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IMPACT OF EARLY MALADAPTIVE SCHEMAS ON BEHAVIORAL PROBLEMS OF YOUNG ADULTS. MEDIATING ROLE OF COGNITIVE FLEXIBILITY

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Abstract:
Childhood and adolescence are the times when early maladaptive schemas are created. These deeply rooted cognitive patterns affect how people see and react to the world around them. These schemas are often associated with various psychological difficulties, including behavioral problems. So the present research was intended to explore the early maladaptive schemas on behavioral problems of young adults. Further, it was aimed to explore the mediating role of cognitive flexibility among study variables. Cross-sectional survey research design was used. Sample was comprised of young adults (N = 300) with ages ranging from 18 to 24 years (M = 19.97, SD = 1.95). Data was collected by using convenient sampling technique from young adults of colleges and universities in Sargodha city. The Young Schema Questionnaire – Short Form developed by (Young & Brown, 1998), the Adult Self-Report (ASR) developed by (Achenbach & Rescorla, 2015), and the Cognitive flexibility scale developed by (Martin & Rubin, 1995) were used for data collection. Correlation, Process Macro, and t-tests were used to analyze the relationship and mediating role of cognitive flexibility. The findings showed a significant positive relationship between young adults' behavioral problems and their early maladaptive schemas. Additionally, it was found that cognitive flexibility partially mediated this relationship, indicating that those with more deeply ingrained early maladaptive schemas typically have lower cognitive flexibility, which in turn plays a role in the development of behavioral issues. T-test analysis revealed a significant

mean difference of gender on study variables. These results highlight the need of taking cognitive

flexibility into account as a potential mechanism by which early maladaptive schemas affect young adults' behavioral functioning.

Keywords: early maladaptive schemas, cognitive flexibility, behavioral problems, young adults.

Introduction

Young adults face various challenges that affect their behavior and attitudes throughout their lives. Behavior patterns are influenced significantly by early maladaptive schemas (EMS). Individuals develop EMS in childhood and adolescence, and they persist into adulthood, affecting the way they perceive themselves, other people, and the world around them. Schemas can play a significant role in a young person's behavior, affecting their ability to make decisions, their relationships, and their overall wellbeing. Developing effective interventions requires a detailed understanding of how EMS affects behavioral problems. The relationship between cognitive flexibility and risk has also been highlighted in recent years, revealing possible interventions and interventions.

Schemas that are created early in one's life are normally the most remarkable. Whenever a person's maladaptive patterns initiate in various circumstances in adulthood, the individual is generally encountering exciting memories from his/her youth life. Individuals have schemas in their childhood that track down their direction into adulthood. Early maladaptive schemas are the foundation factors that underlie numerous affective problems. Initiation of early maladaptive schemas is related to emotions that cause various psychological problems. Essentially the roots of early maladaptive schemas are hidden in unpleasant experiences of childhood (Basile et al., 2017). It is possible to overlook the fundamentals of a family unit when a social isolation schema is applied to late childhood. The absence of love and understanding in a child's environment can lead to emotional abandonment schemas. When a child is exposed to dependence schemas, he or she is rarely treated seriously and relentlessly, rather they are ruined. Therefore, self-guidelines and restrictions do not satisfy the kids' passions (Young, et al., 2011). Early maladaptive schemas are connected with negative beliefs about one's self and others. In general, schemas are frameworks and patterns of information processing that show the individual's method of conceptualizing stimuli (Young, 1994).

Individuals with patterns of self-regulation and dysfunctions such as incompetence, vulnerability to harm/illness, and self-immaturity, lacking an independent identity and unable to live without the loyal help of others, cannot plan specific goals to become skilled. Early maladaptive schemas are important predictors of depression, anxiety, and obsession. People with this pattern have an unfounded extreme fear that a catastrophe such as a heart attack, insanity, or a plane crash will occur at any moment and that the person cannot prevent it (Sharafi, et al., 2016).

A number of psychological disorders are associated with early maladaptive schemas. There has been evidence that early maladaptive schemas are characterized by specific profiles in several groups of patients, which confirms the specific characteristics of these schemas. The shame/deficiency schema accounts for 21 percent of the variance in anxiety symptoms according to one study that correlated early maladaptive schemas with behavioral problems, and another study found that early maladaptive schemas predict 50 percent of behavioral problems (Mokhtari et al., 2022; Hollock, Charman & Baird, 2021). Behavioral disorders are correlated with all schema domains, found Kim and Lie (2014) in their study of schema domains and anxiety disorder symptoms. Fischer, Smout, and Delfabbro (2016) have stated that 34 percent of behavioral problems are due to the following schemas i.e. Susceptibility to harm/ illness, incompetence, and emotional inhibition.

Only enduring principles and generating schemas, however, have been linked to the anxious state. Cognitive rigidity, which has been a crucial component of Acceptance and Commitment Therapy (ACT) in psychopathology, is another detrimental aspect that may cause anxiety. It has been

suggested that the stiff response to the interior experience is an avoidance behavior stemming from intolerable emotional distress. Mental inflexibility is detrimental since it may lead to behavioral restrictions and lessen the chance of receiving outside assistance. Studies indicate that tension-related symptoms have been linked to mental inflexibility (Borjali et al., 2016).

The studies conducted on the Pakistani population mostly focus on the effect of early maladaptive schemas on anxiety, depression, and OCD. The present study aims to investigate how youth behavioral problems will occur by the early maladaptive schemas and also investigates how cognitive flexibility mediates the relationship between early maladaptive schemas and behavioral problems among young adults of the Pakistani population.

Objectives

To fulfill the purpose of the present study, the following objectives were considered.

1. To investigate the relationship of early maladaptive schemas with behavioral problems among young adults.
2. To examine the mediating role of cognitive flexibility in the relationship between early maladaptive schemas and behavioral problems among young adults.
3. To examine the role of demographics on proposed study variables**.**

Hypotheses

Hypotheses of the current study are as follows;

1. Early maladaptive schemas will be significantly correlated with behavioral problems (i.e. rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawn, thought problems, and intrusive behavior) among young adults.
2. Early maladaptive schemas will significantly predict behavioral problems (i.e rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems, and intrusive behavior) among young adults
3. Cognitive flexibility would significantly mediate the relationship between early maladaptive schemas and behavioral problems (i.e. rule-breaking, aggression, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems, and intrusive behavior) among young adults.
4. There would be a significant gender difference in early maladaptive schemas, behavioral problems, and cognitive flexibility among young adults.

Subject and Methods

Sampling.

The present study is based on a cross sectional survey research design. For the study, a large sample was selected to examine the hypothesis and further analysis. The sample of the present study comprised young adults (N = 300) with ages ranging from 18 to 24 years (M = 19.97, SD = 1.95). Data was collected from both boys and girls by using convenient sampling technique from different colleges and university of Sargodha, Pakistan.

Instruments

The following instruments were used for data collection:

The demographic sheet was constructed to gather information on name (optional), age, education, family system, and residential area.

Young Schema Questionnaire – Short Form. It was developed to measure the early maladaptive schemas of a young adult. It is 6-point Likert scale and has 75 items with response format 1= completely untrue of me to 6 describing me perfectly. Cronbach's alpha of this scale was .70- .80. it consists of 16 domains of early maladaptive schemas in young adults that is emotional deprivation, abandonment, mistrust /abuse, social isolation, defectiveness /shame, dependence/incompetence,

failure to achieve, vulnerability to harm and illness, enmeshment, subjugation, self-sacrifice, emotional inhibition, unrelenting standard, entitlement/ grandiosity, insufficient self-control/self-discipline. There is no reverse coding (Young & Brown, 1998).

Adult Self-Report (ASR)

The Adult Self-Report (ASR) is a checklist to assess adult behavior. It consists of 120 problems of which 8 syndromes were used. It includes rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems, and intrusive behavior. It is 3 3-point Likert scale and the response format is ranging from 0 = not true to 2 = very true. Alphas reliability for ASR was 0.89 to 0.97 (Achenbach & Rescorla, 2015).

Cognitive flexibility scale. The cognitive flexibility scale consists of 12 items and 6 points Likert scale. Response format ranges from 1 = strongly disagree to 6 = strongly agree. Items numbers 2,3 5 and 10 were reverse coded. It has no sub-scales. Alphas reliability for cognitive flexibility was 0.76 (Martin & Rubin, 1995).

Procedure and Ethical Consideration

The questionnaire was converted into Google Forms. Participants were given questionnaires by the online method. Links to the questionnaires were sent to the participants and were asked to fill out. Before the filling responses, the participants were told about the research purpose briefly. They were insured that their data would be kept confidential. They were asked to fill in if they were willing to participate in the study. Instructions were given to them and were also permitted to ask in case of any confusion. Administration time was not fixed. Participants were acknowledged at the end. Data was gathered and scored. In the end, scoring was analyzed and final results were made. The questionnaire which was incomplete or not filled properly was discarded from the data. After data collection statistical analysis was done to test the hypothesis, and based on that analysis all hypotheses were accep

Table 1 *Demographic Characteristics of Sample (N= 300)*

Variables	*f*	%	Total
Age			300
18-24	300	100	
Gender			
Male	191	63.7	
Female	109	36.3	
Family system			300
Joint	149	49.7	
Nuclear	151	50.3	
Residential area			300
Rural	148	49.3	
Urban	152	50.7	
Education			300
Intermediate	129	43	
Graduation	77	25.7	
Master	94	31.3	

Table 1 shows frequency and percentages of sample demographic characteristics. Results indicate that frequency of male's and female's with ages 17-24 is (*f* = 300, 100 %). Gender is categorize into male's (*f* = 191, 63.7%) and female's (*f* = 109, 36.3 %). Family system is another variable which divide sample into nuclear (*f* = 149, 49.7 %) and joint family system (*f* = 151, 50.3 %). Present study categorized education into form includes intermediate (*f* = 129, 43 %), Graduation (*f* = 77,

25.7%) and Master (*f* = 94, 31.3%). Sample is also categorized into two residential area i.e. rural (*f* = 148, 49.3%) and urban (*f* = 152, 50.7 %). ted.

Results

SPSS 24 versions were used to analyze data. Frequencies and descriptive statistics were computed to ensure the psychometric properties. Pearson correlation analysis was performed to identify the nature of the correlation. Multiple and simple linear regression analysis was used for hypothesis testing (See Tables 7 to 11). Mediation was performed to analyze the moderating effect of study variables (See Table 12 to 30). Independent sample *t*-test and one-way ANOVA were performed to make a comparison based on demographic variables for these scales (See Table 31 to 32).

Table 2 Descriptive Statistics, Psychometric Properties, and Reliability of Study Variables (N = 300)

				Range		
Variables	*M*	*SD*	α	Potential	Actual	Skewness
Emotional deprivation	19.48	2.94	.86	1-6	1.31-1.86	-.60
Abandonment	19.27	3.89	.84	1-6	1.57-1.73	-1.17
Mistrust /abuse	19.07	3.07	.83	1-6	1.38-1.80	-.43
Social isolation	18.93	4.08	.82	1-6	1.44-1.90	-1.36
Defectiveness /shame	17.97	4.04	.81	1-6	1.36-1.70	-1.23
Dependence/incompetence	18.19	4.62	.84	1-6	1.26-1.58	-1.03
Failure to achieve	14.72	5.49	.82	1-6	0.86-1.33	-.01
Vulnerability to harm and illness	17.77	4.06	.84	1-6	1.67-2.06	1.10
Enmeshment	17.42	4.34	.82	1-6	1.20-1.66	1.01
Subjugation	18.50	3.94	.79	1-6	1.43-2.04	1.49
Self-sacrifice	17.85	4.16	.81	1-6	1.22-1.54	1.32
Emotional inhibition	18.51	3.91	.79	1-6	1.12-1.62	1.20
Unrelenting standard	18.82	3.36	.82	1-6	1.44-1.82	1.65
Insufficient self-control	17.67	4.36	.75	1-6	1.16-1.53	1.23
Entitlement/ grandiosity	5.83	2.98	.80	1-6	1.25-1.61	.7
Rule-breaking	14.54	6.78	.57	0-2	0.31-0.70	.28
Aggressive	11.13	5.26	.70	0-2	0.26-0.67	.48
Attention problems,	13.27	5.33	.71	0-2	0.33-0.71	.53
Anxiety/depression	16.88	5.75	.77	0-2	0.24-0.76	-.7
Somatic complaints	17.45	5.22	.52	0-2	0.24-0.76	-.78
Withdrawal	16.83	5.06	.67	0-2	0.24-0.76	-.76
Thought problems	15.76	5.74	.51	0-2	0.24-0.74	-.36
Intrusive behavior	17.23	5.11	.81	0-2	0.33-0.73	.23
Cognitive flexibility	31.28	9.19	.86	1-6	1.12-1.76	.64

Table 2 shows the psychometric properties of study variables. Reliability analysis indicates the Young Schema Questionnaire – Short Form, Adult Behavior Scale (rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems, and intrusive behavior) and Cognitive Flexibility Scale has .satisfactory internal consistence.

Table3 Pearson Correlation of Present Study Variables (N = 300)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ED	-	.30***	.27***	.09	.02	.15	.04	-.03	-.03	.09	-.03	-.10	-.03	-.10	-.06	.15	.13**	.12*	.11	.12*	.10	.07	-.06
AB		-	.11*	.13*	.20***	.14*	.02	.22***	.03	.25***	.22**	.07	-.09	-.02	-.04	.31***	.30***	.32**	.26***	.21**	.23**	.27**	-.03
MT			-	-.07	-.04	-.05	.16**	.01	-.01	.07	.02	-.03	-.09	.02	-.10	.02	.04	.05	-.01	.00	.05	-.01	.09
SI				-	.29***	.39***	.16**	-.05	-.05	-.01	.03	-.11*	-.03	-.02	.05	.31**	.32**	.27***	.21***	.25**	.22***	.26***	-.08
De					-	.12*	.05	.05	.07	-.11	-.10	-.10	.02	.37***	.31**	.32**	.29**	.32**	.31**	.31**	-.15*	.28***	.28***
Dep						-	.10	-.05	.04	.15**	.05	.05	-.12*	.19**	-.01	.40***	.36***	.33***	.34***	.28***	.28***	.32***	-.08
FA							-	-.14*	.10	.24**	.10	-.06	.02	-.13*	.09	.08	.06	.05	.02	.06	-.01	.05	-.21**
VH								-	.12*	.06	.24**	.17**	-.01	.09	-.03	.25***	.24***	.26**	.27**	.24**	.22**	.24***	-.05
EN									-	.31**	.41***	.06	.19**	.05	-.01	.02	.00	.04	.05	.03	.00	.02	.03
Sbj										-	.42**	.08	-.03	-.16**	.11*	.02	.01	.01	.02	-.00	-.02	.00	-.10
S-S											-	.21**	-.00	.00	.04	.00	-.00	-.02	-.02	-.03	-.03	.02	-.02
EI												-	-.11	.13*	.06	.04	.06	.06	.09	.10	.07	.09	-.02
UNR													-	.06	-.09	-.18**	-.17**	-.17**	-.20**	-.21**	-.16**	-.22**	.02
E/Gr														-	-.11	.11*	.09	.07	.09	.14*	.07	.11	.01
R-B															-	-.01	-.04	-.02	-.04	-.07	-.00	-.02	-.08
Ag																-	.85**	.81***	.76**	.70**	.68**	.770***	-.22**
AP																	-	.83***	.69***	.57***	.61***	.71**	-.15**
Anx/Dep																		-	.76**	.63**	.661***	.71**	-.16**
SC																			-	.63**	.62**	.69**	-.18**
WD																				-	.60**	.75**	-.22**
TP																					-	.76***	-.22**
IB																						-	-.29***
CF																							-

Note: ED = emotional deprivation; AB= abandonment; M/A= mistrust /abuse; SI= social isolation; Def/S = defectiveness /shame; Dep = dependence/incompetence; FA = failure to achieve; VH = vulnerability to harm and illness; En = enmeshment; Sbj = subjugation; S-S = self-sacrifice; EI = emotional inhibition; US= unrelenting standard; En/G = entitlement/ grandiosity; ISP = insufficient self-control/self-discipline, rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems; IB = intrusive behavior; CF = cognitive flexibility.

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

Table 4 shows Pearson correlation among present study variables. The findings indicate that early maladaptive schemas (emotional deprivation, abandonment, social isolation, defectiveness, dependence/incompetence, failure to vulnerability to harm and illness, enmeshment, subjugation, self-sacrifice emotional inhibition) has significant correlation with behavior problems (rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems, and intrusive behavior). A behavior problem (rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems, and intrusive behavior) has significant negative correlation with cognitive flexibility.

Table4 Predictors of Behavioral Problems among Young Adults (N = 300)

	Rule-breaking			Aggressive			Attention problems			Anxiety/depression		
Predictors	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Constant	-1.18	4.32		.69	3.95		-1.05	3.92		-.80	4.30	
Emotional deprivation	.01	.10	.01	.05	.10	.03	.17	.09	.09	.07	.10	.04
Abandonment	.25	.08	.17**	.17	.07	.13*	.12	.07	.09	.22	.08	.15**
Mistrust /abuse	-.05	.10	-.03	.08	.09	.05	-.07	.09	-.04	-.05	.09	-.02
Social isolation	.18	.08	.13*	.12	.07	.10	.17	.07	.13*	.09	.08	.07
Defectiveness /shame	.21	.08	.15**	.24	.07	.19**	.28	.07	.21***	.19	.07	.14*
Dependence/incompetence	.21	.07	.17**	.17	.06	.16*	.10	.06	.09	.29	.07	.23***
Failure to achieve	.08	.05	.08	.00	.05	.00	.09	.05	.10	.04	.05	.04
Vulnerability to harm and illness	.30	.07	.21	.25	.07	.20	.30	.06	.23	.37	.07	.26
Enmeshment	.09	.07	.07***	.07	.06	.06***	.11	.06	.09***	.15	.07	.11***
Subjugation	-.12	.08	-.08	-.08	.08	-.06	-.04	.08	-.03	-.06	.08	-.04*
Self-sacrifice	-.16	.08	-.11	-.19	.07	-.15	-.24	.07	-.19	-.25	.08	-.18
Emotional inhibition	.10	.07	.07	.09	.07	.07*	.13	.07	.10**	.10	.07	.07**
Unrelenting standard	-.30	.08	-.18	-.17	.08	-.11	-.28	.08	-.18	-.27	.08	-.15
Entitlement/ grandiosity	.10	.07	.08***	.05	.06	.04*	.17	.06	.14**	.06	.07	.04**
R^2	.30			.25			.31			.31		
F	8.79			6.68***			8.93***			9.14***		

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

Table5 Predictors of Behavioral Problems among Young Adults (N = 300)

	Somatic complaints			Withdrawn			Thought problems			Intrusive behavior		
Predictors	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Constant	-6.75	3.92		-9.52	3.86		-12.92	4.79		8.70	2.5	
Emotional deprivation	.01	.09	.01	.06	.09	.03	.14	.12	.06	-.03	.06	-.03
Abandonment	.30	.07	.22***	.25	.07	.19**	.32	.09	.18**	-.05	.05	-.06
Mistrust /abuse	.07	.09	.04	.03	.08	.02	-.03	.11	-.01	-.10	.06	-.11
Social isolation	.18	.07	.14*	.23	.07	.18*	.21	.08	.13*	.04	.04	.06
Defectiveness /shame	.19	.07	.15**	.17	.07	.13*	.32	.08	.19***	.01	.04	.01
Dependence/incompetence	.22	.06	.19**	.24	.06	.21***	.35	.08	.24***	-.04	.04	-.06
Failure to achieve	.05	.05	.06	.06	.05	.06	.11	.06	.09	.04	.03	.081
Vulnerability to harm and illness	.32	.07	.24	.30	.06	.23	.41	.08	.24	-.014	.04	-.02
Enmeshment	.13	.06	.11***	.06	.06	.05***	.09	.08	.05	-.03	.04	-.04
Subjugation	-.09	.08	-.06*	-.08	.07	-.06	-.12	.09	-.07***	.09	.05	.12
Self-sacrifice	-.25	.07	-.19	-.18	.07	-.14	-.21	.09	-.13	.00	.05	.009
Emotional inhibition	.08	.07	.06**	.07	.07	.05**	.04	.08	.02*	.05	.04	.07
Unrelenting standard	-.19	.08	-.12	-.18	.08	-.12	-.26	.09	-.13	-.07	.05	-.08
Entitlement/ grandiosity	.04	.06	.03*	.07	.06	.06*	.13	.08	.08**	-.04	.04	-.06
R^2	.33			.33			.38			0.65		
F	10.08***			10.27***			12.70***			1.41		

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

Table 4 and table 5 shows findings of multiple regression analysis that is computed with maladaptive schemas as predictor variables and behavioral problems as outcome variable. Finding show that early maladaptive schemas (abandonment, social isolation, defectiveness, dependence, enmeshment, subjugation, emotional inhibition and entitlement significantly positively predicts following behavioral problems rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems, and intrusive behavior whereas intrusive behavior is non-significantly predict by early maladaptive schemas.

Mediational Analysis

Table 6 Mediating Effect of Cognitive Flexibility through Early Maladaptive Schemas on Attention Problem among Young Adults (N = 300)

Paths	Outcome Variable	Predictor Variable	*β*	95%CI	
				LL	UL
A	Cognitive flexibility	Early maladaptive schemas	-.06*	-.11	-.01
B	Attention problem	Early maladaptive schemas	.07***	.04	.09
C	Attention problem	Cognitive flexibility	-.10***	-.16	-.04
D	Cognitive flexibility	EMS through attention problem	.01[a]	.001	.01

Note.EMS = Early maladaptive schema.

****p* <.001, ***p* <.01

Table 6 shows that both direct and indirect effect of EMS on attention problem is significant so it suggests partial mediation of cognitive flexibility among the relationship of EMS and attention problem.

Figure 2.

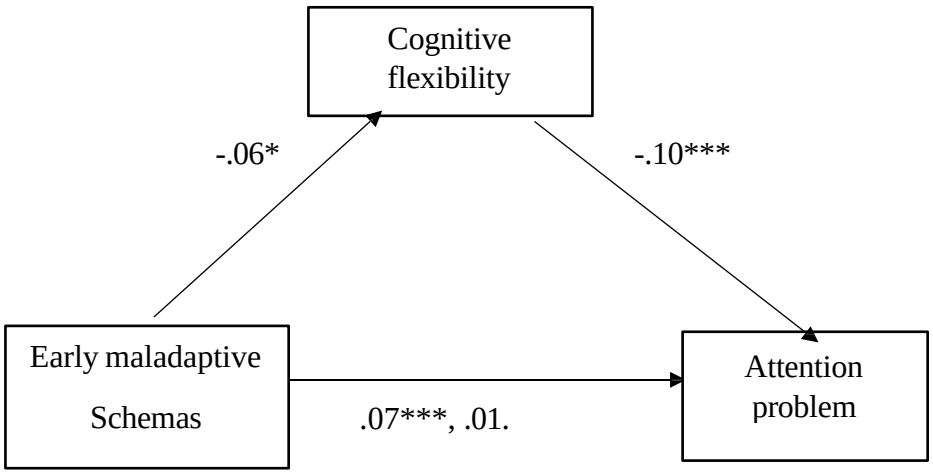


Table 7 Mediating Effect of Cognitive Flexibility through Early Maladaptive Schemas on Anxiety/depression among Young Adults (N = 300)

Paths	Outcome Variable	Predictor Variable	*β*	95%CI	
				LL	UL
A	Cognitive flexibility	Early maladaptive schemas	-.06*	-.11	-.01
B	Anxiety/depression	Early maladaptive schemas	.08***	.05	.11
C	Anxiety/depression	Cognitive flexibility	-.09**	-.15	-.02
D	Cognitive flexibility	EMS through Anxiety/depression	.01[a]	.001	.01

Note.EMS = Early maladaptive schema.

****p* <.001, ***p* <.01

Table 7 shows that both direct and indirect effect of EMS on anxiety/depression is significant so it suggests partial mediation of cognitive flexibility among the relationship of EMS and anxiety/depression.

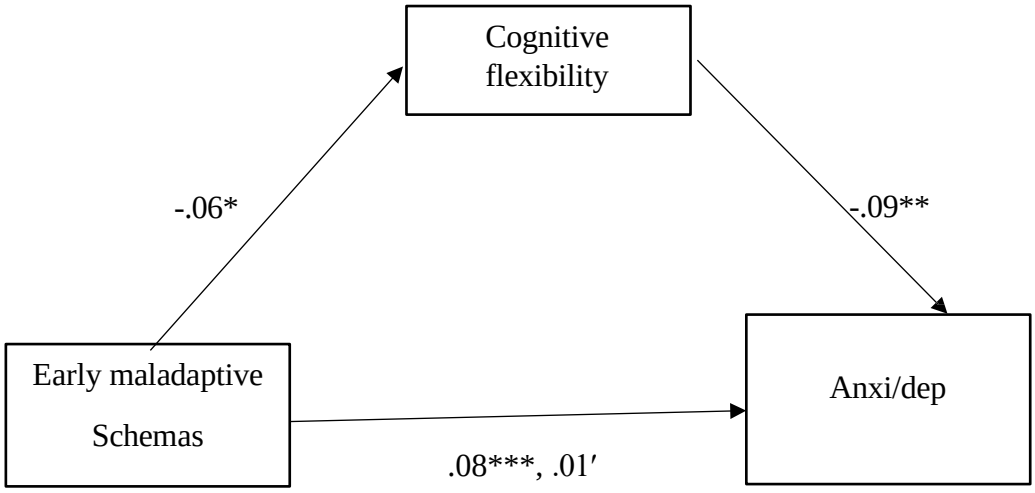


Figure 3. Cognitive flexibility mediating the Relationship between EMS and anxiety/depression

Table 8 Mediating Effect of Cognitive Flexibility through Early Maladaptive Schemas on Somatic Symptoms among Young Adults (N = 300)

Paths	Outcome Variable	Predictor Variable	*β*	95%CI	
				LL	UL
A	Cognitive flexibility	Early maladaptive schemas	-.06*	-.11	-.01
B	somatic symptoms	Early maladaptive schemas	.09***	.06	.11
C	somatic symptoms	Cognitive flexibility	-.07*	-.13	-.01
D	Cognitive flexibility	EMS through somatic symptoms	.01[a]	.001	.04

Note.EMS = Early maladaptive schema.
****p* <.001, ***p* <.01

Table 8 shows that both direct and indirect effect of EMS on somatic symptoms is significant so it suggests partial mediation of cognitive flexibility among the relationship of EMS and somatic symptoms.

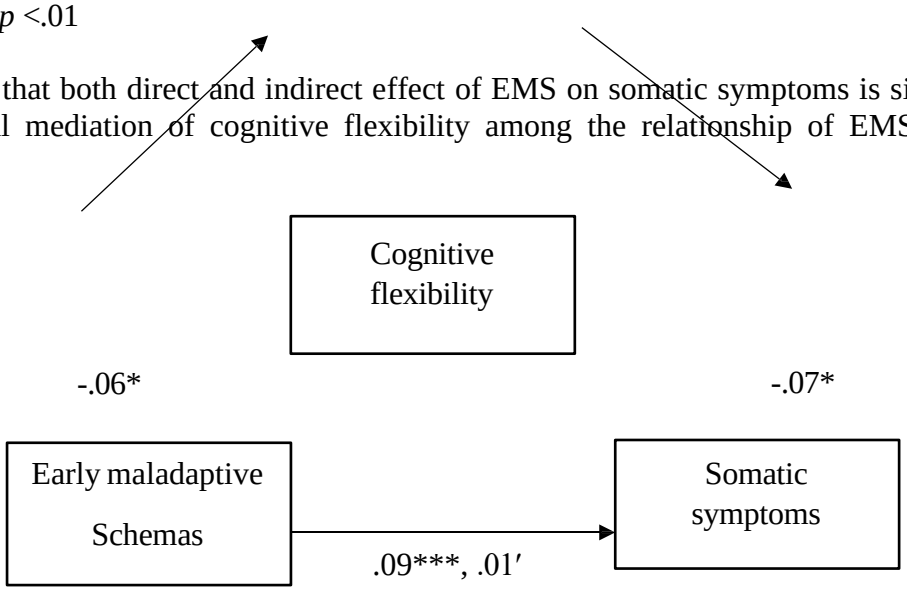


Figure 4. Cognitive flexibility mediating the Relationship between EMS and somatic symptoms

Table 9 Mediating Effect of Cognitive Flexibility through Early Maladaptive Schemas on Thought Problem among Young Adults (N = 300)

Paths	Outcome Variable	Predictor Variable	*β*	95%CI	
				LL	UL
A	Cognitive flexibility	Early maladaptive schemas	-.06*	-.11	-.01
B	Thought problem	Early maladaptive schemas	.12***	.08	.15
C	Thought problem	Cognitive flexibility	-.12**	-.20	-.05
D	Cognitive flexibility	EMS through Thought problem	.01[a]	.001	.02

Note.EMS = Early maladaptive schema.
****p* <.001, ***p* <.01

Table 9 shows that both direct and indirect effect of EMS on thought problems is significant so it suggests partial mediation of cognitive flexibility among the relationship of EMS and thought problems.

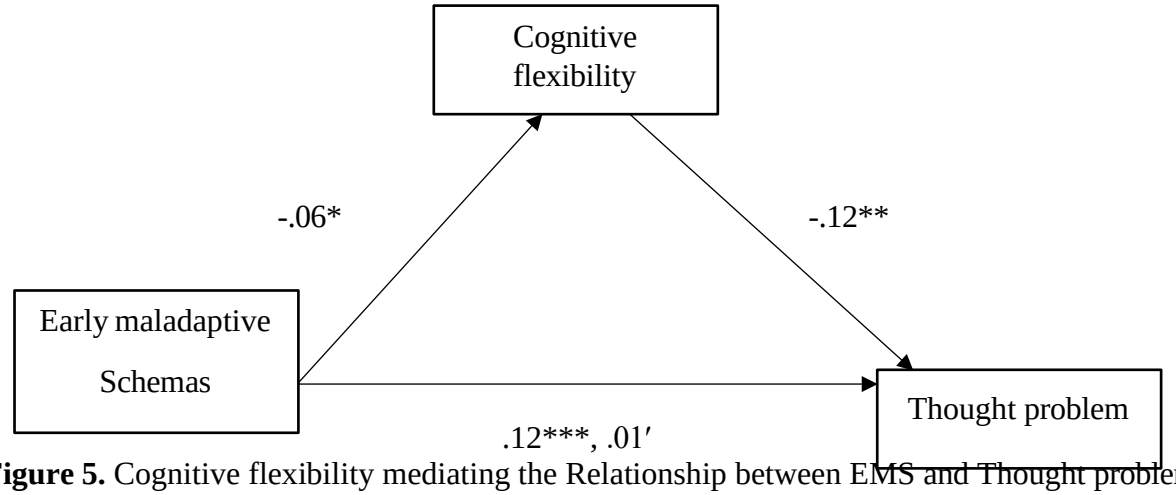


Figure 5. Cognitive flexibility mediating the Relationship between EMS and Thought problem

Table 10 Mediating Effect of Cognitive Flexibility through Early Maladaptive Schemas on Rule Breaking among Young Adults (N = 300)

Paths	Outcome Variable	Predictor Variable	*β*	95%CI	
				LL	UL
A	Cognitive flexibility	Early maladaptive schemas	-.06*	-.11	-.01
B	Rule Breaking	Early maladaptive schemas	.08***	.05	.11
C	Rule Breaking	Cognitive flexibility	-.16***	-.23	-.10
D	Cognitive flexibility	EMS through Rule Breaking	.01[a]	.001	.02

*Note.*EMS = Early maladaptive schema.
****p* <.001, ***p* <.01

Table 10 shows that both direct and indirect effect of EMS on rule breaking behavior is significant so it suggests partial mediation of cognitive flexibility among the relationship of EMS and rule breaking behavior.

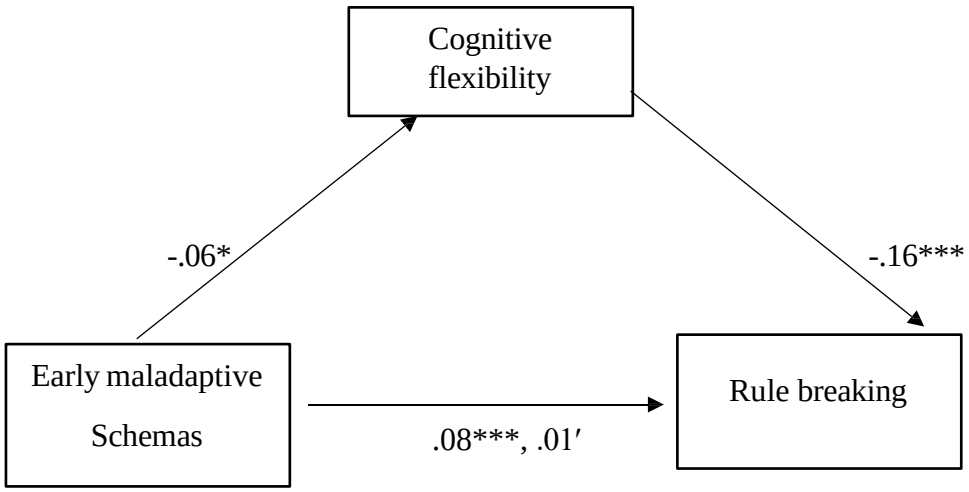


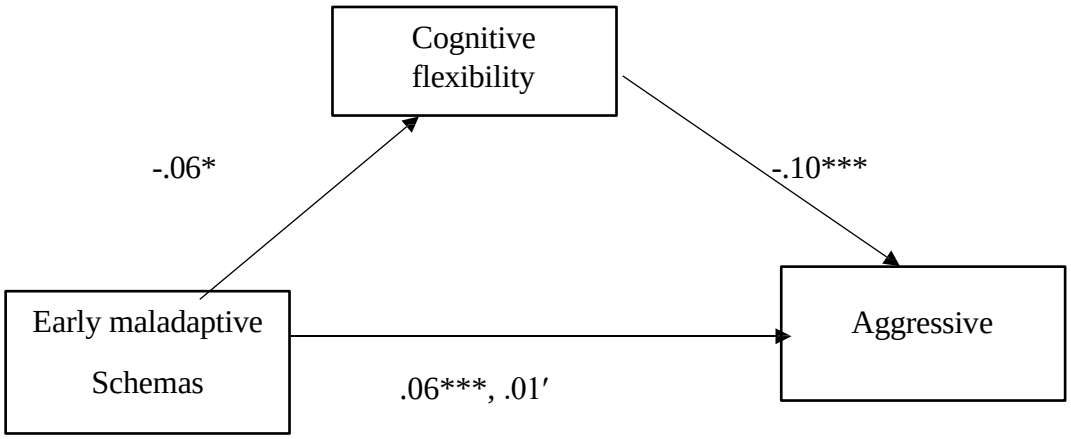
Figure 6. Cognitive flexibility mediating the Relationship between EMS and Rule breaking

Table 11 Mediating Effect of Cognitive Flexibility through Early Maladaptive Schemas on Aggressive among Young Adults (N = 300)

Paths	Outcome Variable	Predictor Variable	β	95%CI	
				LL	UL
A	Cognitive flexibility	Early maladaptive schemas	-.06*	-.11	-.01
B	Aggressive	Early maladaptive schemas	.06***	.03	.08
C	Aggressive	Cognitive flexibility	-.10***	-.16	-.04
D	Cognitive flexibility	EMS through Aggressive	.01[a]	.001	.02

Note.EMS = Early maladaptive schema.
****p* <.001, ***p* <.01

Table 11 shows that both direct and indirect effect of EMS on aggressive behavior is significant so it suggests partial mediation of cognitive flexibility among the relationship of EMS and aggressive.



Determining the Impact of demographic variables on study variables.

Table 12 *Mean, Standard Deviation and t-Values for Males and Female on Study Variables (N = 300)*

	Male (*n* = 154)		Female (*n* = 146)				95% *CI*		
Variables	*M*	*SD*	*M*	*SD*	*t* (298)	*p*	LL	UL	Cohen's *d*
Emotional deprivation	19.81	2.83	18.88	3.04	2.64	.008	.23	1.61	0.24
Abandonment	19.55	3.89	18.77	3.88	1.66	.08	-.14	1.69	0.32
Mistrust /abuse	19.04	2.91	19.11	3.34	-.17	.85	-.79	.66	0.13
Social isolation	19.69	3.31	17.60	4.90	4.38	.000	1.14	3.02	0.14
Defectiveness /shame	19.00	3.01	16.16	4.91	6.19	.000	1.93	3.73	0.23
Dependence/incompetence	19.19	3.90	16.43	5.24	5.19	.000	1.71	3.81	0.11
Failure to achieve	15.30	5.51	13.69	5.33	2.45	.015	.31	2.89	0.31
Vulnerability to harm and illness	17.79	3.91	17.74	4.32	.09	.93	-.91	1.00	0.13
Enmeshment	17.54	4.30	17.21	4.42	.63	.54	-.69	1.36	0.10
Subjugation	18.32	3.97	18.80	3.89	-1.00	.34	-1.40	.45	0.28
Self-sacrifice	17.43	4.45	18.57	3.47	-2.29	.022	-2.11	-.16	0.33
Emotional inhibition	18.51	3.81	18.50	4.09	.01	.96	-.917	.93	0.13
Unrelenting standard	18.76	3.39	18.91	3.33	-.36	.75	-.943	.64	0.16
Insufficient self-control	18.07	4.01	16.96	4.87	2.13	.033	.08	2.14	0.24
Entitlement/ grandiosity	5.63	3.24	6.17	2.44	-1.51	.11	-1.24	.16	0.28
Rule-breaking	16.86	6.15	10.46	5.89	8.79	.000	4.96	7.82	0.37
Aggressive	12.75	4.86	8.29	4.71	7.72	.000	3.32	5.59	0.13
Attention problems,	14.95	4.76	10.33	5.02	7.91	.000	3.46	5.76	0.19
Anxiety/depression	18.38	5.35	14.26	5.49	6.34	.000	2.83	5.39	0.37
Somatic complaints	14.69	5.09	19.02	4.62	-7.51	.000	3.19	5.46	0.15
Withdrawal	18.39	4.37	14.09	5.04	7.73	.000	3.20	5.39	0.31
Thought problems	17.63	5.27	12.48	5.04	8.26	.000	3.92	6.37	0.24
Intrusive behavior	14.95	4.76	10.33	5.02	-2.49	.013	-4.87	-.57	0.12
Cognitive flexibility	30.29	8.89	33.01	9.48	2.64	.008	.23	1.61	0.23

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

Table 12 shows mean, standard deviation and t-values for male and female on early maladaptive schemas, behavior problems and cognitive flexibility. The findings show that self-sacrifice and intrusive behavior, somatic complains is high in females as compared to males. Other behavioral problems i.e. thought problems, withdrawal, aggressive; rule breaking is high in male as compared to females. Findings also indicate that cognitive flexibility is high in male as compared to females.

Discussion

This study examined the early maladaptive schemas as a predictor of behavioral problems among young adults and also examined the role of cognitive flexibility. The present study comprised (N = 300) young adults with an age range of 18 to 24 which was selected through an online survey from the University of Sargodha. (See Table 1)

The Young Schema Questionnaire – Short Form, Adult Self-Report (ASR), and Cognitive flexibility scale were used to assess variables. The demographic characteristic of the sample was assured by the frequency table (see Table 1). By descriptive analysis, psychometric properties of all scales were computed on the sample (N = 300) and it revealed that all the scales had significant moderate to high reliabilities ranging from .50 to .88 (see Table 3). To determine the relationship between variables co co-relational analysis was carried out and it shows a significant correlation among study variables (see Table 4) which supports hypothesis 1 and is also supported by the finding. early maladaptive schemas (emotional deprivation, abandonment, social isolation, defectiveness, dependence/incompetence, failure to vulnerability to harm and illness, enmeshment, subjugation, self-sacrifice emotional inhibition) have a significant correlation with behavior problems (rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems, and intrusive behavior). Findings are consistent with previous literature, a study conducted on young adults to assess the role of maladaptive schemas in behavioral addiction found similar results (Matte et al., 2020). The findings are also consistent with Marengo's study. It was found that early maladaptive schemas are significantly correlated with adaptation of risky behavior (colleagues also One more study found similar results (Marengo, Klibert, Langhinrichsen, Rohling, Warren & Smalley, 2019). Present study findings indicate that Behavior problems (rule-breaking, aggressive, attention problems, anxiety/depression, somatic complaints, withdrawal, thought problems, and intrusive behavior) have a significant negative correlation with cognitive flexibility. The finding is consistent with previous literature as McCauley et al., (2020) found that cognitive flexibility has a strong negative correlation with behavioral problems, and Hollock's study of exploring the impact of cognitive flexibility on emotional and behavioral problems depicts similar results (Hollock, Charman & Baird. 2021).

The findings of the current study indicate that early maladaptive schemas are positive predictors of behavioral problems and it supports hypothesis 2. Previous literature also found that maladaptive schemas lead to different behavioral problems. A study conducted by Marjolien and his colleagues found a causal linkage between early maladaptive schemas and aggression, emotional problems, and rule-breaking behaviors (Van Wijk-Herbrink et al., 2021) and similar results were also found by Sharafi and his colleague in 2016. According to their study results, early maladaptive schemas predict anxiety, depression somatic complaints, etc. The findings of to present study indicate that cognitive flexibility significantly mediates the relationship between early maladaptive schemas and behavioral problems and it supports hypothesis 3 (see Table 5 to 11). Findings indicate that cognitive flexibility significantly partially mediates the relationship between early maladaptive schemas and behavioral problems among young adults. Previous literature also found that early maladaptive schemas are related to behavioral problems as well and cognitive flexibility is also a direct behavioral problem so cognitive flexibility is partially related to early maladaptive behavior and behavioral problems i.e. rule-breaking, attention problems, thought problems, somatic complaints, aggression, and. Withdrawn (Bach, Young & Lockwood, 2018). Similarly, Fischer and his colleague also found that psychological flexibility significantly mediates the effect of EMS on psychopathology.

The findings of to present study indicate significant gender differences in behavioral problems, cognitive flexibility, and early maladaptive schemas and it supports hypothesis 4 (see Table 12). Findings indicate that males are high on aggressive behaviors, and rule-breaking behavior as well as they is high on cognitive flexibility. On the other hand, females were high on self-sacrifice and somatic complaints. Previous literature found consistent results. In one study it was found that 24% of men were engaged in risky behaviors and only 9% of women were engaged in risky behaviors (Marengo et al., 2019).

Conclusion of the Results.

The results of the present study indicated that the early maladaptive schemas significantly positively predict behavioral problems among young adults and cognitive flexibility is also negatively partially mediated in the relationship of these variables.

Limitations and Future Recommendations

There are some of the limitations in the present study which could limit the results. Some of these limitations are stated below along with the recommendations. The present study is conducted on a sample of district Sargodha only. So it is recommended that future studies should try to conduct it in other cities of Pakistan. So that the reliability and validity could be assured on other samples as well. Future researches are recommended to examine the effect of other demographic variables

Research Implications

The current study is a new accumulation of the literature that investigates different behavioral problems. In addition to the psychological outcomes, the present research provides imperative visions for investigators and practitioners. The findings of the present study provide a basis for conducting empirical research in the future. The results of the present research contribute in this sense to offering valuable understandings of early maladaptive schemas in developing behavioral problems among young adults.

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