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The effect of Early Maladaptive Cognitive Shemas on Perceived Stress in a sample of adults: Resilience as a Mediator

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Abstract:

The study aimed to identify the role of resilience as a moderator between maladaptive cognitive schemas and perceived stress among adults the researchers. constructed a model to test the influence of psychological maladaptive cognitive schemas, resilience as a mediator to adjust the psychological stress response. The study included a sample of (168) male and female, their ages ranged from 25 to 60 years. Participants accomplishing responses to the tools used in the study, the Connor-Davidson Resilience Scale (CD-RISC) to measuring psychological resilience, maladaptive cognitive schemas (ysQ-s3) to evaluate cognitive schemas and perceived stress scal-10 to assessing stress. The researchers used descriptive method to investigate the correlation between variables of the study, and conducted a path analysis to examine the role moderator of resilience in the relationship between maladaptive cognitive schemas and perceived stress. And we examine differences between male and female, and age groups in the three measures. There are a positive correlation statistically significant between each of the five areas of maladaptive cognitive schemas and perceived stress, and there are a negative correlation statistically significant with resilience. However, there are a negative correlation statistically significant between resilience and perceived stress. Results of path analysis model showed that there is an indirect effect of resilience as mediator between maladaptive cognitive schemas and perceived stress. However, there are no differences due to the variable of gender and age groups in maladaptive cognitive schemas, perceived stress, and resilience. The study clarified that individuals with resilience capacities were less affected by their earlier maladaptive cognitive schemas and bounced back more easily after experiencing a stressor event. It recommends developing resilience resources and building this cognitive psychological capacity.

Keywords: Early maladaptive cognitive schemas; perceived stress; resilience.

Introduction

Individuals acquire experience in how to handle various situations and circumstances. These experiences are integrated by cognitive processes, aligning with a body of personal knowledge, psychological, and cognitive aspects, that derived from the same realm of events and subjects which an individual has experienced. These cognitive structures, established as core cognitive schemas, are utilized by the individual as appropriate for the situations encountered in life, and are relied upon for adapting to circumstances and events. Cognitive schemas are mental representations of the world, formed early in life, which guide an individual's thoughts, feelings and behavior. These schemas can be maladaptive and playing a role in perception of life stressors in general, and how one confronts and responds. However, according to the perspective of positive psychology, an individual can develop and acquire the capacity for resilience and face stress generating situations and circumstances by relying on sources of resilience represented by protective factors acquired during their life (Zhang, 2010).

Young (1998) explained that these maladaptive schemas affect all aspects of early cognitive development in life. As individuals grow and age, the need for cognitive consistency and coherence emerges, causing these schemas to become rigid and inflexible core beliefs, and then become activated excessively and overgeneralized in many situations that individual faces in life, such as stress, crises, and other difficulties, and this leads to maladaptive behaviors. The individual deals with these difficulties by activating maladaptive schemas, which control the way they perceive this psychological stress. (Young, 2005) Cognitive schemas represent an organizing principle for psychological life, related to deep-seated beliefs formed through past experiences. These dynamic interactive states, arising from the perception of dangerous situations that threaten goal achievement, are accompanied by the activation of corresponding schemas linked to the cognitive structure (represented by cognitive schemas).

Regarding the ability to adapt to stressful situations, one of the most prominent and important personality characteristics relevant to protective factors against various types of disorders, that is the capacity of psychological resilience. Psychologically healthy, a person can flexibly control their emotions and express them appropriately according to the situation**.** This helps them consciously face life's circumstances and crises, so they do not become distressed or break down when facing pressures or difficulties.

Resilience can play an effective role in protecting against and reducing the intensity of perceived stress, and it allows a return to the normal state that existed before exposure to stressors.

When a person is exposed to stressor, it affects complex cognitive functioning, and this impact varies from one individual to another. The activation of cognitive schemas related to stress aligns with the individual’s preference for cognitive coping strategies and response patterns, which is a characteristic of personality (Weis, Veverka, Dhillon, Urban, & Lucas, 2017). After facing difficult situations and challenges, some individuals recover more quickly than others, drawing strength from adversity based on acquired knowledge. This allows them to employ healthy cognitive schemas rather than relying solely on early maladaptive schemas. This ability has been described resilience as a dynamic process in which an individual adapts positively to difficulties and successfully adjusts in the face of threats to the dynamic system’s functioning, with the potential for development (Luthar anvCicchetti., 2000 ; Masten, 2007).

1. Theoretical literature

1.1. Early maladaptive cognitive schemas

Cognitive schemas are constructed by integrating concepts and mental representations shaped through prior experiences, relying on top-down processing. These schemas then serve as interpretive frameworks, organizing and making sense of incoming information. According to Beck (1976), schemas are inherent cognitive structures in individuals, characterized by their beliefs, assumptions, semantic expectations, and the principles governing their cognitive construction of events, interpersonal relationships, and the environment. Young et al. (2003, p.7) define Maladaptive cognitive schemas as persistent, broad, and deeply ingrained cognitive patterns reflecting self-defeating themes. These schemas originate in childhood, and persist throughout an individual's life, and encompass themes, memories, emotions, perceptions, physical sensations, and experiences of social interaction. According to Matlin (2002, pp. 335-343) that cognitive schemas guide our understanding or familiarize us with new examples and information by relying on the expectations set by events likely to recur.

1.2. Perceived stress

The construction of perceived stress encompasses an individual's feelings regarding the lack of control and predictability in their life, and their perceived self-efficacy in managing problems. Perceived stress is defined as how an individual understands the amount of stress he or she is exposed to in a period (Cohen, Kamarck & Mermelstein, 1983). It is related to a feeling of uncertainty and instability about life and depends on the confidence in one's ability to handle difficulties. Numerous studies have reported that stressful events precede the onset of depressive episodes and have established a link between stress exposure and depressive symptoms (Monroe & Hadjiyannakis, 2002). Also, psychological stress is defined as "life events or severe circumstances that cause a change in the family system (Mustafa and El-Sherbiny , 2011, p. 261).

1.3. Resilience

From studies on human behavior defined resilience as the capacity to maintain competent functioning in the face of major life stressors, and considering resilience as a dynamic process that encompasses the attainment of positive adaptation within the context of exposure to significant adversity that typically exerts major assaults on biological and psychological development (Cicchetti, 2006; Masten, 2007. Since the early 1990s, the focus of resilience research has shifted away to understanding the process through which individuals (Luthar, Cicchetti, & Becker, 2000) and communities overcome the adversities they experience. resilience should reflect different situational and temporal sociocultural conditions rather than a static phenomenon (Kimhi, Eshel and Goroshit, 2013).

Among the resilience déterminants, Connor and Davidson (2003) state that resilience is associated with personal ability, such as competence, high standards, and tenacity; coping strategies, including trust in one's instincts, tolerance of negative affect, and the ability to perceive stress as strengthening; adaptability and social support, marked by a positive acceptance of change and the maintenance of secure relationships; a sense of control over one's environment and

outcomes; and spiritual influences, which provide meaning and perspective. These characteristics help the individual possess the ability to face hardships and difficulties, and the capacity for recovery and overcoming the negative effects of life's adversities and their stressful impacts. In the main, the cognitive-behavioral ability that the individual employs to maintain their psychological fitness after exposure to psychological stress and to interact positively with its consequences.

2. Relationship Between early cognitive maladaptive schemas, resilience and perceived stress

Individuals develop coping strategies and responses throughout different stages of life to adapt to events and difficulties, leading to the acquisition of knowledge and the adoption of adaptive behaviors that enhance their resilience, especially in adults. Consequently, they employ these strategies in stressful situations instead of relying on their maladaptive cognitive schemas. When such positive schemas are activated, they are accompanied by a range of positive emotions, in contrast to the negative emotions represented by sadness, shame, fear, and anger, which were influential and stemmed from the traumas and abuse experienced in childhood. However, learning and establishing positive cognitive frameworks enable them to overcome negative schemas. Young, Klosko, and Weishaar (2003, p. 27) pointed out these characteristics that a person focuses on, with hope and striving for better achievements. And they also overcame the difficulties they faced in the past, not seeing themselves as victims but as competent individuals, expressing their emotions in a healthy and objective manner that does not embarrass others or cause them any harm.

Regarding the perceived stress state, many studies have confirmed that cognitive maladaptive schemes domains were related to perceived stress. Exposure to stressing events has been investigated in relation to fostering resilience resources. Different developments in the studies of resilience, Campbell-Sills & Stein (2007) found that resilience was positively associated with positive affect. Also, in their studies (Yates, Egeland & Sroufe 2003 ; Cicchetti & Rogosch 1997) they have attended the relationship between coping with psychological stress that can generate multiple mental disorders to identify the factors that contribute to the appearance of their resilience capacity. These studies showed that psychological stress is associated with various factors that help the emergence of the disorder, and on the other hand, it turned out to be related to other factors that contribute to overcoming the effects of psychological stress and adapting to it.

Calvete (2014) investigated the mediating role of non-adaptive cognitive structures in the relationship between stressful life events and anxiety and depression among university students, and results showed that early maladaptive schemes had the ability to predict symptoms of anxiety and depression and that females scored higher than males on a chart (abandonment, dependence, hypersensitivity to harm and disease, failure) while males had higher scores than females on schemes (emotional deprivation, failure). The study of Cankaya (2002) examined a social cognitive model that integrates recent findings on the independent effects of early maladaptive cognitive schemes and factors causing psychosocial stress and their relationship to social support, emotional expression, stressful life events, and bickering, at the level of depression symptoms in young people and adults; this study found direct relationships between stressful life events, social support, early maladaptive cognitive schemas and the level of depression. The results showed that early non-adaptive cognitive schemes have the role of mediator. The study conducted by Ibrahim (2018)

aimed to identify the impact of gender and age variables on early non-adaptive schemes among a sample of secondary school students. The results found that the most widespread schemes are the scheme of strict standards, excessive criticism, abandonment scheme, instability, and self-sacrifice scheme. Also, results showed that there were differences in non-adaptive early schemes due to the gender variable, while there were no differences in non-adaptive early schemes due to the age variable.

3. Objectif

The effect of receptiveness and action of acceptation of positive change, let's emerge the ability to facing risks. The positive outlook of life and the belief that it meaningful make individuals more likely to overcome adversity and recover from the effects of psychological stress (Goodman & West-Olantuji, 2008). Furthermore, the continual flows of personal and social experiences related to social support, religious factor and cultural affiliation increase the ability of individuals and they contribute in acting and modelling resilience constructs.

Allowing to component of resilience to bounce back and recovered state that could be different from the original state, that so managing patterns of resilience resources. Recovery mechanism is being to be relating and repairing a disturbed component; such a component could be replaced or could be repaired with or without removal from the acquired cognitive component for controling the negative emotions.

The basic objective in this study is to analyse mediation effect of resilience between early cognitive maladaptive schemas and perceived stress in attaining suppleness. So, the following objectives were established:

1- Identify the relationships of the early cognitive maladaptive schemas with resilience and with perceived stress. In this objective, positive effects linked to, perceived stress and negative effect linked to resilience were expected.

2-Test a mediator resilience between early cognitive maladaptive schemas and perceived stress. In this objective, an indirect effect of resilience is expected.

3- Identify the existence of difference in early cognitive maladaptive schemes, resilience and perceived stress among the different socio-demographics characteristics (gender, age, educational level). In this objective, no differences are expected in the means of the variables involved.

We propose a pathway analysis model (Figure 1) to investigate the effect of the interrelationships between each of the cognitive components of the domains of early cognitive maladaptive and the recognition of perceived stress and resilience, that each variable has an important role in this process which allows individual to avoid the effects of negative schemas as well as recover from psychological stress.

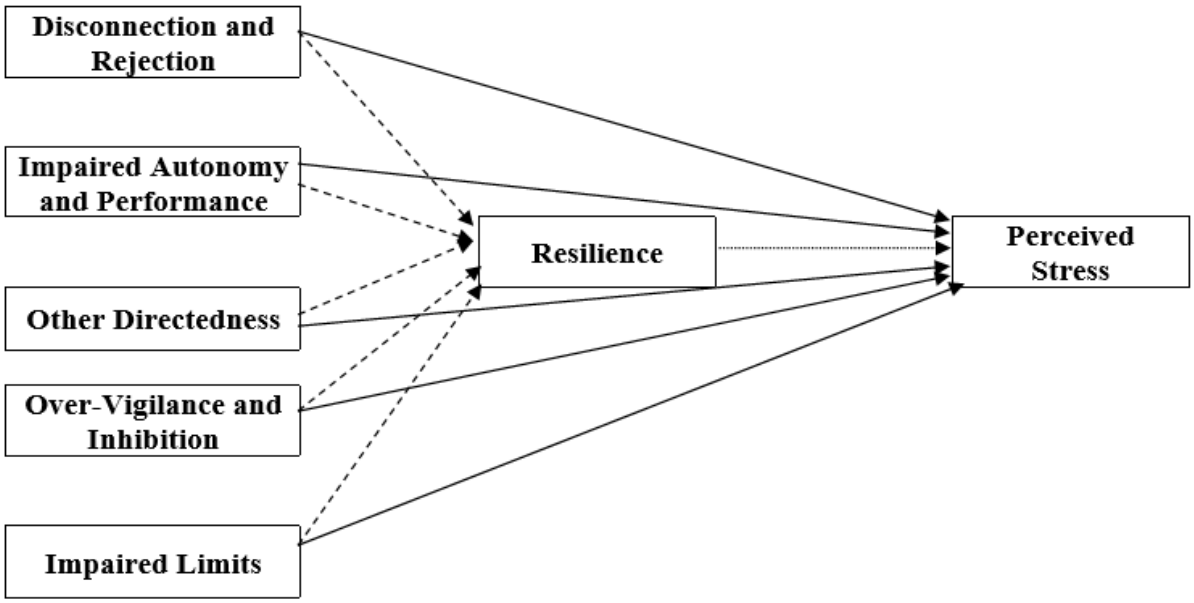

Figure (1): model resilience as a mediator between early adaptive cognitive schemes and perceived stress

This model illustrates that resilience sense, would imply that composed of different cognitive patterns, and these patterns must have a significant mediation effect on decreasing perceived stress. Through this model, we suggest that early cognitive maladaptive schemes would have a low effect on the grade of perceived stress, whereas acquisition of accepting positively change over in life and controlling negative effect.

4- Methodology:

The descriptive method was used, which allows for the description and interpretation of the relationships between the study variables. Appropriate methods of statistical analysis were used to verify the study hypotheses.

4.1. Sample

The initial convenience sample (n=168 individuals) included both genders, with males representing 41.03% of participants. Participants were categorized into four age groups: Group 1 (20-30 years), Group 2 (31-40 years), Group 3 (41-50 years), and Group 4 (over 50 years). By educational level, they were classified into four categories: primary, intermediate, secondary, and university. According to living standards, participants were divided into three levels: low, medium, and high. Table (**1**) presents the characteristics of the main sample.

Table (1) : Demographics characteristics

Demographic variables		**frequency**	**Percentage (%)**
Sexe	Female	99	58,97

	males	69	41,03
Age (mean, standard deviation) (35.65, 12.37)	20 - 30 years (24.13m, 4.14)	65	38,89
	31 - 40 years old (3.27 ، 34.77)	47	27,78
	50 -41 years (2.77 ، 46.88)	32	18,80
	Over 50 years old (3.57 ، 55.67)	24	14,53
Education level	Primary	23	13,68
	Medium	34	20,51
	Secondary	50	29,91
	University	60	35,90
Economic level	low	50	29,49
	medium	88	52,56
	High	30	17,95
Total		168	100**%**

The table above shows that females constituted 58.97% of the sample, while males represented (41.03%). Age ranged from 20 to 60 years (mean = 35.65, SD = 12.37). The 20–30 age group had the highest proportion (38.89%), followed by the 31–40 age group (27.78%), the 41–50 age group (18.80%), and the lowest proportion (14.53%) was observed in those over 50 years. In terms of educational level, individuals with university education represented the highest proportion (35.90%) of the sample, followed by those with secondary education (29.91%), medium education (20.51%), and primary education (13.68%).

4.2. Measures

Early Maladaptive Schemas Scale – Short Form (YSQ-SF): The Young Schema Questionnaire-Short Form (YSQ-SF), developed in 1999, is a 75-item questionnaire designed to measure 15 early maladaptive cognitive schemas. Each subscale of these schemas consists of 5 items, assessed on a 6-point Likert scale ranging from 1 = completely untrue of me to 6 = describes me perfectly. Higher mean scores indicate a stronger presence of the specific maladaptive schema. The Arabic short-form version was validated by Abdurrahman and Mohamed El-Sayed and Saafan (2014). The original short-form structure, containing 75 items aligned with the source version.

Perceived Stress Scale (PSS-10): Developed by Cohen et al. (1983), this scale measures the degree to which an individual perceives psychological stress when exposed to stressful life situations over the past month. The assessment is based on a five-point Likert scale (ranging from "never = 0" to "very often = 4"). The short version of this test consists of 10 items, which include both direct and indirect statements, and it demonstrates a good psychometric characteristic. A higher mean total score indicates a greater degree of perceived stress. the Arabic version translated by Djarallah & Laggoun (2018), the scale shows good reliability, with a Cronbach's alpha

coefficient of (0.83), and acceptable validity. Exploratory factor analysis revealed two factors: the first measures positive items (4, 5, 7, 8), while the second measures negative items (1, 2, 3, 6, 9, 10). These two factors explained 63.29% of the total variance. In this sample, the scale also shows high reliability (Cronbach's alpha = 0.78).

Connor-Davidson Resilience Scale: Resilience was measured with the 10-item Connor-Davidson Resilience Scale (10-item CD-RISC; Campbell-Sills and Stein, 2007). It's an abbreviated version of the Connor-Davidson Scale (Connor and Davidson, 2003) that consists of 10 items. Respondents rate themselves on a 5-point Likert Scale (ranging from 0 = *never* to 4 = *almost always*). The total score to create a resilience score (range 0–40), with higher scores indicating greater resilience. Psychometric evaluation of the 10-item CD-RISC demonstrated that the scale had good reliability (Cronbach $\alpha = 0.85$). The Cronbach's alpha for our sample demonstrated good reliability (α=0.89).

5. Results

5.1. Descriptive statistics

To find out the level of scores of the charts, descriptive statistics were conducted, where the scores were evaluated for the levels of influence of early cognitive schemes that are not adaptive to the study sample, which we calculated and estimated according to the four levels of their impact. The degree of its influence varies according to the scores: from 6 to 9 the scheme does not affect the individual., from 10 to 14 the scheme affects in some circumstances., from 15 to 19 the scheme is a problem for the individual, from 20 to 24 the scheme plays an important role in the life of the individual, from 25 to 30 the scheme is essential in the organization of the individual's personality (Young et Klosko, 2003). Table (2) shows the results of the descriptive statistics.

Table (2): Mean and standard deviations of early maladaptive cognitive schemas and their domains

Items	Shemas and domains	Mean	Std. deviation	Shemes impact level
1-5	Emotional deprivation	2,763	0,577	Affects in some circumstances
6-10	Neglect/instability	2,870	0,696	Affects in some circumstances
11-15	Caution/Infringement	2,890	0,608	Affects in some circumstances
16-20	Social isolation	2,930	0,631	Affects in some circumstances
21-25	Feeling inferior/ Shame	3,012	0,555	Represents a problem for the individual
Disconnection and Rejection		**2,893**	**0,6134**	**Affects in some circumstances**
26-30	Failure	2,780	0,574	Affects in some circumstances
30-35	Dependency/Inefficiency	2,867	0,614	Affects in some circumstances

36-40	Fear of illness or danger	2,950	0,576	Affects in some circumstances
41-45	Integrative relationship	2,868	0,584	Affects in some circumstances
Impaired Autonomy and Performance		**2,866**	**0,587**	**Affects in some circumstances**
46-50	Undergo	2,795	0,598	Affects in some circumstances
51-55	Sacrifice	2,942	0,595	Affects in some circumstances
Other Directedness		**2,869**	**0,597**	Affects in some circonstances
56-60	Excessive emotional control	3,001	0,521	**Represents a problem for the individual**
61-65	High requirements	3,023	0,594	**Represents a problem for the individual**
Over-Vigilance and Inhibition		3,012	0,5575	Represents a problem for the individual
66-70	takeover	2,937	0,607	Affects in some circumstances
7175	Lack of emotional self-control	2,850	0,598	Affects in some circumstances
Impaired Limits		**2,894**	**0,603**	Affects in some circumstances
Resilience		**23,911**	**6,911**	
Perceived Stress		**2,390**	**0,751**	

Results show that the mean scores of the shemes ranged between 2,76 and 3,02 and the standard deviations between 0,521 and 0.696 and in descending order of the averages scores, they are as follows: Strict criteria / excessive criticism scheme high requirements with an average of (3,023), and in the second rank was for the feeling of inferiority / shyness scheme with an average of (3,012), and in the third rank the excessive emotional control scheme (3,001). The level of these three schemas affects outcomes in some circumstances. The rest of the average scores are less than 3, and the lowest value is for the emotional deprivation scheme (2,763), which have a level that affects in some circumstances. Through domains, the highest average score is for Over-Vigilance and Inhibition (m = 3,012**,** standard deviation = 0.557). While the other four domains, the average scores ranged from 2,866 to 2,894 with an impact level in some circumstances. The results showed that the average resilience score (m = 23,911, standard deviation = 6,911) is higher than the arithmetic mean of the scale of the abbreviated version of resilience capacity (m = 20). The average perceived stress score was (m = 2,390, standard deviation = 0.751), which is lower than the average score of the stress perception scale.

5.2. The relationship between early maladaptive cognitive schemas perceived stress and resilience.

Pearson's correlation coefficients were calculated for the relationships between the early maladaptive cognitive schemas' domains, separation and rejection, lack of independence and efficiency, lack of limits and excessive orientation towards others. the domainof hypervigilance) and the perceived stress and resilience shown in Table (3).

Table (3): Pearson's correlation coefficients between the domains of early adaptive cognitive schemes, stress perception and resilience

Variables	1	2	3	4	5	6	7
1. **disconnection/ rejection**	-	0,470**	0,250**	0,217**	0,627**	-0,235**	0,426**
2. **impaired autonomy and efficiency**		-	0,518**	0,502**	0,552**	-0,362**	0,775**
3. **impaired limits**			-	0,392**	0,261**	-0,293**	0,531**
4. **other-directedness**				-	0,290**	-0,352**	0,572**
5.**overvigilance and inhibition**					-	-0,245**	0,509**
6.Resilience						-	-0,392**
7. Perceiced stress							-

Note: **Significance level is less than 0.01

Results show a positive correlation statistically significant between the study variables. The values of Pearson's coefficients ranged for the lowest value between the domain of disconnection/rejection and the domain of other-directedness others (r = 0.217) and the highest value between the domain of disconnection/rejection and the domain of overvigilance and inhibition (r= 0.627) are all statistically significant ($p \leq 0.01$). As well as a positive correlation between each of the domain of early maladaptive cognitive schemas and perceived stress, and the values of Pearson's coefficients ranged from the lowest value between the domain of disconnection/rejection and perceived stress (r = 0.426) to the highest value between the domain of impaired autonomy and efficiency and perceived stress (r= 0.775). While there is a negative correlation and statistically significant between the variable's disconnection/rejection, impaired autonomy and efficiency; impaired limits, other-directedness; overvigilance and inhibition, and resilience variable. wherever the values of Pearson's coefficients ranged between the lowest value between the domain of disconnection/rejection and resilience (r = -0.235) and the highest value between the domain of impaired autonomy and efficiency and resilience (r = -0.362) are all statistically significant at a level less than 0.01. These results indicate that the high level of impact of the domains of cognitive schemas is in a direct relationship with the high level of perceived stress and in an inverse relationship with the height of resilience. The results also showed a negative correlation between perceived stress and resilience ($r = -0.235$; $p \leq 0.01$).

5.3. The effect of resilience as mediator between early maladaptive cognitive schemas and perceived stress.

We examine the effect of resilience as a mediator variable between each of the five domains of early maladaptive cognitive schemas and perceived stress in a sample of adults. This was done by using path analysis. The table (4) shows the values of the main indicators of the goodness of fit of the hypothesized model.

Table (4): Values of the main indicators of the goodness of fit of the hypothesized model.

RMSEA	RMR	RFI	CFI	NFI	GFI	$\chi 2$/df
0.06	0.054	0.90	0.93	0.96	0.98	2.80

The values of the main indicators of goodness of fit show that the hypothesized model for the data is accepted and that it reflects a good fit to the initial model, where resilience mediates the relationship between early maladaptive cognitive schemas and perceived psychological stress. The value of the chi-square statistic was 0.000, degrees of freedom = 0, significance level = 0.000 (the ratio of the chi-square value to the degrees of freedom is approximately 2.5, which is greater than two, the value required for acceptable fit). At this value, it can be accepted as an initial model. The value of the Goodness of Fit Index (GFI=0.98), the Comparative Fit Index (CFI=0.93) , and the Adjusted Goodness of Fit index (AGFI= 0.93), (RFI=0.90) and (NFI=0.96) which are values greater than 0.9, the value required for acceptable fit (Tate, 1998). The value of the Root Mean Square Error of Approximation (RMSEA=0.06) which is less than 0.08, and (RMR= 0.054), the value required for acceptable fit. This shows a good match of the model with the sample data for the study variables regarding early maladaptive cognitive schemas, perceived psychological stress, and resilience as a mediating variable.

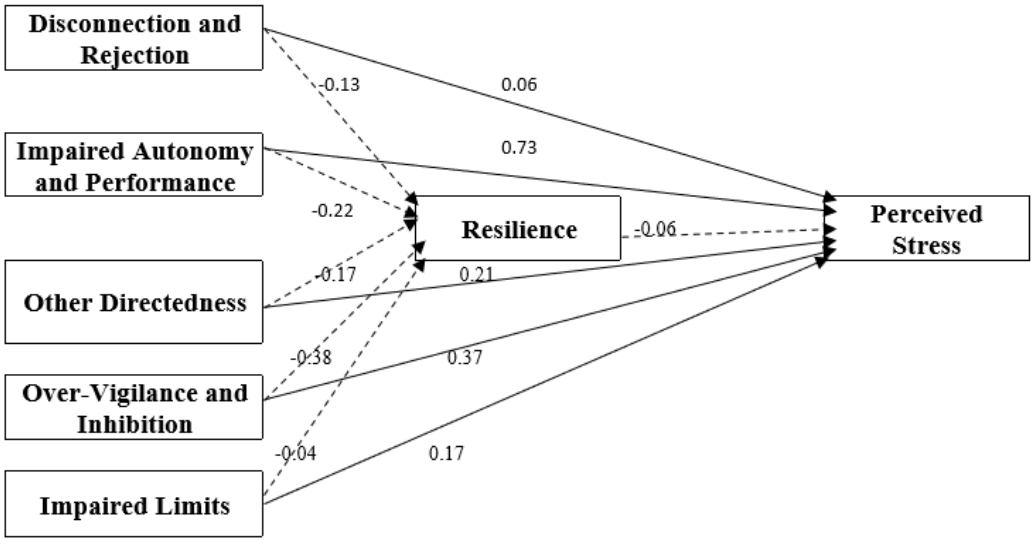

Figure (2): Path Analysis Model for the Role of Resilience as a Mediator Between the Five Domains of Early Maladaptive Cognitive Schemas and Perceived Stress

The results of the path analysis show the standardized regression weight values for the relationships between the variables (Table 5). The five domains of early maladaptive cognitive schemas, perceived stress, and resilience as a mediator variable between them.

Table (5): Standardized Weight Values for Each of the Direct Effect, Indirect Effect, and Total Effect between the variables.

Independent Variable	Dependent Variable	Effect Sizes (Standardized)			Confidence Interval (95 %)	
		Direct	Indirect	Total	Lower	Upper
Disconnection/ rejection	perceived stress	0.055	-	0.063	0.063	0.063
	resilience	***0.130-*	0.008	-	-	-
Impaired autonomy and efficiency	perceived stress	**0.733	-	**0.747	**0.747	**0.747
	resilience	***0.218-*	0.014	-	-	-
Impaired limits	perceived stress	**0.213	-	**0.224	**0.224	**0.224
	resilience	***0.168-*	0.011	-	-	-
Other-directedness	perceived stress	**0.369	-	**0.393	**0.393	**0.393
	resilience	***0.379-*	0.024	-	-	-
Overvigilance and inhibition	perceived stress	0.171	-	0.174	0.174	0.174
	resilience	0.044-	0.003	-	-	-
Resilience	perceived stress	-0,195	-	-0.223		

The results of the relationships between the variables indicate a statistically significant positive direct effect between each of the early maladaptive cognitive schema domains on the perception of perceived stress, which are Impaired autonomy and efficiency (β = 0.733), Impaired limits (β = -0.168), and Other-directedness (β = 0.369). Meanwhile, there is no statistically significant direct effect for the rejection and Disconnection/ rejection schema (β = 0.055) and the Overvigilance and inhibition schema (β = 0.171) on the perception of perceived stress. The results showed a statistically significant negative direct effect at a significance level of less than 0.001 between each of the early maladaptive cognitive schema domains on the resilience, which are Impaired autonomy and efficiency (β = -0.218), Impaired limits (β = 0.213), and Other directedness (β =-0.379), while there is no statistically significant direct effect for the Disconnection/rejection schema (β=-0.130) and the Overvigilance and inhibition schema (β = -0.044) on perceived stress. The results indicated that in the presence of resilience as a mediator variable, there is no statistically significant indirect effect for each of the early maladaptive cognitive schema domains on the perceived stress, where the indirect effect of the Disconnection/rejection domain (β = 0.008), Impaired autonomy and efficiency (β = 0.014), the Impaired limits domain (β = 0.011), the domain of Other-directedness (β = 0.024), and the domain of Overvigilance and inhibition (β = 0.003) were found. Thus, in the presence of resilience as a mediating variable, the indirect effect has decreased and become statistically insignificant compared to the direct effect. The results also showed that the 95%

confidence interval between the minimum and maximum values indicated that the standardized weights for the direct and indirect effects in the model did not include a zero value, dissimilar to values of non-significant standard weights, these results indicate that resilience capacity has a partial mediating role in the degree of influence of early atypical cognitive schema domains (Impaired autonomy and efficiency, Impaired limits, and Other-directedness) on the perceived stress among adults.

5.4. Differences between the variables according to gender, age groups, educational level and economic level

To examine this hypothesis about differences in the mean scores of early maladaptive cognitive schemas, perceived psychological stress, and resilience attributable to gender, age, educational level, and economic level among adults; we used the t-test and one-way analysis of variance (ANOVA) to calculate the differences between the mean scores of variables according to the demographic characteristics, age categories, educational level and economic level. Results resumed in table (6).

Table (6): Differences between the variables according to gender, age groups, educational level and economic level

	Gender		**age**		**educational level**		**economic level**	
Shemas and domains	**t-values**	**Sig.**	**F-value**	**Sig.**	**F-value**	**Sig.**	**F-value**	**Sig.**
Disconnection/rejection	0,75	0,453	1,65	0,179	1,60	0,21	0,58	0,56
Impaired autonomy and efficiency	1,06	0,291	0,29	0,834	0,22	0,80	0,68	0,51
Impaired limits	1,16	0,249	0,31	0,816	0,10	0,90	0,02	0,98
Other-directedness	0,04	0,966	0,50	0,683	0,07	0,93	1,93	0,15
Overvigilance and inhibition	0,41	0,684	0,48	0,699	1,50	0,50	0,45	0,64
Resilience	1,68	0,095	0,65	0,586	1,72	0,18	0,74	0,48
Perceived stress	1,40	0,163	0,23	0,875	0,53	0,59	0,27	0,77

The results in the table above indicate that the t-test values for detecting differences between females and males in early maladaptive schemas, resilience, and perceived psychological stress are not statistically significant at $p \leq 0.05$. Furthermore, the results show that all *F*-values are statistically non-significant at the level below 0.05, meaning there are no significant differences in the study variables between the age groups, educational level and economic level. This hypothesis was not confirmed.

6. Discussion

The findings revealed statistically significant correlations between variables early maladaptive schemas, perceived stress, and resilience in adults. Specifically, higher scores across all early maladaptive schemas domains (Disconnection and Rejection, Impaired Autonomy and Performance, Impaired Limits, Other Directedness, and Over-Vigilance and Inhibition) were associated with higher levels of perceived stress. The strongest positive correlation was between Impaired autonomy and efficiency and stress, while Disconnection and Rejection showed a moderately significant positive correlation. Resilience showed significant negative correlations with all early maladaptive schemas' domains, indicating that higher resilience is associated with lower levels of maladaptive schemas. The strongest inverse relationship was observed between resilience and Disconnection and Rejection. The study determines that early maladaptive schemas are linked to increased psychological stress, while resilience acts as a buffer against these schemas, potentially enabling better stress management and emotional regulation. These findings support the interconnectedness of different early maladaptive schemas domains and highlight the protective role of resilience in face of maladaptive patterns.

Path analysis results identified resilience as a partial mediator between early maladaptive schemas (Impaired Autonomy and Performance, Impaired Limits, Other Directedness) and perceived stress. Fit indices confirmed the path analysis model's validity. Schemas like Impaired Autonomy and Performance, Other Directedness had direct positive effects on stress, while Disconnection and Rejection and Over-Vigilance and Inhibition showed no significant direct impact. Resilience mediate these relationships and reduce indirect effects to non-significance, suggesting its buffering role is context dependent. Culturally ingrained values and compensatory behaviors may mitigate schema-driven stress, by reframing maladaptive patterns. The findings align with Young's model, linking schemas to unmet childhood needs, and similar to studies Rhein Sukawatana. (2015) and Abdulrahman, Mohamed Elsayed et al. (2015), which highlight schemas' role in stress and coping. While resilience negatively correlated with maladaptive schemas, its indirect mediation was statistically weak, underscoring the dominance of direct schema effects on perceived stress.

Conclusion and limitation

The relationship between earlier maladaptive schemas, psychological resilience, and perceived stress underscores the importance of addressing maladaptive cognitive patterns in therapeutic interventions. The earlier maladaptive cognitive schemas negatively impact resilience, leading to heightened levels of perceived stress and maladaptive coping mechanisms. By targeting earlier maladaptive schemas through schema therapy and promoting resilience through evidence-based interventions, clinicians can help individuals develop healthier cognitive and emotional patterns, reducing perceived stress and enhancing overall psychological wellbeing.

Based on these results, resilience may be an explanatory factor, or related to stress perception, for the qualitative change that occurs in adults when they acquire resilience capacity and transition from reliance on earlier maladaptive cognitive schemas to functioning according to cognitive gains and learning behaviors that allow them to adapt to the life stress they face. Future studies should also identify the patterns of behaviors that need to be built and developed beyond what is present in the current study, to change those acquired schemas in the early stages of their lives. Limitation of this study is the sample size, the selection of a single group led to a decrease in the number of

observations in both the domains and their schemas, as well as in terms of the type of sample used, and it would be better to choose multiple representative samples of different types of characteristics, especially those suffering from a specific psychological disorder.

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