Research Paper: Problem-Solving Ability and Quality of Life of Mothers of Children With Autism Spectrum Disorder

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ABSTRACT

Objective: The current paper examined the relationship between Problem-Solving Ability (PSA) and Quality of Life (QoL) in the mothers of children with Autism Spectrum Disorder (AS).

Methods: This was a descriptive and correlational study. The study population consisted of the mothers of children with AS in Isfahan City, Iran. The required sample was selected from one autism center (out of three) using a convenience sampling method. Then, a sample of 150 mothers was randomly selected. Accordingly, they completed the 12-item Quality of Life and the 35- item Problem-Solving Inventory (PSI). The obtained data were analyzed using the Pearson correlation coefficient and stepwise regression analysis.

Results: The present research results suggested a significant relationship between PSA and QoL (r=0.696, P<0.01). Moreover, there was a significant relationship between the dimensions of the PSA (self-confidence in PSA; r=0.560, P<0.01), avoidant attachment to PSA style (r=0.241, P<0.01), self-control (r=0.307, P<0.01), and QoL. Regression analysis data also indicated that QoL was predicted by self-confidence in PSA (P<0.01), avoidant attachment to PSA style (P<0.01), and self-control (P<0.01), and self-confidence in PS, as the most powerful predictor of QoL.

Conclusion: The PSA is correlated with QoL, and PSA dimensions, including self-confidence in PS, avoidant attachment to PSA style, and self-control.

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Highlights

● According to Pearson correlation coefficient results, there is a significant relationship between total problem solving ability and the dimensions of the problem solving ability (self-confidence in problem solving, avoidant attachment to problem style and self-control) and quality of life of mothers of autistic children.

● According regression analysis self-confidence in problem solving is the most powerful predictor of quality of life.

Plain Language Summary

Parents of children with autism spectrum disorders are more prone to anxiety and depression and have a lower level of life quality in comparison of normal population. Stress and negative emotions often lead to anxiety, depression and anger and affect the quality of life. Problem solving makes parents of autistic children better to adapt. Increasing awareness and adaptation and providing solutions for mother to adapt more to the common problems of children with autism, leads to reducing mothers' problems. The current paper aims at investigating the relationship between problem solving ability and the quality of life of mothers of Autism Spectrum Disorder (AS) children. The results showed that there was a significant relationship between problem solving ability and the dimensions of the problem solving ability (self-confidence in problem solving, avoidant attachment to problem style and self-control and quality of life. Regression analysis also showed self-confidence in problem solving as the most powerful predictor of quality of life.

1. Introduction

According to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5), the main symptoms of Autism Spectrum Disorder (AS) are mainly divided into two groups, as follows: 1. Deficit in social interaction and deficit in communication skills; 2. The existence of stereotypic movements, interests, and behaviors (Moghadam, Zadeh Mohammadi, & Sharifi Daramadi, 2016). In the families of children with AS , maternal stress is predicted by their child's behavioral problems and partner's depression (Hastings, 2003). Stress and negative emotions often lead to anxiety, depression, and anger and affect the Quality of Life (QoL) (Peeters, Boersma, & Koopman, 2008). Individuals who use constructive Problem-Solving Ability (PSA) can easily control their emotions, such as anxiety, failure, anger, and aggression that disrupt relationships. However, individuals who use non-constructive PSA styles lack these skills (Piccininand Mccarrey, Fairweather,Vito, Conrad, 1998).

QoL is a multidimensional concept that reflects individuals' understanding of their state of health, and biopsychological wellbeing (Bishop, Richler, Cain, Lord, 2007). The World Health Organization (1993) defines the QoL as individuals' perception of their living situation in terms of culture and value systems where they live and concerning their goals, standards, and concerns (King & Hinds, 2011).

PSA assessment was identified as a predictor of QoL (Sgaramella, Nota, Carrieri, Soresi, & Sato, 2017). Furthermore, PSA is related to the QoL of the caregivers of children with developmental disabilities (Fischer, 2009).

Dzorilla and Sheedy (1992); Chang, D'Zurilla and Sanna (2004) define PSA as cognitive-behavioral processes in which an individual, couple, or group identifies or discovers an effective solution to a particular problem they encounter every day. PSA education helps the parents of children with AS to better adapt to the existing challenges through child diagnosis (Nguyen, Fairclough, Noll, 2016). Increasing awareness and adaptation and providing solutions for the mothers of children with AS to better adapt to the common problems of their children leads to reducing mothers' problems, improving the QoL, and some symptoms of autism; PSA also plays an important role in their mental health (Kleinke, 2010). By teaching PSA skills, individuals have reported less depression and improved health dimensions concerning QoL (Erdley et al., 2014).

PS skills are an effective manner to reduce anxiety in the mothers of children who have recently been diagnosed with AS (Nguyen et al., 2016). The parents of children with AS are more prone to anxiety and depression and experience decreased QoL (Eslami Shahrbabaki, Mazhari, Haghdoost, & Zamani, 2020).

A study aimed at investigating the effects of PSA skills training on the QoL of the mothers of children with AS.

Accordingly, it was concluded that learning PSA skills effectively improved the QoL of the experimental group. Besides, the two-month follow-up data endorsed the results; thus, PSA kills education can be used as a supportive recourse to improve these families' QoL (Ahmadi Halamsoi et al., 2014). Research also signified that life skills training (i.e. PS, coping, & anger management skills) has been effective on the QoL of the mothers of children with AS.

A study revealed that assessing PSA in the visually-impaired elderly is the predictor of QoL and life satisfaction (Sgaramella et al., 2017). The total value of the QoL dimension of health in a specific group of patients encountering stroke who have received treatment for PSA is higher, compared to the control group (Visser et al., 2015). Positive problem orientation was independently correlated with the QoL dimension of health in patients with high and low scores in post-stroke depression tests (Visser et al., 2016). One study indicated that the elderly with hemodialysis who received PSA kills intervention over 6 months were significantly less depressed and obtained improved scores in the QoL dimension of health, compared to the controls (Erdley et al., 2014). Salahiyan and Palahang revealed that group PSA skills training was effective in improving the QoL of opioid-dependent patients in the posttest and follow-up in the intervention group, compared to the controls (Salahian & Palahang, 2016). A study on the caregivers of children with disabilities has revealed a positive correlation between the scores of 4 dimensions of positive problem orientation (i.e. mental health, physical health, social relationships, & satisfactory environment) and positive problem orientation, as well as a negative correlation with negative problem orientation. Moreover, there was a negative correlation between avoiding styles' scores and 3 components (i.e. physical, psychological, & environmental) out of the 4 components of QoL (Fisher, 2009).

Research on the physical dimension of QoL has demonstrated that the elderly with low self-efficacy and low self-esteem encounter decreased QoL (Haugland, Wahl, Hofoss, & DeVon, 2016). A study explored the relationship between increasing self-control, understanding the variability of the disease, and understanding the low effect of coronary artery disease on life status. They also investigated the effects of enhanced health dimension of QoL concerning the impact of understanding the consequences of illness, self-control, and the variability of coronary artery disease on the health dimension of QoL (Sigurdardottir, Sigurlásdóttir, Ólafsson, & Svavarsdóttir, 2017).

The psychological distress of having children with disabilities may affect a mother's biopsychological health (Safari, Jadidi, Jamali, & Faramarzi, 2013). Also, the long-term consequences of stress-induced characteristics impact the overall wellbeing and QoL at different stages of life (Craske & Zucker, 2001); thus, finding the best possible solution to everyday problems may reduce stress and improve individuals' lives (Cuijpers, van Straten, & Warmerdam, 2007).

Many parents of children with AS must encounter their children's certain conditions that affect them for the rest of their lives. They seek skills and training to solve problems as a manner to cope with the consequences of this disorder in their lives (AlHorany, Younis, Bataineh, & Hassan, 2013). It is because the mothers of children with AS , compared to other mothers (the mothers of healthy students, and the mother of children with intellectual disabilities, & those with hearing impairments) presented the lowest level of family-related PSA skills (Boriri & Pirali, 2016); accordingly, the QoL of the mothers of children with AS significantly decreased, compared to that of the mothers of healthy children (Bazrafshan et al., 2019).

PS skills help them to apply strategies manage daily crises and troubles (Whitman, 2004). Stress and negative emotions often lead to anxiety, depression, and anger and affect the QoL (Peeters et al., 2008); therefore, PSA skills education has been effective in improving all dimensions of the QoL of the mothers of children with AS (Ahmadi Halamsolui, Pashang, & Saliminia, 2014). PSA skills enable the parents of children with AS to better cope with the challenges posed by the child's diagnosis, reduce the experienced stress, and apply PSA skills in all aspects of their lives (Nguyen et al., 2016).

According to the previous research, the QoL of the mothers of children with AS and their PSA skills is low; however, data on the relationship between PSA skills and its subscales (self-confidence in PS, avoidant attachment to problem style, self-control) and QoL are scarce. Thus, the current study aimed at investigating the relationship between PSA and the QoL in the mothers of children with AS . Accordingly (and given the previous research results), we developed and investigated the following hypotheses: there is a relationship between PSA and QoL in the mothers of children with AS in Isfahan; there is a relationship between the PSA's dimensions (self-confidence in PS, avoidant attachment to problem style, self-control) and QoL in the mothers of children with AS in Isfahan.

2. Methods

The following instruments were applied in the present research to collect the necessary data.

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The 12-item Quality of Life Inventory (QoLI): This questionnaire by Ware, Kosinski & Keller (1996) was designed in 1996. The questions are answered on both a Likert-type scale and yes and no format. The total score of the 12 items is considered as the questionnaire's overall score. Items 1, 6, 8, 10, and 11 are scored reverse. The tool's content validity was measured and the test-retest method was used to determine its reliability (r=0.90) (Saeidimehr, Geravandi, Izadmehr, & Mohammadi, 2016). The 12-item QoLI's Cronbach's alpha coefficient was measured as 0.847, representing the good reliability of the scale.

The Problem Solving Inventory (PSI): This 35-item scale was developed by Heppner and Peterson (1982): It is answered on a 6-point Likert-type scale, ranging from strongly agree (scored 6) to strongly disagree (scored 1). It includes PS-related items on self-confidence (i.e. items 19, 24, 23, 27, 33, 34, 35, 12, 11, 10, & 5); avoidant attachment to problem style (i.e. items 1, 2, 4, 6, 7, 8, 13, 15, 16, 17, 18, 20, 21, 28, 30, & 31), and self-control (i.e. items 3, 14, 25, 26, & 32, respectively). Items 29, 30, 32, 34, 25, 21, 26, 15, 14, 9, 11, 4, 3, 2, and 1 are negative statements and scored reversely; the totally agree option is scored 1, and totally disagree statement is scored 6. The minimum and maximum scores on this scale are 35 and 210, respectively, with higher scores indicating greater PSA levels. Confidence in PSA refers to one's self-trust in the context of PSA activities; avoidant attachment to problem style refers to approach or avoidance by respondents in various PSA activities, while self-control indicates the individuals' believes in the extent of self-control over emotions and personal behavior when coping with the problems (Roshanian Ramin, Fazelian, & Rastegarpoor, 2013).

Fatemi et al. (2009) reported Cronbach's alpha coefficients of 0.83-0.89 for total PSA component; 0.76-0.79 for self-confidence in PS; 0.77-0.84 for avoidant attachment to problem style, and 0.72-0.99 for self-control (Taghizadeh, Purbakhtyar, Daneshparvar, Ghasemzadeh, & Mehran, 2015). A significant correlation between the subscales and the coefficients ranged between 0.51-0.72, indicating the appropriate convergent validity of the scale was identified (Mohammadi, 2005). Two members of the Psychology Faculty of Tabriz University approved the content validity of the scale (Seyedfatemi, Moshirabadi, Borimnejad, & Haghani, 2014). The current research obtained the Heppner and Peterson Scale's Cronbach's alpha of 0.68 for the population of the mothers of children with AS in Isfahan.

This was a descriptive (non-experimental) correlational study. The study population consisted of all mothers of children with AS in Isfahan City, Iran. The study sample

was selected from one autism treatment center (out of three) using a convenience sampling method. Then, a list of the mothers of children with AS living in Isfahan was prepared without regard to the particular priority order, and a sample of 150 individuals was randomly selected. Then, the questionnaires were distributed among them. Pearson correlation coefficient and stepwise regression analysis were used for data analysis; thus, 15 subjects were selected per variable and subscale (Gall, Borg, & Gall, 1972), i.e. 150 subjects. The inclusion criterion was being the mother of a child with AS living in Isfahan. The study participants were assured of the confidentiality of the collected data and the relevant questionnaires were completed anonymously with the research participants' consent to observe the ethics of research concerning confidentiality.
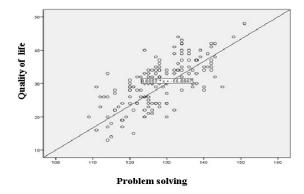
To analyze the study findings and test the hypotheses, Pearson correlation coefficient and multivariate regression were used in SPSS V. 22.

3. Results

First, descriptive indicators were separately calculated per variable to evaluate the relationship between the research variables. Then, stepwise regression and Pearson correlation coefficient were used to analyze the collected data and examine the study hypotheses.

According to Table 1, the Mean±SD scores of QoL, PSA, self-confidence in PS, avoidant attachment to problem style, and self-control were 30.13±6.91, 128.04±8.702, 40.55±6.01, 59.23±4.833, and 16.96±2.878, respectively.

Some statistical methods, such as Pearson correlation and regression are developed based on the assumption of the presence of the linear relationship between the vari-

Figure 1. The scatter diagram of the relationship between PSA and QoL

Table 1. Descriptive statistics of quality of life, and problem-solving ability and its dimensions

Variables	Min.	Max.	Median	Mode	Mean±SD	No.
QoL	13	48	30	34	30.13±6.961	150
PSA	109	151	127	128	128.04±8.702	150
Self-Confidence in PS	26	55	40	37	40.55±6.01	150
Avoidant attachment to problem style	46	72	59	57	59.23±4.833	150
Self-control	8	24	17	16	16.96±2.878	150

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ables. Thus, we should have tested the linearity of the relationship between variables before running the test. The scatter diagram is among the common methods used to check the linearity of the variables' relationship.

According to Figure 1, the general trend of the points illustrated a positive linear relationship between PSA and QoL.

Given that some statistical methods, such as Pearson correlation and regression analysis are developed on the assumption of the normal distribution of data in the population (Karimi, 2015). The normal distribution of the study population was examined using the Kolmogorov-Smirnov (K-S) test. Concerning the assumption of the normality of the data, the null hypothesis was that the distribution of scores in the population is normal and skew is due to random sampling; i.e. contrary to the assumption that the distribution of scores in the population is not normal. The present study results revealed the odds of the normal distribution of QoL (0.529) in the population; the skew resulted from random sampling; therefore, the null hypothesis was approved (P>0.05) and QoL was

normally distributed in the study population. Moreover, the normal distribution of PSA was probable (0.191) in the population and the skew resulted from random sampling; therefore, the null hypothesis was established (P>0.05) and PSA was normally distributed in the research population.

The first research hypothesis suggested that there is a relationship between PSA and QoL in the investigated mothers of children with AS. According to Table 2, there was a relationship between PSA and QoL in the explored subjects at the 0.01 level (P<0.01). The correlation coefficient between PSA and QoL (r=0.696, p<0.01) was also obtained.

The second hypothesis of the study suggested a relationship between the dimensions of PSA (self-confidence in PS, avoidant attachment to problem style, & self-control) and QoL in the study participants.

According to Table 3, there was a relationship between the dimensions of the PSA (self-confidence in PS, avoidant attachment to problem style, & self-control) and QoL

Table 2. Pearson correlation coefficient between PSA and QoL

Criterion Variable	Predicting Variable	Pearson Correlation Coefficient	Sig.
PAS	QoL	0.696**	0.0001

**Correlation is significant at 0.01 level (two-tailed test).

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Table 3. Pearson correlation coefficient of PSA and QoL

Criterion Variable	Predicting Variable	Pearson Correlation Coefficient	Sig.
Quality of life	Self-confidence in PS	0.560**	0.0001
	Avoidant attachment to problem style	0.241 **	0.003
	Self-Control	0.307**	0.0001

** Correlation was significant at 0.01 level (two-tailed test).

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Table 4. Stepwise regression of PSA and QoL

Criterion Variable	Step	Predictor Variables	R	R²	Adjusted R Squared	Durbin Watson	Regression Coefficient			
							F	Coefficients Beta	t	Sig.
QoL	1	Self-confidence in PSA	0.560	0.314	0.309		67.630 P=0.0001	0.560	8.224	0.0001
	2	Self-confidence in PS Self-control	0.625	0.391	0.382	1.607	47.121 P=0.0001	0.545 0.278	8.455 4.310	0.0001 0.0001
	3	Self-confidence in PS Self-control Avoidant attachment to PS	0.661	0.437	0.426		37.809 P=0.0001	0.539 0.271 0.216	8.669 4.349 3.476	0.0001 0.0001 0.001

in the explored participants at 0.01 level (P<0.01). The correlation coefficient of self confidence in PSA, avoidant attachment to problem style, self-control, and QoL were also measured (r=0.560, P<0.01; r=0.241, P<0.01; & r=0.307, P<0.01, respectively).

Stepwise linear regression results (Table 4) revealed the presence of self-confidence in PS, self-control, and avoidant attachment to problem style into the equation at first, second, and third steps, respectively. Table 4 presents the significance of regression calculated by F-test with the significance level equal to 0.0001 (P<0.01), indicating the analyzable results. Multiple regression analysis assumes the independence of the independent variables, i.e. the absence of correlation between independent variables' error scores. This assumption was checked by the Durbin-Watson test. Given that the Durbin-Watson test statistic indices equal 1.607 and 1.5 to 2.5, we established the independence of observations and following tests. The t-test signifies the importance of the independent variables in the model. Moreover, according to Table 4, the value of self-confidence in PS, self-control, and avoidant attachment to problem style variables' regression coefficients were measured (P<0.01) at 0.01significance level. Multiple correlation coefficients demonstrated that self-confidence in PSA significantly predicted the QoL (R=0.560). Furthermore, added self-control to the equation significantly increased the prediction power (R=0.625); added avoidant attachment to problem style to the equation also significantly increased the prediction power (R=0.661). Considering the obtained coefficient of determination, variance in QoL was predicted by self-confidence in PSA (31.4%), self-confidence and self-control in PSA (39.1%), as well as self-confidence, self-control, and avoidant attachment to

problem style in PSA (43.7). The adjusted coefficient of determination in which the coefficient of determination was adjusted by the degrees of freedom equaled 0.3.9, 0.328, and 0.426 in the first, second, and third steps, respectively. The beta coefficient for self-confidence in PSA in the first step was computed as 0.560. Beta coefficients for self-confidence and self-control in PSA in the second step were 0.545 and 0.278, respectively. Beta coefficients for self-confidence, self-control, and avoidant attachment to problem style in PSA in the third step equaled 0.539, 0.271, and 0.216, respectively. Positive beta coefficients indicate a direct positive relationship between self-confidence, self-control, and avoidant attachment to problem style in PSA and the QoL in the explored subjects. Given the beta coefficients, self-confidence in PS, with the highest beta coefficient was the most powerful predictor of the QoL in the study participants. As per Table 4, self-confidence, self-control, and avoidant attachment to problem style in PS, simultaneously predicted the QoL in the study subjects by 0.661.

4. Discussion

Pearson correlation coefficient results presented a significant relationship between total PSA and QoL scores in the studied mothers of children with AS in Isfahan. This finding was consistent with findings of some other scholars (Ahmadi et al., 2014; Erdley et al., 2014; Salahian & Palahang, 2016; Sgaramella et al., 2017; Visser et al., 2016; Visser et al., 2015). As a result, PSA is a coping skill that increases self-confidence and is associated with coping (Bell & D'Zurilla, 2009). How people evaluate PSA, as a mental structure, is strongly correlated with various mental coping (Snyder & Lopez, 2009). PSA skills training empowers the parents of children

with AS to better cope with current challenges following their child's diagnosis (Nguyen et al., 2016). Problem-focused coping methods are positively associated with the total score of QoL (Nasiri et al., 2013). Accordingly, PSA is probably more capable of facilitating the mother of children with AS better cope with the challenges ahead caused by the child's diagnosis; in turn, this process affects their QoL and its dimensions. The mothers of children with AS significantly impact the emotional state of the family; thus, PSA skills education can be used as a supportive resource to improve the family's QoL.

PS skills training can effectively reduce distress in the mothers of children who have recently been diagnosed with AS (Nguyenet al., 2016). Additionally, the reduction and controlling of anxiety directly impacts the QoL. PSA skills training can be considered as a supportive and effective tool to improve the family's QoL; it is especially useful for the mothers of children with AS who play an essential role in balancing and improving the family's emotional wellbeing (Ahmadiet al., 2014). Therefore, PSA skills training can affect the QoL in the mothers of children with AS by reducing their distress and anxiety.

Maternal stress is predicted by the child's behavioral problems and partner's depression (Hastings, 2003). Stress and negative emotions often lead to anxiety, depression, and anger and affect the QoL (Peeters et al., 2008) PSA plays an important role in mental health status (Kleinke, 2010). According to Erdley et al. (2014), patients' depression can be reduced by providing PSA skills training interventions with reported improved health dimensions of QoL. QoL is reversely associated with negative reactions, like depression (Engelberg, 2010); thus, PSA more likely results in less depression in the face of difficulties and adverse life events, leading to improved QoL, consequently. PSA skills reduce experienced stress among the parents of children with AS (Nguyenet al., 2016). The mothers of children with AS are at higher risks for depression and anxiety; therefore, PSA may reduce an individual's depression and stress when encountering problems and adverse life situations, and improve their QoL.

Pearson correlation coefficient data indicated a significant relationship between self-confidence in PSA and QoL in the investigated subjects. Furthermore, the regression analysis results revealed that self-confidence in PSA was the most powerful predictor of QoL in the study participants. This finding was consistent with a part of Haugland et al.(2016)'s data. Self-confidence in PSA reflects that the individual believes in having the ability to effectively cope with the problems (Heppner & Baker, 1997). Higher confidence in PSA and greater control over cognitive reactions to problems are significantly related to the mental health of the mothers of children with disabilities; the inability of managing stress to regulate the emotions of caregivers and family members negatively affect depressive symptoms (Elliott, Shewchuk, & Richards, 1999). Self-esteem is one of the mental aspects of QoL (Grant & Sun, 2010). It is, therefore, possible that more confidence in the ability to solve problem impacts stress and the inability to regulate negative depression symptoms; thus, it impacts QoL. Therefore, greater self-esteem and self-confidence in the ability to solve problems may affect stress and the inability to regulate the negative depression-related emotions in the mothers of children with AS , affecting their QoL, accordingly. PSA is also associated with a positive self-concept (Snyder & Lopez, 2002). Self-acceptance indicates self-respect based on one's awareness of strengths and weaknesses and a QoL component. Therefore, the ability to solve problems may cause the awareness of the strengths and weaknesses and improve self-acceptance and affect the QoL.

Pearson correlation coefficient results suggested a significant relationship between avoidant attachment to problem style in PSA and QoL in the explored samples. Furthermore, regression analysis data revealed that avoidant attachment to problem style in PSA was the predictor of QoL in the study participants. This finding was consistent with a part of data obtained by Visser et al. (2015) and Fisher (2009). Avoidant attachment to problem style is the same as the approach-avoidance model of coping to PSA (Heppner & Baker, 1997). According to the PSA approach, there is a constant correlation between positive problem orientation and decreased negative experiences and high positive emotionality; it also inhibits negative problem orientation, causing detrimental effects that in turn provoke persistent and chronic negative emotions (D'Zurilla & Sheedy, 1992). Accordingly, high positive emotionality and low negative experiences lead to positive emotion orientation and affect the QoL, and vice versa. The negative bias constantly strengthens chronic negative emotions and inhibits attempts to PS, affecting the QoL. Therefore, more positive emotionality and less negative experiences[1] may lead to a positive orientation and affect the QoL in the mothers of children with AS , and vice versa. Negative orientation also reinforces the persistent and chronic negative emotions in the mothers of children with AS and prevents them from attempting to solve problems and affects their QoL.

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1. Negative utility

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Pearson correlation coefficient findings demonstrated a significant relationship between self-control in PSA and QoL in the explored subjects. Furthermore, obtained results indicated that self-control in PSA was the predictor of QoL in the study participants. This finding was in line with a part of the findings of Sigurdardottir et al. (2017). According to various theories, self-control is ones' beliefs and attitudes concerning emotions and behavioral control (Heppner & Baker, 1997). Further control over cognitive reactions is significantly correlated with the mental health of the mothers of children with disabilities and the inability to manage stress by regulating caregivers and family members' negative depressive emotions (Elliott, 1999). It is, therefore, possible that self-control impacts these mothers' stress in regulating negative depression emotions and thereby increases their QoL.

The current study was conducted in Isfahan; thus, we recommend further studies be conducted on the mothers of children with AS in other cities to better generalize the results. Furthermore, there exist few studies addressing the issue of the relationship between PSA aspects and QoL in the mothers of children with AS ; accordingly, further investigations in this field are recommended. Moreover, a questionnaire was used in the present study and parents often failed to carefully answer the questions due to their busy schedule. This point should also be considered and improved in future research.

5. Conclusion

In general, PSA is correlated with QoL, and PSA dimensions, including self-confidence in PS, avoidant attachment to PSA style, and self-control.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were observed in this article. The participants were informed about the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information. Moreover, they were allowed to leave the study whenever they wanted, and if desired, the results of the research would be available to them.

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Authors' contributions

All authors contributed equally in preparing all parts of the research.

Conflict of interest

The authors declared no conflict of interest.

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