

**The role of emotion regulation strategies and five  
personality factors in the quality of life of mothers having  
children with autism spectrum disorder**

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## **The role of emotion regulation strategies and five personality factors in the quality of life of mothers having children with autism spectrum disorder**

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### **Abstract**

The present study aimed to investigate the role of emotion regulation components (reappraisal and suppression) and the five-factor personality model in predicting quality of life of mothers of children with ASD. 120 mothers of children with ASD were recruited and invited to participate in this study. The inclusion criteria for the study were having one or more children with autism, reading and writing ability. The exclusion criteria for the study were: chronic psychiatric disorder (schizophrenia, bipolar disorder). The convenience sampling method was used to select the sample. The collected data were analyzed using statistical methods in two parts: descriptive and inferential. In the descriptive statistics section, frequency, percentage, mean and standard deviation indices were examined, and in the inferential section, hypotheses were analyzed using Pearson correlation coefficient and simultaneous regression analysis. Statistical significance was examined using SPSS. This study is descriptive and correlational (regression analysis) in which the variables of emotion regulation strategies and personality traits, predictor variables, and quality of life variable is the criterion variable. The results showed that emotion regulation strategies and five-factor personality traits significantly predict quality of life.

**Keywords:** emotion regulation strategies, five personality factors , quality of life mothers of children with autism spectrum disorder

## دور استراتيجيات تنظيم الانفعال وعوامل الشخصية الخمسة في جودة حياة أمهات الأطفال ذوي اضطراب طيف التوحد

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### الملخص

هدفت الدراسة الحالية إلى التحقيق في دور مكونات تنظيم الانفعال (إعادة التقييم والكمبت) وعوامل الشخصية الخمسة في التنبؤ بجودة حياة أمهات الأطفال ذوي اضطراب طيف التوحد. شاركت في الدراسة 120 أمًا للأطفال ذوي اضطراب طيف التوحد. كانت معايير الإدراج في الدراسة وجود طفل واحد أو أكثر من ذوي اضطراب طيف التوحد والقدرة على القراءة والكتابة. كانت معايير الاستبعاد للدراسة هي: اضطراب نفسي مزمن (الفصام، الاضطراب ثنائي القطب). تم استخدام طريقة أخذ العينات الملائمة لاختيار العينة. تم تحليل البيانات التي تم جمعها باستخدام الأساليب الإحصائية في جزأين: الوصفي والاستدلالي. في قسم الإحصاء الوصفي، تم فحص التكرارات والنسبة المئوية والمتوسط والانحراف المعياري، وفي القسم الاستدلالي، تم تحليل الفرضيات باستخدام معامل ارتباط بيرسون وتحليل الانحدار. تم فحص الدلالة الإحصائية باستخدام برنامج SPSS. هذه الدراسة وصفية وارتباطية (تحليل انحدار)، حيث تُعدّ متغيرات استراتيجيات تنظيم الانفعال وعوامل الشخصية الخمسة المتغيرات التنبؤية، ومتغير جودة الحياة متغيرًا معياريًا. أظهرت النتائج أن استراتيجيات تنظيم الانفعال وعوامل الشخصية الخمسة تُنبئ بجودة الحياة بشكل دال..

### الكلمات المفتاحية :

استراتيجيات تنظيم الانفعال، عوامل الشخصية الخمسة، جودة الحياة، أمهات الأطفال ذوي اضطراب طيف التوحد

## Introduction

Autism spectrum disorders (ASD) refer to a set of symptoms that appear at an early age and are characterized by problems in social interactions, relationships, and flexibility (Błeszyński, 2019). In the latest edition of the DSM-5, children with ASD are placed on a continuum from mild to severe, depending on the severity and impact of symptoms on quality of life. In autism, two main categories of symptoms are seen: persistent impairment in establishing social relationships and interactions in different situations and repetitive and stereotyped behaviors (Eissa, 2018). This disorder can impose various psychological pressures on the family and relatives due to its several characteristics, such as the diverse range of language, communication, behavioral, and social abnormalities, as well as late and difficult diagnosis, the appearance of symptoms after a normal and normal period of child development, the lack of definitive and effective treatments, and the less than favorable prognosis. (Ahmed, 2016).

Raising children with ASD presents many challenges for parents, and their efforts to meet the needs of these children are accompanied by high levels of anxiety and distress (Papadopoulos, 2021). These parents score higher on the Anxiety-Depression Scale than other groups (Hastings et al., 2021). Many studies show that mothers report higher levels of stress than fathers, which may be due to the stress of parenting and the greater involvement of mothers in this issue (Cooke et al., 2020). Raising a child with autism is complex and involves significant changes in family dynamics (Čolić et al., 2019).

One of the issues that these mothers face is the low level of quality of life. Quality of life is a multidimensional concept that includes various functional areas (Głodkowska et al., 2018). The World Health Organization (WHO) defines quality of life as an individual's perception of their position in life and in the structure of the cultural-value system in which they live, goals, expectations, standards, and priorities. (Elkady, 2019). Low general health is another problem that mothers of children with ASD face. General health is a state of complete physical, psychosocial, and not just the absence of disease or disability (Kühn & Rieger, 2017). Among the factors that are effective in improving the quality of life of mothers are emotion regulation strategies and personality traits.

Emotion regulation includes a range of conscious and unconscious cognitive and behavioral strategies that are used to reduce, maintain, or increase an emotion (Grecucci et al., 2020). It is also defined as the process of initiating, maintaining, modulating, or changing the occurrence, intensity, or persistence of internal feelings and emotions related to social, psychological, and physical processes in achieving one's goals (Faramarzi, 2021). It has been shown that among the multiple dimensions of personality, neuroticism and extraversion are particularly related to quality of life. Research has shown that emotion regulation strategies such as reappraisal or suppression of emotions that mothers use throughout their lives help them adapt

appropriately to their different circumstances and achieve a relatively adequate level of quality of life (Kok,2020).

### **Problem Statement and aims**

Considering the many problems that mothers of children with ASD face, such as heavy workload in the family, vulnerability to emotional disorders such as anxiety and depression, the need for research on factors affecting the quality of life and general health of mothers, such as emotion regulation strategies and personality traits, seems necessary in order to develop effective intervention strategies. For this purpose, this study aimed to determine the role of emotion regulation strategies (reappraisal and suppression) and five personality factors (extraversion, conscientiousness, agreeableness, neuroticism, openness to experience) were investigated in the quality of life of mothers with ASD.

### **Methods**

#### **Design**

This study is descriptive and correlational (regression analysis) in which the variables of emotion regulation strategies and personality traits, predictor variables, and quality of life variable is the criterion variable.

#### **Participants**

120 mothers of children with autism spectrum disorder were recruited and invited to participate in this study. The convenience sampling method was used to select the sample. The inclusion criteria for the study were having one or more children with autism, reading and writing ability. The exclusion criteria for the study were: chronic psychiatric disorder (schizophrenia, bipolar disorder). The sample size was calculated as 40 people according to the Cochran formula.

#### **Data collection tools**

*Five-Factor Personality Questionnaire:* It was prepared by (McCrae & Costa, 1992), and the test was prepared in Arabic (Al-Ansari, 2002). The scale aims to measure the basic factors of personality through a set of (60) items. This scale includes five subscales that measure (neuroticism, extraversion, openness, agreeableness and conscientiousness). The scale items were distributed at a rate of (12) items for each subscale. There is no specific time for administering the scale, and the scale can be applied in a group or individually. The scale statements are answered by choosing one alternative from five alternatives for answering, which are (strongly agree - agree - neutral - disagree - strongly disagree). The scale does not give a single total score, as it measures different dimensions of personality. The Cronbach's alpha coefficients for each of the main factors of neuroticism, extraversion, openness, agreeableness and conscientiousness were 0.85, 0.87, 0.81, 0.83, and 0.84, respectively.

*Emotion Regulation Questionnaire (ERQ)* Gross compiled the Emotion Regulation Questionnaire (ERQ) based on his emotion regulation theory. The questionnaire includes 10 items, consisting of two dimensions: cognitive reappraisal Suppression.

The Likert 7-point scoring method is adopted, and the scoring scale ranges from 1 (strongly disagree) to 7 (strongly agree). This questionnaire has been widely translated into various languages and revised. The internal consistency coefficient of cognitive reappraisal is 0.79, the internal consistency coefficient of suppression is 0.73, and the retest reliability coefficient after 3 months is 0.69 (Gross, 2003). The questionnaire has a high internal consistency and high discriminant validity (Gross & John, 2003), and is often used to measure the individual's cognitive reappraisal and suppression levels. In this study, the Cronbach's alpha coefficients for each of the main factors of cognitive reappraisal and suppression were 0.88, 0.87 respectively.

*Quality of Life Questionnaire:* The World Health Organization Quality of Life Questionnaire contains 26 questions that measure the overall and general quality of life of an individual. This scale was developed by a group of experts from the World Health Organization. This questionnaire has four subscales and an overall score. These subscales are: physical health, mental health, social relationships, environmental health and an overall score. Initially, a raw score is obtained for each subscale, which must be converted into standard scores between 0 and 100 through a formula. A higher score indicates a higher quality of life. In this study, the Cronbach's alpha coefficients for each of the main factors of physical health, mental health, social relationships, environmental health and an overall score were 0.86, 0.84, 0.85, 0.87, and 0.89 respectively.

The collected data were analyzed using statistical methods in two parts: descriptive and inferential. In the descriptive statistics section, frequency, percentage, mean and standard deviation indices were examined, and in the inferential section, hypotheses were analyzed using Pearson correlation coefficient and simultaneous regression analysis. Statistical significance was examined using SPSS.

## Findings

### *Descriptive statistics*

**Table 1. shows the descriptive statistics for the study variables.**

**Table 1. Descriptive statistics for the study variables**

Variables	M	Standard deviation
Neuroticism	10.17	1.19
Extraversion	12.11	1.33
Agreeableness	12.11	1.88
Openness to Experience	12.11	1.46
Conscientiousness	11.21	1.79
Reappraisal	29.30	1.53
Suppression	30.14	1.29
Quality of Life	72.28	1.38

### *Correlation Matrix*

As shown in table 2, most variables correlated positively and significantly. However, reappraisal correlated negatively and significantly with neuroticism. Suppression correlated negatively and significantly with extraversion, openness to experience, conscientiousness, and reappraisal. Quality of Life correlated negatively and significantly with neuroticism, and suppression, and positively with the other variables.

**Table 2. Correlation Matrix for the study variables**

	1	2	3	4	5	6	7	
1.Neuroticism	-							
2.Extraversion	0.19*	-						
3.Agreeableness	0.40**	0.38**	-					
4.Openness to Experience	0.20*	0.39**	0.41**	-				
5.Conscientiousness	0.11*	0.15*	0.44**	0.45**	-			
6.Reappraisal	-0.28**	0.10*	0.12*	0.35**	0.39*	-		
7. Suppression	0.31**	-0.29**	0.11*	-0.27**	-0.26**	-0.24**	-	
8. Quality of Life	-0.48**	0.51*	0.31*	0.39**	0.42*	0.25**	-0.42**	

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

The results of Table 2 show that there is a significant relationship between the predictor and criterion variables and that regression analysis can be performed. The Kolmogorov-Smirnov test was used to examine the normality of the criterion variable. The test statistic for the quality of life variable is 0.040 and the  $p < .01$ , and the assumption of normality of the variables is confirmed. To perform regression analysis of variance, the residuals must be constant. This assumption was checked and found to be valid. The next assumption is the independence of the residuals. The assumption of independence of the residuals was also checked with the Durbin-Watson test. The value of this test statistic for the mothers' quality of life model is 3.86. Therefore, the assumption of independence of the residuals is confirmed. To predict the role of emotion regulation strategies and personality traits in quality of life, multiple regression was used. Table 3 shows the role of emotion regulation strategies and five personality factors in predicting mothers' quality of life. The results of the regression analysis (Table 3) on quality of life show that suppression and reappraisal strategies can significantly predict changes in this variable. Among personality traits, neuroticism also has a significant predictive role in the quality of life variable. Emotion regulation strategies and personality traits yielded a coefficient of multiple regression (R) of 0.642 and a multiple correlation square of 0.633. This shows that 63.3% of the total variance in quality of life of those who participated in the study is accounted for by the combination of emotion regulation strategies and personality traits.



**Table 3. The role of emotion regulation strategies and personality traits in predicting quality of life**

Quality of life	B	SE	T	P	R	R2	R2 adjusted
Reappraisal	0.32	0.66	30.22	0.001	.795	0.642	0.633
Repression	0.41	0.64	8.49	0.001			
Extroversion	0.46	0.15	31.14	0.38			
Agreeability	-0.30	0.18	33.10	0.30			
Conscientiousness	-0.17	0.22	4.50	0.60			
Neuroticism	-0.08	0.16	4.70	0.03			
Openness to experience	-0.37	0.19	3.66	0.29			

## Discussion

The present study aimed to investigate the role of emotion regulation components (reappraisal and suppression) and the five-factor personality model in predicting quality of life of mothers of children with ASD.

The results showed that emotion regulation strategies and five-factor personality traits significantly predict quality of life. These results are consistent with numerous studies that are mentioned below. Weidi & JeeChing (2023) showed that cognitive emotional strategies significantly predict the quality of life of students.

Lin (2022) showed that emotional regulation strategies significantly predict general health and quality of life. People who use adaptive emotion regulation strategies, such as reappraisal, to a greater extent view stressful events as threats and opportunities for learning rather than threats to security (Weidi & JeeChing, 2023).

As a result, they experience fewer physiological and emotional disorders and naturally have a higher quality of life. In line with this finding, it can be noted that the existence of a child with autism spectrum disorder is considered a problem and a stressful event, but mothers who use adaptive emotion regulation strategies view their child's illness as a controllable problem and find the ability to manage it; for this reason, they have a higher quality of life (Xu et al., 2020).

Positive emotions and feelings lead to a high sense of perceived self-efficacy, and this has an impact on confirming beliefs related to having the necessary ability to cope with problems and problem-solving abilities. Other findings include that parents, especially mothers, can play an important role in regulating children's emotions (Morris et al., 2017).

There is evidence that shows that there is a relationship between the behavioral patterns of children with ASD and their internalizing (such as depression, anxiety) and externalizing (aggression) problems and parents' emotion regulation. In this way, the more parents use proactive emotion regulation strategies, the fewer problems these children have, and this reduces the psychological pressure on mothers, and as a result, they experience a higher quality of life (Hendrix et al., 2022)

Among the five-factor personality traits, extraversion, neuroticism, and conscientiousness are significantly related to quality of life. These findings are consistent with the research of Cai et al. (2023). Extraversion describes the trait in which individuals actively engage with the world rather than avoid intense social experiences (Lv et al., 2023), while neuroticism predicts the trait in which individuals experience the world as threatening or distressing. In other words, individuals with high neuroticism traits are easily frustrated, often anxious, and unable to cope with stress (Widiger & Oltmanns, 2017).

One possible reason for the negative association between neuroticism and quality of life could be that individuals with high neuroticism traits use less positive emotion regulation strategies, leading to the conclusion that life problems are beyond their control (Cai et al., 2023). Individuals with High neuroticism (does not properly assess their personal skills and resources and underestimates themselves; for this reason, in times of crisis, they are unable to cope with stress and their quality of life and health are compromised) (Hendrix et al., 2022).

### **Conclusion**

Overall, the results of this study showed that emotion regulation strategies and personality traits can play an important role in the quality of life of mothers of children with ASD. Therefore, these two variables can be used in designing future interventions to increase the quality of life of these mothers of children with ASD and teach these mothers adaptive emotion regulation strategies and strengthen the traits of extraversion and conscientiousness.

### **Limitations**

This study faced some limitations, including sample constraints. It was not possible to conduct a wider sample. It is suggested that future research be conducted with a larger statistical population and consider the role of other mediating variables.

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