions when they don't handle their worries themselves. Additionally, this research helped find out the particular thinking processes and behaviors in a particular situation which can, then help to find solutions to their worries. Moreover, this study is important for clinical psychologists and counselors to know about new behaviors and new findings about thanatophobia in public during the COVID-19 pandemic and to further research in this area for exploration.

Limitations & Suggestions

There were few studies conducted on the fear of death in the general population during the COVID-19 pandemic. There was only one variable included in this study, so it cannot be generalized to the whole population because all individuals belonged to different family systems, socio-economic statuses etc. The sample size was relatively small with respect to the whole population of Punjab. The time duration was too short for data collection, interpretation, and for result discussion. The investigator should go for a longitudinal study to disclose the basic reasons of the participants for elaborating fear of death. The second recommendation, investigators should go for a qualitative investigation to know more about fear of death because people may differ on the fear of death subscales scores. There can be some cultural problems related the application of the one scale in variety of people because all societies have vary in schemas related to the death and dying. So this was a requirement to be a cross-cultural idea for justification of the point of view of other societies and groups. There should be an instrument that tells about the degree of fear of death and checks independent approaches and the coping methods to deal with their worries as acceptable to their cultures.

Conclusion

This study was related to the universality of thanatophobia in the general population of Punjab

during the COVID-19 pandemic. The study concluded that subscales of the Fear of Death Scale were significantly correlated with each other's in the general population of Punjab. There were no significant gender differences on the fear of death subscales in the general population of Punjab. The conclusion showed significant differences in fear of death subscales across age categories. The analysis also showed significant mean differences across education categories.

Ethics approval and consent to participate. The study was approved by The Punjab Higher Education Commission, Pakistan. Permission to collect data was taken from the participants, and informed consent was taken from the participants of the study.

Consent for publication. Consent approved by the authors.

Availability of data and materials. Not Applicable

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