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Examination of preschool children's anxiety with a mediator model: the effect of mother's emotion regulation skills and child's emotion expression styles

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ABSTRACT

Aim: The aim of this study is to determine the relationship between emotional regulation difficulties of mothers with preschool children and children's anxiety with a mediator model.

Method: The study, which is a cross-sectional survey study. 'Mother–Child Descriptive Information Form', 'Emotion Regulation Skills Questionnaire (ERSQ)', 'Revised Preschool Anxiety Scale (RPAS)', 'Child Emotion Expression Styles Questionnaire (CEEQ) – Maternal Form' were used to collect data.

Results: The path coefficients between total ERSQ points of mothers with child happy ($\beta = 1.338$; $p = <0.001$), sad ($\beta = -0.582$; $p = 0.02$), angry ($\beta = -0.993$; $p = 0.001$), and fear ($\beta = -0.993$; $p<0.001$) emotion points were found to be statistically significant ($\beta = 1.338$; $p = <0.001$). Path analysis was used to examine the effects of scales on each other.

Conclusion: As a result, it was determined that as mothers' emotion regulation skills increased, the child's total anxiety level, the child's angry feeling, and the child's scared feeling decreased, and the child's sense of happiness increased.

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KEYWORDS
Mother–child relationship; anxiety; emotion expression styles; emotion regulation; nursing

Introduction

The preschool period encompasses the period from 0–6 years of age and all cognitive, motor and social-emotional development areas affect each other in this period. (Karoğlu & Ünüvar, 2017). Anxiety and other behavioural problems that occur in the first six years of a child's life called the pre-school period are of serious importance. If these problems cannot be solved, it may be possible that the child is not accepted by his social environment and that the child's problematic and maladaptive behaviours continue in his future life when he grows up (Durmusoglu & Arslan, 2012).

The inability to meet a child's needs, the experience of emotional trauma, and excessive anxiety and insecurity in the relationship with the mother may cause the development of physiological and mental problems such as anxiety (Şahin, 2019; Tok, Arkar, & Bildik, 2016). Anxiety is the response in the brain automatically developing when faced with danger and the child may lose adjustment related to coping as the frequency, intensity, and permanence of anxiety increases (APA, 2013). According to the definition in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM V), anxiety is a strong negative emotion accompanied by bodily signs of tension, and the individual's expectations related to danger or misfortune in the future (Morrison, 2016). The lifelong prevalence of an anxiety disorder is stated to be 15–20% among children and

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adolescents Anxiety disorder in the childhood period may display mostly as separation anxiety disorder, specific phobias, and social phobias developing with age (Ray, 2014). Children experiencing anxiety disorder may experience problems in family relationships, academic life, and social areas (Silver, Shapiro, & Milrod, 2013). Factors affecting the emergence of anxiety disorder may be listed as temperament, traumatic events, parenting style, and environmental and genetic factors (Kalyon, 2018; Özer, 2018). A study stated that children of mothers and fathers with social anxiety disorder displayed a predisposition to this topic (Bora & Ünüvar, 2020). The pathology of many mental diseases lies in inadequate emotion regulation skills (Berking & Whitley, 2014).

The mother's effective use of emotion regulation skills in the relationship with the child is effective in the child's emotional and mental development (Bilge & Sezgin, 2020; Karoğlu & Ünüvar, 2017). Children positively expressing emotions are reported to have lower anxiety levels and there is increasing interest in this topic in the literature (Ersan, 2019; Esbjørn, Bender, Reinholdt-Dunne, Munck, & Ollendick, 2012; Gratz & Roemer, 2004).

The emotion regulation process is not just about reducing the intensity and frequency of an emotional response, it also is a process targeting the production of an emotional response and sustaining life (Eldeleklioğlu & Eroğlu, 2015). Mothers who regulate emotions are stated to have the ability to express and experience emotions within their relationship with the child (Özyurt, Öztürk, & Akay, 2017). Gratz and Roemer (2004) defined emotion regulation as awareness, acceptance, and understanding of emotions, skills that can affect impulsive behaviour, the ability to act in line with aims during negative emotions, and the ability to use emotion regulation skills appropriate to the situation. According to Berking and Whitley (2014), basic emotion regulation skills encompass awareness, recognition, naming, acceptance, tolerance, readiness to confront, modification, and self-support. A mother's inadequacy in emotion regulation skills may cause the child to experience increased anxiety levels and many mental problems (Ataman Temizel & Dağ, 2014; Işık & Turan, 2015).

Humans, struggle to survive from the moment they enter the world, the first contact, and connection in life forms with the mother (Bilge & Sezgin, 2020; Şahin & Seven, 2020). A healthy relationship between mother–child comprises a foundation stone for healthy adulthood and plays an effective role in the development of emotional and neuronal circuits in the child (Bilge & Sezgin, 2020; Callaghan & Tottenham, 2016). When the mother provides emotional responses with appropriate quality to events experienced when communicating with the child, this supports the child's development of emotion regulation skills (Bozkurt Yükçü & Demircioğlu, 2017; Esbjørn et al., 2012). Additionally, these early emotional development experiences in children shape their responses given during emotional experiences with peers and teachers in the future (Are & Shaffer, 2016).

Studies investigating the topic of the relationship between mother–child and child emotion regulation skills were performed (Arslan Özkılıç, 2021; Bilge & Sezgin, 2020; Ceyhun Ersan, 2017); however, there are few studies (Bilge & Sezgin, 2020; Lau & Williams, 2021; Özyurt, Pekcanlar Akay, Öztürk, Baykara, & İnal Emiroğlu, 2016) related to the emotion regulation skills of the mother. Studies dealing with forms of expressing emotion and anxiety levels in children together with the emotion regulation skills of the mother appear to be very limited. It is considered important to reveal the correlation between anxiety level and emotion expression styles in children with the emotion regulation skills of the mother.

The research aimed to determine the anxiety levels in the preschool period, to reveal the correlation between the emotion regulation skills of mothers with children and emotion expression styles in preschool children, and to determine the impact on anxiety levels in children.

Research questions

1. Is there a correlation between the emotion regulation skills of mothers with children in the preschool period (3–6 years) and with anxiety level in the child?

2. Is there a correlation between the emotion regulation skills of mothers with children in the preschool period (3–6 years) with emotion expression styles in the child?
3. Is there a correlation between emotional expression styles and anxiety levels in children in the preschool period?
4. Do the child's anxiety, emotion expression styles, and mother's emotion regulation skills change according to sociodemographic variables?
5. Do the emotion regulation skills of the mother affect the emotional expression styles and anxiety levels in the child?
6. Does emotion expression styles affect the anxiety levels of children in the preschool period?

The mediation model to test research questions (5 and 6) is given in Figure 1. In this model, the mediating role of child emotion expression styles between maternal emotion regulation skills and child anxiety levels was analyzed (Figure 1).

Methods

Study design

This research is cross-sectional, descriptive correlational research. This study was conducted between November 2020 and June 2021 with mothers who have preschool children aged 3–6. The aim of this study is to determine the relationship between the emotional regulation difficulties of mothers with preschool children and children's anxiety with a mediator model (with children's emotional expression styles).

Participants

The population for this study comprised mothers of children aged 3–6 years attending preschools/preschool classes linked to the Ministry of National Education … … … Directorate of National Education in the 2020–2021 educational year.

There are 45 schools linked to the … … ….County Directorate of National Education. When determining the number of mothers with children in the preschool period, private schools and schools providing religious education were removed from the list as they did not appear to homogeneously represent the population. The population comprised mothers of 1982 children attending a total of 31 schools.

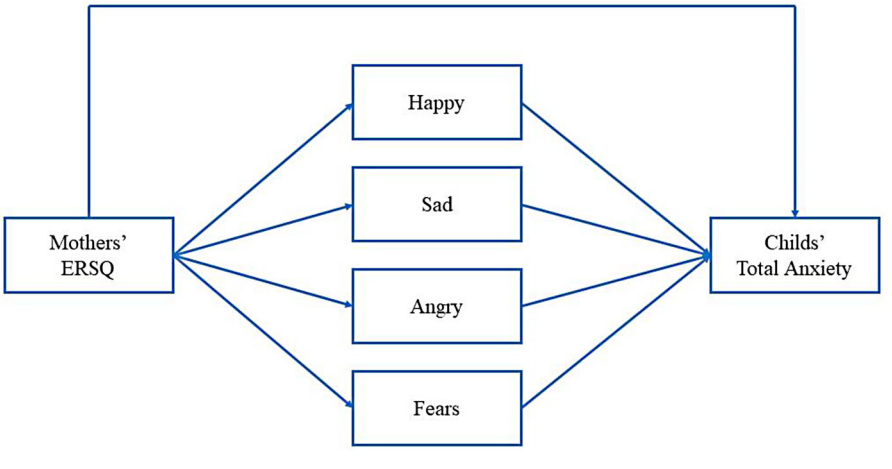

Figure 1. The mediation model.

To determine the number of mothers to be included in the sample, the known population sample formula was used d. With a 5% error and 95% confidence level, it was identified to be necessary to perform the survey with at least 322 mothers.

The by noting inability to fully complete the survey and data loss, the sample number was planned with 10% excess, so 355 mothers comprised the sample. After determining the sample number, 5 schools were chosen by lottery from a total of 31 schools comprising the population, and the study was completed by 355 mothers with children attending … ..Preschool, … … Middle School, … … .. Preschool, Bay, … Preschool, and … …. Vocational and Technical Anatolian High School Applied Preschool.

Measures

The research data were collected with the 'Mother–Child Descriptive Information Form', 'Emotion Regulation Skills Questionnaire (ERSQ)', 'Revised Preschool Anxiety Scale (RPAS)', and 'Child Emotion Expression Styles Questionnaire – Maternal Form'.

Mother–Child information form

This form, created by the researcher in line with the literature, comprised 10 questions (age group of mothers, working status, educational status, total number of children in the family, family type, socioeconomic status, helper presence at home, child's age, gender of the child, preschool period starting age of child) (Ersan & Tok, 2020; Özyurt et al., 2017).

Emotion regulation skills questionnaire (ERSQ)

The emotion regulation skills questionnaire was developed by Berking and Znoj (2008). The Turkish validity-reliability study was performed by Vatan and Kahya (2018). The scale has a 5-point Likert rating and is a self-report form containing 27 items. It was developed to assess the emotion regulation skills of individuals (Berking & Znoj, 2008).

The ERSQ comprises a total of nine subscales of awareness, sensations, clarity, understanding, acceptance, tolerance, readiness to confront, self-support, and modification (Berking & Znoj, 2008). The original form of the scale had Cronbach's alpha internal consistency coefficient of 0.93, with values from 0.62-to 0.83 for the subscales (Berking & Znoj, 2008; Vatan & Kahya, 2018). In this study, the Cronbach alpha internal consistency coefficients were 0.923 for the total ERSQ and varied from 0.571–0.686 for the subscales.

Revised preschool anxiety scale (RPAS)

Edwards, Rapee, Kennedy, and Spence (2010) developed this scale for use in research about anxiety in 36-year-old children in the preschool period. The Turkish validity and reliability study for the scale was performed by Güler (2016). The RPAS has a 5-point Likert type and comprises a total of 30 items. The scale comprises four subfactors of general anxiety, social anxiety, separation anxiety, and specific fears and also calculates total points (Edwards et al., 2010). The Cronbach alpha internal consistency coefficient for the total RPAS was 0.90 and subscales had Cronbach alpha internal consistency coefficients varying from 0.69–0.80 (Güler, 2016). In this study, the Cronbach alpha internal consistency coefficients were 0.907 for total anxiety levels and varied from 0.714–0.823 for the subscales.

Child emotion expression styles questionnaire (CEEQ)

The CEEQ was developed by Mirabile (2008) and adapted to Turkish by Ersan (2017). The maternal form of this scale includes 16 items and comprises four subscales of happy, sad, angry and fear The scale aims to assess the frequency, duration, intensity, and latency of the child's feelings of being happy, sad, angry, and afraid (Ceyhun Ersan, 2017). The CEEQ-maternal for rm has a 5-point Likert rating. The Cronbach alpha internal consistency coefficients varied from 0.70–0.83 (Ceyhun Ersan, 2017). In this study, the scale had Cronbach alpha internal consistency coefficients which varied from 0.640–0.874.

Procedure

Before the study began, a pilot application was performed with 20 mothers, and these forms were not planned for inclusion in the study. Mothers were informed about the research when they brought or collected their children from preschool and provided written and verbal consent. Mothers were given the relevant forms and the research data were collected.

Ethical dimension of the research

The aim of the study was explained to mothers with children aged 3–6 years attending education in preschools/preschool classes linked to the Ministry of National Education … … Provincial … .. County Directorate of National Education in the 2020–2021 educational year, the benefits were explained and written consent was obtained from mothers who agreed to participate with the Informed Consent Form. To use the Emotion Regulation Skills Questionnaire, Revised Preschool Anxiety Scale, and Child Emotion Expression Styles Questionnaire in the research, permission to use the scales was obtained from the authors of the scales. The proposal for the thesis study was approved after assessment by board members from the Institute of Health Sciences. To collect research data, institutional permission was obtained from the Ministry of National Education … … … ..Provincial … … … .County Directorate of National Education dated 03.09.2020 with decision number l1965706. Ethics committee permission was obtained from … … University Clinical Research Ethics Committee dated 12.11.2020 and numbered 2020/240 (Appendix-10).

Analysis of data

The statistical analysis presents quantitative data as mean ± standard deviation and median (minimum-maximum), with categoric data given as frequency and percentage. The significance was taken as $p<0.050$. With the LISREL 8.71 (26) programme, the path analysis to test the prediction of child emotion expression styles and child total anxiety level based on maternal ERSQ points was performed. Path analysis is a statistical method allowing the opportunity to define lossy situations and test them by modelling. Path analysis ensures the use of lossy data in the model. An applied regression analysis method, path analysis is used to test complicated hypotheses using path graphics (Glozah & Pevalin, 2014). Path analysis is a method ensuring much more information is acquired related to processes considered ordinary. This method may be used to observe the direct or indirect effects of an independent variable or variables on a dependent variable or variables (Alwin & Hauser, 1975). In path analysis, the chi-square value (x^2) is close to zero, with degrees of freedom (df)>0 and $p>0.05$, regression weights $p<0.05$, and model fit indexes accepted as significant if CMIN/DF<3, Goodness of Fit Index (GFI) >90, Adjusted Goodness of Fit Index (AGFI) >90, Comparative Fit Index (CFI) >90 and Root Mean Square Error of Approximation (RMSEA) <0.05 (Çapık, 2014).

Results

Demographic distribution of data according to descriptive characteristics of mother and child

According to Table 1, 42.3% of mothers were 30–34 years of age, 58.3% were not employed, and 51% were graduates of university or above. Among participants, 88.2% lived with a nuclear family type, 89% had a moderate socioeconomic level and 76% did not have assistance at home. Of children participating in the research, 36.6% were 5 years of age, 50.1% were girls and 37.5% began preschool classes at 3 years of age. The mean age of mothers was 33.14±4.8 years, while the mean age of children was 4.59±1.0 years.

Table 1. Distribution of Sociodemographic Characteristics.

	n	%
Age group of mothers		
24–29	82	23.1
30–34	150	42.3
35–39	80	22.5
40–44	43	12.1
Working status		
Not working	207	58.3
Working	148	41.7
Educational status		
Primary school and below	23	6.5
Middle School	42	11.8
High school	109	30.7
University and above	181	51.0
Total number of children in the family		
One	116	32.7
Two	177	49.9
Three or more	62	17.4
Family type		
Nucleus	313	88.2
Extended family	42	11.8
Socioeconomic status		
Low	17	4.8
Middle	316	89.0
High	22	6.2
Helper presence at home		
No	271	76.3
Yes	84	23.7
Child's age		
3 years old	73	20.6
4 years old	74	20.8
5 years old	130	36.6
6 years old	78	22.0
Gender of the child		
Male	177	49.9
Female	178	50.1
Preschool period starting age of child		
Three	133	37.5
Four	100	28.2
Five	94	26.4
Six	28	7.9

Results related to the comparison of the emotion regulation skills questionnaire, revised preschool anxiety scale, and child emotion expression styles questionnaire with sociodemographic characteristics

In this section of the research, the points obtained by mothers on the Emotion Regulation Skills Questionnaire and obtained by children on the Revised Preschool Anxiety Scale and Child Emotion Expression Styles Questionnaire-Maternal Form were investigated in terms of demographic variables (Tables 2–4).

According to Table 2, mothers who were employed had higher ERSQ awareness ($p = 0.028$) and tolerance ($p = 0.037$) subscale points compared to mothers who were not employed and there was a statistically significant difference between the distributions. According to the total number of children, there were statistically significant differences in distributions for the ERSQ awareness ($p = 0.008$) and confrontation ($p = 0.033$) subscales. According to family type, there was a statistically significant difference in the acceptance point distribution ($p = 0.002$). According to child age, there were statistically significant differences in the distribution of ERSQ awareness ($p = 0.035$) and understanding ($p = 0.035$) points of mothers. According to the age, at which the child began preschool classes, there was a statistically significant difference in the distribution of awareness points ($p =$

Table 2. Comparison of the Mean ERSQ Scores of Mothers by Sociodemographic Characteristics.

		Awareness	Sensations	Clarity	Understanding	Acceptance	Tolerance	Readiness to confront	Self-support	Modification	Total ERSQ
Age group of mothers	24–29 years old	2.6±0.74	2.5±0.83	2.87±0.76	2.94±0.78	2.34±0.8	2.53±0.81	2.39±0.96	2.72±0.8	2.54±0.77	2.6±0.63
	30–34 years old	2.67±0.71	2.7±0.79	2.89±0.78	2.94±0.71	2.32±0.7	2.51±0.78	2.43±0.82	2.78±0.74	2.64±0.62	2.65±0.55
	35–39 years old	2.53±0.74	2.78±0.72	2.88±0.69	2.96±0.67	2.21±0.82	2.37±0.81	2.3±0.89	2.68±0.83	2.64±0.73	2.59±0.57
	40–44 years old	2.51±0.71	2.57±0.72	2.79±0.73	2.78±0.72	2.3±0.7	2.6±0.76	2.11±0.92	2.67±0.78	2.48±0.72	2.53±0.6
	Test / p	F=0.893	F=2.133	F=0.198	F=0.735	F=0.481	F=0.991	F=1.647	F=0.342	F=135.115	F=0.527
		0.445	0.096	0.897	0.531	0.696	0.397	0.178	0.795	0.470	0.664
Working status	Not working	2.53±0.75	2.63±0.86	2.85±0.81	2.95±0.75	2.24±0.8	2.42±0.83	2.31±0.88	2.67±0.82	2.56±0.71	2.57±0.6
	Working	2.7±0.68	2.69±0.65	2.91±0.65	2.9±0.67	2.37±0.67	2.59±0.72	2.42±0.88	2.81±0.71	2.65±0.68	2.67±0.54
	Test / p	t=−2.203	t=−0.796	t=−0.749	t=0.653	t=1.585	t=2.093	t=1.165	t=1.642	t=1.196	t=1.587
		0.028	0.427	0.454	0.514	0.114	**0.037**	0.245	0.101	0.232	0.114
Educational status	Primary school and below	2.47±0.78	2.38±0.83	2.72±0.77	2.95±0.71	2.57±0.79	2.7±0.92	2.18±1.04	2.78±0.84	2.43±0.73	2.58±0.66
	Middle School	2.61±0.65	2.67±0.94	2.97±0.79	3.02±0.79	2.17±0.75	2.38±0.86	2.31±0.97	2.82±0.87	2.56±0.76	2.61±0.56
	High school	2.57±0.82	2.67±0.79	2.89±0.79	2.92±0.75	2.3±0.8	2.56±0.8	2.33±0.9	2.8±0.77	2.61±0.74	2.63±0.61
	University and above	2.63±0.68	2.69±0.72	2.87±0.71	2.9±0.68	2.29±0.71	2.45±0.75	2.39±0.84	2.66±0.75	2.62±0.65	2.61±0.56
	Test / p	F=0.275	F=1.425	F=1.011	F=0.328	F=1.425	F=0.983	F=0.228	F=0.942	F=0.418	F=0.061
		0.843	0.235	0.388	0.805	0.235	0.401	0.877	0.421	0.740	0.980
Total number of children in the family	One	2.72±0.72b	2.66±0.76	2.88±0.7	2.91±0.71	2.35±0.71	2.57±0.78	2.41±0.92b	2.73±0.8	2.68±0.69	2.66±0.59
	Two	2.6±0.7b	2.7±0.79	2.93±0.74	2.97±0.68	2.27±0.78	2.47±0.81	2.41±0.85b	2.76±0.74	2.6±0.67	2.63±0.55
	Three or more	2.37±0.74a	2.52±0.8	2.7±0.85	2.82±0.82	2.27±0.73	2.42±0.77	2.09±0.87a	2.65±0.84	2.44±0.76	2.47±0.62
	Test / p	F=4.919	F=1.332	F=2.136	F=1.130	F=0.478	F=0.853	F=3.456	F=0.446	F=2.487	F=2.230
		0.008	0.265	0.120	0.324	0.620	0.427	**0.033**	0.640	0.085	0.109
Family type	Nucleus	2.61±0.73	2.68±0.78	2.88±0.76	2.93±0.72	2.34±0.72	2.51±0.78	2.38±0.89	2.74±0.78	2.62±0.7	2.63±0.58
	Extended	2.5±0.71	2.49±0.79	2.79±0.71	2.9±0.71	1.96±0.87	2.38±0.9	2.17±0.84	2.63±0.73	2.46±0.62	2.48±0.53
	Test / p	t=0.963	t=1.452	t=0.787	t=0.202	t=3.118	t=0.958	t=1.451	t=0.849	t= 1.397	t=1.646
		0.336	0.147	0.432	0.840	**0.002**	0.339	0.148	0.396	0.163	0.101
Socioeconomic status	Low	2.59±0.75	2.63±0.86	2.8±0.9	2.9±0.63	2.31±0.76	2.53±0.78	2.33±0.91	2.47±0.83	2.27±0.84	2.54±0.64
	Middle	2.6±0.72	2.67±0.79	2.88±0.74	2.95±0.71	2.3±0.75	2.48±0.81	2.36±0.89	2.75±0.77	2.63±0.67	2.62±0.57
	High	2.61±0.81	2.53±0.59	2.8±0.75	2.67±0.87	2.18±0.74	2.65±0.51	2.32±0.86	2.59±0.87	2.42±0.82	2.53±0.62
	Test / p	F = 0.003	F = 0.324	F = 0.179	F = 1.565	F = 0.268	F = 29.024	F = 0.022	F = 1.459	F = 2.903	F = 0.419
		0.997	0.724	0.836	0.211	0.765	0.355	0.978	0.234	0.056	0.658
Helper presence at home	No	2.61±0.72	2.67±0.79	2.89±0.76	2.95±0.71	2.32±0.73	2.5±0.77	2.35±0.9	2.72±0.79	2.62±0.7	2.63±0.58
	Yes	2.57±0.73	2.62±0.77	2.81±0.72	2.84±0.73	2.21±0.81	2.47±0.87	2.37±0.83	2.76±0.72	2.53±0.69	2.58±0.58
	Test / p	t = 0.485	t = 0.446	t = 0.809	t = 1.237	t = 1.128	t = 0.249	t = −0.154	t = −0.424	t = 1.103	t = 0.678
		0.628	0.656	0.419	0.217	0.260	0.803	0.878	0.672	0.271	0.498
Child's age	3 years old	2.6±0.8ab	2.7±0.7	2.8±0.7	2.8±0.7a	2.2±0.8	2.4±0.8	2.4±0.8	2.7±0.9	2.6±0.8	2.6±0.6
	4 years old	2.6±0.7ab	2.7±0.7	2.9±0.7	2.9±0.7ab	2.3±0.7	2.5±0.7	2.3±1	2.6±0.7	2.6±0.6	2.6±0.6

	5 years old	2.7±0.7b	2.7±0.8	3±0.7	3.1±0.7b	2.4±0.7	2.6±0.8	2.4±0.9	2.8±0.8	2.7±0.7	2.7±0.6
	6 years old	2.4±0.8a	2.5±0.8	2.8±0.8	2.8±0.7a	2.2±0.7	2.4±0.8	2.2±0.8	2.7±0.7	2.5±0.7	2.5±0.6
	Test / p	F = 2.907	F = 0.723	F = 1.920	F = 2.909	F = 1.055	F = 1.367	F = 0.845	F = 0.933	F = 1.494	F = 1.943
		0.035	0.539	0.126	**0.035**	0.368	0.253	0.470	0.425	0.216	0.122
Gender of the child	Male	2.57±0.72	2.68±0.79	2.87±0.75	2.93±0.75	2.3±0.78	2.48±0.81	2.29±0.89	2.7±0.85	2.61±0.72	2.6±0.61
	Female	2.63±0.73	2.63±0.77	2.88±0.75	2.92±0.68	2.29±0.72	2.5±0.78	2.41±0.88	2.76±0.7	2.59±0.68	2.62±0.54
	Test / p	t = −0.885	t = 0.655	t = −0.127	t = 0.118	t = 0.021	t = −0.257	t = −1.282	t = −0.633	t = 0.351	t = −0.325
		0.377	0.513	0.899	0.906	0983	0.798	0.201	0.527	0.726	0.745
Preschool period starting age of child	Three	2.66±0.71b	2.68±0.71	2.84±0.7	2.84±0.67a	2.34±0.72	2.49±0.78	2.41±0.87	2.72±0.77	2.6±0.72	2.62±0.56
	Four	2.57±0.76b	2.59±0.83	2.83±0.86	2.9±0.81ab	2.21±0.78	2.42±0.84	2.3±0.94	2.7±0.81	2.61±0.7	2.57±0.63
	Five	2.67±0.69b	2.77±0.86	3.02±0.7	3.12±0.64b	2.36±0.77	2.57±0.77	2.42±0.85	2.82±0.78	2.66±0.68	2.71±0.55
	Six	2.24±0.71a	2.4±0.62	2.65±0.68	2.8±0.76a	2.18±0.67	2.49±0.78	2.04±0.82	2.58±0.68	2.39±0.62	2.42±0.49
	Test / p	F = 2.992	F = 114.457	F = 111.277	F = 3.409	F = 1.025	F = 0.560	F = 1.700	F = 0.756	F = 1.065	F = 2.176
		0.031	0.080	0.056	**0.018**	0.382	0.642	0.167	0.519	0.364	0.091

F: One-way analysis of variance test statistic, t: Two independent sample t-test statistics, mean ± S. Deviation, a-b: There is no difference between groups with the same letter.

Table 3. Comparison of RPAS Mean Scores According to Sociodemographic Characteristics of Mothers and Children.

		Social Anxiety	General Anxiety	Separation Anxiety	Specific fears	Total Anxiety
Age group of mothers	24–29	6.63±5.07	9.46±4.77	5.26±3.91	10.95±6.94	32.3±17.17
	30–34	7.77±5.85	10.12±5.03	5.77±4.17	12.01±6.81	35.67±18.03
	35–39	6.6±4.85	9.39±4.75	5.08±3.96	10.65±6.24	31.71±15.79
	40–44	7.84±5.31	9.79±4.93	6.74±4.71	13.21±6.37	37.58±17.76
	Test / p	F=1.371	F=0.526	F=1.805	F=1.823	F=1.782
		0.251	0.665	0.146	0.143	0.150
Working status	Not working	7.51±5.38	10.07±5.09	6.18±4.17	11.96±6.84	35.72±17.56
	Working	6.89±5.43	9.33±4.57	4.82±4	11.11±6.45	32.16±16.96
	Test / p	t=1.058	t=1.412	t=3.070	t=1.179	t=1.910
		0.291	0.159	**0.002**	0.239	0.057
Educational status	Primary school and below	6.95±5.09	9.5±4.07	8.4±4.47b	15.6±6.42c	40.45 ±16.39b
	Middle School	8.5±5.04	10.17±4.83	6.62±4.1a	13.5±6.6b	38.79 ±16.78ab
	High school	6.68±5.41	8.91±4.74	5.59±4.16a	11.81±7ab	32.98±17.8a
	Uni. and above	7.24±5.44	10.09±4.96	5±3.9a	10.45±6.22a	32.77 ±16.77a
	Test / p	F=1.232	F=1.670	F=6.821	F=7.024	F=3.750
		0.298	0.173	**<0.001**	**<0.001**	**0.011**
Total number of children in the family	One	7.03±5.65a	9.84±4.63	5.78±4.42	11.39±7.03	34.05±18.64
	Two	6.86±5.06a	9.64±4.78	5.38±3.9	11.19±6.34	33.07±15.61
	Three or more	8.77±5.71b	9.97±5.65	5.95±4.33	13.19±6.86	37.89±19.41
	Test / p	F=3.057	F=0.128	F=0.574	F=2.172	F=1.783
		0.048	0.880	0.564	0.115	0.170
Family type	Nucleus	7.02±5.4	9.64±4.9	5.43±4.08	11.64±6.64	33.72±17.26
	Extended	9±5.2	10.69±4.7	7±4.44	11.33±7.1	38.02±17.97
	Test / p	t=−2.247	t=−1.311	t=−2.321	t=0.278	t=−1.509
		0.025	0.191	**0.021**	0.781	0.132
Socio-economic status	Low	8.65±5.09	10.76±4.49	7±4.6	14.41±7.69	40.82±18.78
	Middle	7.07±5.31	9.71±4.87	5.45±4.03	11.3±6.45	33.53±16.66
	High	8.73±6.68	9.82±5.46	6.91±5.16	13.82±8.45	39.27±24.21
	Test / p	F=1.565	F=0.379	F=26.193	F=3.073	F=26.034
		0.211	0.685	0.209	0.099	0.197
Helper presence at home	No	7.26±5.45	9.81±4.94	5.51±4.01	11.88±6.78	34.46±17.26
	Yes	7.21±5.29	9.62±4.72	5.94±4.56	10.7±6.33	33.48±17.83
	Test / p	t=0.455	t=1.415	t=−0.825	t=0.310	t=0.071
		0.649	0.158	0.410	0.757	0.944
Child's age	3 years old	7.6±5.68	10.22±5.31	6.14±4.69	12.04±6.52	36±18.91
	4 years old	7.14±5.32	9.36±4.64	4.54±3.41	10.57±6.26	31.61±15.39
	5 years old	6.82±5.48	9.93±4.77	5.77±4.19	11.69±7.23	34.21±18.33
	6 years old	7.76±5.12	9.44±4.93	5.88±4.08	12.03±6.3	35.1±15.98
	Test / p	F=0.621	F=0.542	F=2.234	F=0.806	F=0.879
		0.602	0.654	0.084	0.491	0.452
Gender of the child	Male	7.41±5.48	9.75±4.89	5.78±4.22	11.21±6.75	34.14±17.48
	Female	7.1±5.34	9.78±4.9	5.45±4.08	11.99±6.62	34.32±17.32
	Test / p	t=0.542	t=−0.068	t=0.750	t=−1.107	t=−0.097
		0.588	0.946	0.454	0.269	0.923
Preschool period starting age of child	Three	7.5±5.51	9.86±4.86	5.57±4.33	11.54±6.32ab	34.47±17.68
	Four	6.84±5.5	9.62±5	4.91±3.84	10.23±6.79a	31.6±17.3
	Five	7.3±5.35	10±4.61	6.52±4.2	12.77±7.04b	36.59±17.66
	Six	7.39±4.92	9.04±5.59	5.29±3.74	12.89±6.15b	34.61±14.57
	Test / p	F=0.291	F=0.324	F=2.557	F=2.744	F=1.356
		0.382	0.808	0.055	**0.043**	0.256

F: One-way analysis of variance test statistic, t: Two independent sample t-test statistics, mean ± S. Deviation, a-b: There is no difference between groups with the same letter.

0.031). There was a statistically significant difference revealed between distributions of understanding points for mothers according to age continuing preschool ($p = 0.018$).

According to Table 3, children's separation anxiety subscale points differed by a statistically significant degree according to the mother's employment status ($p = 0.002$) and the mother's education

Table 4. Comparison of CEEQ Scores According to Sociodemographic Characteristics of Mothers and Children.

		Happy	Sad	Angry	Fear	Negative emotion
Age group of mothers	24–29	9.59±2.15	6.61±2.46	5.95±3.33ab	6.23±3.21	18.79±7.7
	30–34	9.71±1.86	7.02±2.83	6.39±3.43b	6.62±3.09	20.03±7.75
	35–39	10.08±1.91	6.69±3.03	5.1±3.36a	6.66±4.07	18.45±8.98
	40–44	9.51±2.66	5.98±2.29	5.14±3.22a	6.23±2.72	17.35±6.74
	Test / p	F=1.053	F=1.705	F=3.257	F=142.686	F=1.602
		0.369	0.166	**0.022**	0.729	0.189
Working status	Not working	9.72±1.98	6.88±2.7	5.85±3.32	6.62±3.23	19.35±7.55
	Working	9.77±2.16	6.51±2.8	5.84±3.52	6.31±3.43	18.66±8.47
	Test / p	t=−0.228	t=1.261	t=0.498	t=0.875	t=0.815
		0.820	0.208	0.973	0.382	0.416
Educational status	Primary school and below	10.4±1.9	6.65±2.62	6.05±3.5	6.7±3.74	19.4±7.79
	Middle School	9.24±2.16	6.69±2.33	6.55±3.37	6.71±3.17	19.95±6.79
	High school	9.69±2.06	6.65±2.71	5.89±3.41	6.49±3.44	19.03±8.22
	Uni. and above	9.8±2.03	6.72±2.84	5.56±3.36	6.35±3.21	18.63±7.95
	Test / p	F=1.806	F=0.194	F=1.427	F=0.587	F=0.810
		0.146	0.900	0.235	0.624	0.489
Total number of children in the family	One	9.94±2.06	6.5±2.37	5.47±3.16	6.11±3.22	18.09±7.22
	Two	9.67±1.98	6.8±2.8	5.95±3.41	6.6±3.25	19.35±7.93
	Three or more	9.58±2.24	6.92±3.24	6.24±3.76	6.9±3.62	20.06±9.15
	Test / p	F=0.849	F=0.613	F=1.198	F=1.334	F=1.490
		0.429	0.542	0.303	0.265	0.227
Family type	Nucleus	9.76±2.06	6.73±2.72	5.74±3.43	6.46±3.33	18.92±7.97
	Extended	9.57±1.99	6.71±2.93	6.64±3.1	6.76±3.25	20.12±7.77
	Test / p	t=−0.569	t=0.024	t=−1.624	t=−0.560	t=−0.918
		0.569	0.981	0.105	0.576	0.359
Socio-economic status	Low	9.18±2.27	8±2.62	6.82±3.24	6.47±2.94	21.29±7.29
	Middle	9.82±1.98	6.71±2.72	5.79±3.42	6.54±3.35	19.04±7.95
	High	9±2.65	5.95±2.94	5.86±3.28	5.86±3.08	17.68±8.32
	Test / p	F=2.347	F=2.731	F=0.744	F=0.425	F=1.005
		0.097	0.067	0.476	0.654	0.367
Helper presence at home	No	9.79±2.05	6.59±2.75	5.69±3.43	6.45±3.32	18.74±7.91
	Yes	9.6±2.05	7.14±2.7	6.35±3.28	6.62±3.3	20.11±8.01
	Test / p	t=−1.382	t=−0.399	t=−1.547	t=−1.604	t=0.744
		0.168	0.690	0.123	0.110	0.457
Child's age	3 years old	9.74±2.16	6.71±2.68	6.33±3.63	7±3.07	20.04±8
	4 years old	9.58±1.93	6.66±2.59	5.73±3.04	6.12±3.34	18.51±7.18
	5 years old	9.82±2.16	6.88±2.85	5.79±3.5	6.41±3.38	19.08±8.24
	6 years old	9.77±1.89	6.53±2.81	5.59±3.34	6.51±3.39	18.63±8.15
	Test / p	F=0.210	F=0.295	F=0.677	F=0.908	F=0.563
		0.889	0.829	0.567	0.437	0.640
Gender of the child	Male	9.64±2.01	6.68±2.68	6.14±3.52	6.56±3.41	19.38±8.09
	Female	9.84±2.09	6.76±2.82	5.56±3.26	6.43±3.23	18.75±7.8
	Test / p	t=−0.938	t=-.0276	t=1.610	t=0.376	t=0.748
		0.349	0.783	0.108	0.707	0.455
Preschool period starting age of child	Three	9.71±1.95	6.64±2.57	5.92±3.37	6.44±3.12	19±7.56
	Four	9.51±2.41	6.62±2.88	5.59±3.34	5.99±3.41	18.2±8.37
	Five	10.06±1.8	6.99±2.98	6.07±3.65	6.76±3.48	19.82±8.37
	Six	9.64±1.89	6.61±2.31	5.64±2.93	7.64±3.06	19.89±6.64
	Test / p	F=1.234	F=0.398	F=0.382	F=2.117	F=0.781
		0.297	0.755	0.766	0.098	0.505

F: One-way analysis of variance test statistic, t: Two independent sample t-test statistics, mean ± S. Deviation, a-b: There is no difference between groups with the same letter.

($p<0.001$). According to the educational status of the mother, the specific fears ($p<0.001$) subscale and total anxiety level ($p = 0.011$) point distributions had statistically significant differences. The social anxiety level displayed statistically significant differences according to the total number of children ($p = 0.048$) and family type ($p = 0.025$). According to the child's age continuing preschool classes, there was a statistically significant difference in the distribution of specific fears subscale points ($p = 0.043$).

According to Table 4, the CEEQ angry subscale point distributions had a statistically significant difference according to the o maternal age group ($p = 0.022$).

Correlation findings of emotion regulation skills questionnaire, revised preschool anxiety, scale, and child emotion expression styles questionnaire

According to Table 5, the total ERSQ points for mothers had statistically significant correlations with total anxiety level ($p<0.001$; r = −0.226), happy (positive emotion) ($p<0.001$; r = 0.367), angry ($p = 0.001$; r = −0.178) and afraid ($p = 0.001$; r = −0.182) points for children. There were statistically significant correlations between children's total anxiety points with happy (positive emotion) ($p = 0.001$; r = −0.174), sad ($p<0.001$; r = 0.449), angry ($p<0.001$; r = 0.465), and fear ($p<0.001$; r = 0.574) emotion points.

ERSQ, emotion expression styles, and anxiety levels mediation model analysis

When Table 6 is investigated, the path coefficients between maternal ERSQ total points with the child's happy (β = 1.338; $p = <0.001$), sad (β = − 0.582; $p = 0.02$), angry (β = − 0.993; $p = 0.001$), and fear (β = − 0.993; $p<0.001$) emotion points were found to be statistically significant (β = 1.338; $p = <0.001$). A one-unit increase in the mother's ERSQ points caused a 1.388 increase in the child's happy dimension, 0.582 reductions in the sad dimension, and 0.993 reductions in the angry and fear dimensions. The path coefficients between the child's total anxiety level with happy (β = − 1.064; $p = 0.006$), anger (β = 0.919; $p<0.001$), and fear (β = 2.22; $p<0.001$) emotion points were statistically significant. A one-unit increase in the happy dimension caused a 1.064-unit reduction in total anxiety levels, while one unit increases in angry and fear emotions caused 0.919 and 2.22 increases in total anxiety levels, respectively. The path coefficients between the mother's total ERSQ points with the child's sad emotion points and the child's total anxiety level points were not found to be statistically significant ($p>0.050$) (Figure 2).

Discussion

In this study, the aim was to determine the emotion regulation skills of mothers (ERSQ), the correlation between child emotion expression (CEEQ) and child anxiety levels (RPAS), and the effect of these variables on each other. In this study, it was determined that as mothers' emotion regulation skills increased, the child's total anxiety level, the child's angry feeling, and the child's scared feeling decreased, and the child's sense of happiness increased.

In this study, the total mean ERSQ points for mothers were identified (2.61±0.58) along with the points for the subdimensions (awareness: 2.60±0.72, sensations: 2.66±0.78, clarity: 2.87±0.75, understanding: 2.93±0.72, acceptance: 2.29±0.75, tolerance: 2.49±0.79, readiness to confront: 2.35±0.88,

Table 5. The Correlation Matrix for the Relationship Between ERSQ, RPAS, and CEEQ.

		Total ERSQ	Total Anxiety	Happy	Sad	Fears
Total Anxiety	r	−0.226**				
	p	**<0.001**				
Happy	r	0.367**	−0.174**			
	p	**<0.001**	**0.001**			
Sad	r	−0.098	0.449**	−0.009		
	p	0.065	**<0.001**	0.868		
Angry	r	−0.178**	0.465**	−0.191**	0.587**	
	p	**0.001**	**<0.001**	**<0.001**	**<0.001**	
Fears	r	−0.182**	0.574**	−0.002	0.613**	0.475**
	p	**0.001**	**<0.001**	0.963	**<0.001**	**<0.001**

r: Spearman correlation coefficient.

Table 6. Regression and Standardized Regression Weights of the Intermediary Model

			β^1	β^2	SE	Test Stat.	*p*	R^2
Happy	<—	ERSQ	0.377	1.338	0.175	7.659	**<0.001**	0.142
Sad	<—	ERSQ	−0.123	−0.582	0.251	−2.323	**0.020**	0.015
Angry	<—	ERSQ	−0.168	−0.993	0.310	−3.209	**0.001**	0.028
Fears	<—	ERSQ	−0.173	−0.993	0.300	−3.309	**<0.001**	0.030
Anxiety Level	<—	DDBÖ	−0.046	−1.399	1.373	−1.019	0.308	0.392
Anxiety Level	<—	Happy	−0.125	−1.064	0.389	−2.736	**0.006**	
Anxiety Level	<—	Sad	0.073	0.467	0.373	1.253	0.210	
Anxiety Level	<—	Angry	0.180	0.919	0.274	3.359	**<0.001**	
Anxiety Level	<—	Fears	0.421	2.220	0.287	7.736	**<0.001**	

β^1: Standard coefficient; β^2: Non-standard coefficient.

effective self-support: 2.73±0.78 and modification: 2.60±0.70). A study assessing the emotion regulation skills of 275 students in the 18–29 years age interval obtained mean points for the ERSQ in total (2.45±0.59) and the subdimensions (awareness: 2.48±0.94, sensations: 2.49±0.66, clarity 2.56 ±0.75, understanding: 2.67±0.75, acceptance: 2.34±0.73, tolerance: 2.26±0.82, readiness to confront: 2.38±0.82, effective self-support: 2.44±0.83 and modification: 2.45±1.21) (Vatan & Kahya, 2018). Accordingly, the emotion regulation skill levels of mothers in this study can be said to be higher compared to other studies.

In this study, points were obtained for the child's total anxiety level (34.23±17.38), social anxiety (7.25±5.4), generalized anxiety (9.76±4.88), separation anxiety (5.61±4.15), and specific fears (11.60 ±6.69). Research including parents of 468 children in the 4–6 years age interval by Bora and Ünüvar (2020) identified the levels of total anxiety (63.56), social anxiety (15.32), generalized anxiety (16.49), separation anxiety (10.77) and specific fears (20.97) in children. Accordingly, the total and subdimension points for child anxiety levels in this study had lower levels compared to research findings in the literature and the reason for this may be due to the mothers having higher levels of emotion regulation skills.

In this study, child EEQ happy (9.74±2.05), sad (6.72±2.75), angry (5.85±3.40), fear (,6.49±3.31), and sad + angry + fear (19.06±7.94) emotion points were identified. Research completed with the mothers of 594 children in the 3–5 year age interval identified happy (13.10±1.61), sad (10.34 ±2.83), angry (9.73±3.12), and fear (9.82±3.22) emotion points of children and did not assess the negative emotion points (Ersan & Tok, 2020). Accordingly, the children in this study had lower levels of emotion expression styles compared to the emotion expression styles levels of children in the literature.

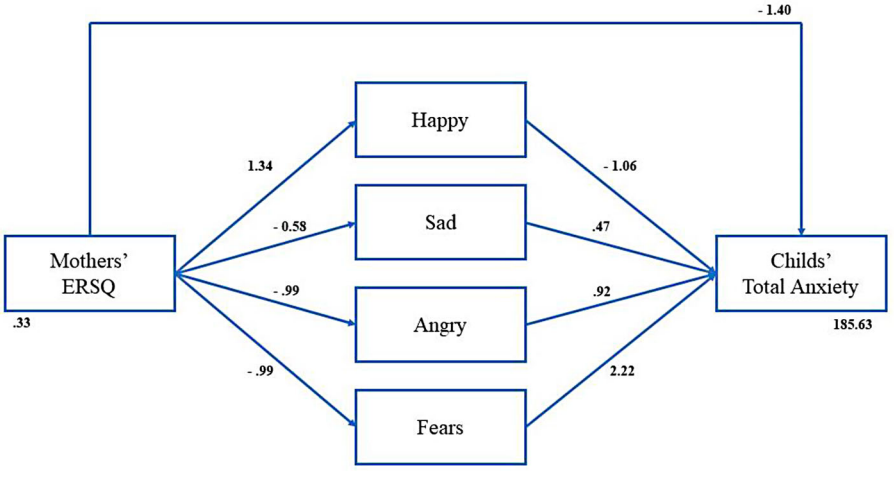

Figure 2. Non-standardized path coefficients.

Comparison of sociodemographic characteristics related to maternal emotion regulation skills

According to Table 2, the emotion regulation skills, ERS, Q awareness, and tolerance subdimension points of working mothers were observed to be higher. A study investigating the correlation between mother and child emotion regulation skills identified that maternal emotion regulation skills varied according to sociodemographic characteristics (Bilge & Sezgin, 2020). In a study revealing the emotion regulation skills of mothers with children with ADHD, Özyurt et al. (2016) determined that there was no difference in emotion regulation skills according to the employment status of mothers ($p>0.05$). Another study investigating the correlation between the emotion regulation skills of mothers and fathers with aggression levels in preschool children in Hong Kong revealed that the use of awareness and tolerance skills by mothers when regulating their emotions as a parent positively affected their ability to regulate emotions in their relationship with the child (Lau & Williams, 2021). In light of similar findings obtained from this study and the literature, it can be said that the mother working positively affects awareness and tolerance of emotions.

According to a total number of children (awareness and readiness to confront points of mothers with one and two children were higher than points for mothers with three or more children), the ERSQ awareness and readiness to confront subdimension point distributions were observed to have statistically significant differences ($p<0.05$) (Table 2). A study on this topic identified that the emotion regulation skills of mothers did not vary according to sociodemographic characteristics (Bilge & Sezgin, 2020). One of the gender roles traditionally attributed to women is to undertake the care of children. In families with three or more children in total, the increased care burden on mothers is thought to cause a reduction in awareness and readiness to confront skills among emotion regulation skills.

According to family type (acceptance points of mothers living in nuclear families were higher than mothers living in extended families), the distribution of acceptance points for emotion regulation skills of mothers had a statistically significant difference ($p<0.05$). The roles and responsibilities falling to women in families with an extended family structure are heavier compared to individuals in nuclear family structures and this situation is expected to cause a difference in the emotion regulation skills of mothers. A study in Saudi Arabia investigating the use of emotion regulation strategies in family systems of adolescents reported that negative emotion regulation strategies were significantly higher in nuclear families compared to extended families (Saleem & Gul, 2018). These results show that the increase in the number of individuals in the family causes negative impacts on the emotion regulation skills of mothers.

According to the age of the child (mothers with 5-year-old children had higher points compared to others), the distribution of ERSQ awareness and understanding points of mothers had statistically significant differences ($p<0.05$). A study investigating the correlation between mother and child emotion regulation identified no difference in the emotion regulation skills of mothers according to the age of the child About these results, the findings related to differentiation of the emotion regulation skills according to the age of the child are different from each other.

According to the child age beginning preschool classes (awareness points of mothers with children beginning at age 5 were higher compared to others), the distributions of awareness and understanding points for mothers were statistically significantly different ($p<0.05$). Studies investigating the social problem-solving skills of 5–6-year-old children researched the age children began preschool classes and did not obtain significant results (Füsun, Gedik, & Tunçay, 2020; Yılmaz & Tepeli, 2013). It appears that the results of this study differ from the literature on this topic.

Comparison of sociodemographic characteristics with child anxiety levels

According to the employment status of the mother (children of mothers who were not working had higher separation anxiety compared to children of mothers who worked), there was a statistically

significant difference between the distribution of points in the separation anxiety dimension ($p<0.05$). Different from this study, a study investigating the trait anxiety of children found the working status of the mother did not cause a difference in trait anxiety points (Alisinanoğlu & Ulutaş, 2003). In line with this, it appears the separation anxiety of children differed according to the working status of mothers.

There were statistically significant differences in the about points for separation anxiety, specific fears, and total anxiety levels in children according to the educational level of the mother (children of mothers with primary school or lower education had higher separation anxiety points) ($p<0.05$). Different from this study, a study investigating the trait anxiety of children stated that the educational status of the mother did not cause a difference in the trait anxiety points of children (Alisinanoğlu & Ulutaş, 2003). The finding in this study is different from the literature findings in terms of managing the child's anxiety level based on maternal educational level.

There was a significant difference in the social anxiety level of children according to the total number of children in the family (higher in families with three or more children) ($p<0.05$). Alisinanoğlu and Ulutaş (2003) investigated the trait anxiety of children in their study and stated that the total number of children in the family did not cause a difference in the trait anxiety points of children. The anxiety level of children differed with the increase in the total number of children and the results of this study are different from the literature results.

According to family type (mean points for those in expanded families were higher than for those in nuclear families), there were statistically significant differences in the distributions of social anxiety and separation anxiety subdimension points ($p<0.05$). Different to this study, when the trait anxiety of children (Alisinanoğlu & Ulutaş, 2003) and the social problem-solving skills of children in the preschool period were investigated (Füsun et al., 2020), there were no differences identified according to the family type of the children. According to this study, differences in anxiety levels of children emerged with family type; however, this finding is not similar to the literature.

According to the age and sex of the child, there was no significant difference between the distributions of points for child anxiety levels. A study investigating the correlation between the anxiety of children in the preschool period and the anxiety of parents observed that the anxiety points for girls were significantly higher compared to boys (Bora & Ünüvar, 2020). Other studies did not observe any significant differences between girls and boys (Alisinanoğlu & Ulutaş, 2003; Gülay Ogelman & Topaloğlu Çiftçi, 2014). These results show that anxiety levels are not affected by the age and sex of the child.

According to the age of the child beginning preschool classes (higher for children beginning preschool at six years old compared to other age groups), there was a statistically significant difference in the distribution of specific fear subdimension points ($p<0.05$). A study investigating the anxiety of children during the preschool period and mothers reported that there were significant differences in the anxiety level of children according to the duration of attendance in preschool education (Bora & Ünüvar, 2020). Especially in the pandemic, significantly affecting education in the last year, the mask, hygiene, and social distance rules, which are probably not understood by children beginning preschool education, and the 'virus' fear reinforced this situation and the study findings are considered to be consistent with the literature.

Comparison of sociodemographic characteristics with forms of child emotion expression styles

According to Table 4, there was a statistically significant difference in the distribution of anger subdimension points according to the mother's age group (children of mothers aged 30–34 years had higher anger points) ($p<0.05$). In the literature, there was no study encountered that compared the child's emotional expression style levels with maternal age.

There were no significant differences in the child's emotion expression styles according to the total number of children, family type, socioeconomic status, and the presence or not of assistance

in the home ($p<0.05$). The literature supports this finding. Ceyhun Ersan and Tok (2020) stated that maternal education level and occupation and the total number of children did not affect a child's emotion expression styles. These findings show that the emotion expression styles of children do not differ according to the sociodemographic features of the family.

There was no significant difference in emotion expression styles according to age, sex, and age starting preschool classes for the child ($p>0.05$). A study on this topic showed that male children showed higher rates of anger and aggressive behaviour compared to girls and emphasized they had lower levels of emotion regulation skills (Chaplin, Klein, Cole, & Turpyn, 2017). According to the results of another study, male children were observed to have higher average negative emotions and problem behaviour compared to female children (Aznar & Tenenbaum, 2020). In terms of these results, the literature and study findings appear different.

Correlation findings

According to Table 5, there were negative correlations between the total ERSQ points of mothers with the total anxiety level, anger, and fear emotion points of children ($p<0.05$). There was a positive correlation between the total ERSQ points of mothers and the happy emotion points of children ($p<0.05$). Children of mothers with high ERSQ points had higher happy emotion points. Mothers with high emotion regulation skills were reported to positively affect the child's emotional development in the literature (Karoğlu & Ünüvar, 2017; Serrano-Villar, Huang, & Calzada, 2017). Inadequacy in emotion regulation skills is associated with many psychiatric symptoms and mental well-being (Vatan, 2019). A study investigating the correlation between psychiatric symptoms in the mother with child's mental problems determined that the anxiety level in the child was associated with psychiatric symptoms in the mother (Hesapçioglu, Ceylan, Erdogan, Kandemir, & Çöp, 2017). These results show that emotional changes in the mother may be associated with mental changes in the child.

In terms of statistically significant correlations, there was a negative correlation between total anxiety level and happy emotion points of children and positive correlations between total anxiety level with sad, angry and fear subdimension points ($p<0.05$). These findings showing a relationship between emotions and child anxiety levels are similar to studies in the literature (Are & Shaffer, 2016; Ersan & Tok, 2020; Smiley, Tan, Goldstein, & Sweda, 2016). In a study investigating the emotion expression styles and aggression levels of preschool children, Ersan and Tok (2020) stated that negative emotions were associated with mental and behavioural problems. Esbjørn et al. (2012) determined that children with clinical anxiety displayed this anxiety through words and negative facial expressions. For this reason, findings in the literature support the findings of this study.

Mediation model analysis findings

In Table 6, the path coefficients between maternal ERSQ total points with child happy, sad, angry, and fear emotions were found to be statistically significant ($p<0.05$). As the total ERSQ points of mothers increased, the child's happy points increased, while sad, angry, and fear emotion points are expected to reduce. A study of mothers and children from 3–5 years of age in America determined that children of mothers reporting less difficult emotion regulation had higher positive emotion expression styles (Are & Shaffer, 2016). Studies show that emotional support from the mother and the use of positive impact and common strategies are associated with more effective emotion regulation in children (Esbjørn et al., 2012; Morris, Criss, Silk, & Houltberg, 2017). Similar to this study, Morelen, Shaffer, and Suveg (2016) showed that children of mothers with inadequate emotion regulation skills developed maladjusted emotional responses compared to children of other mothers.

The path coefficients between the happy emotion level and total anxiety and between the anger and fear emotion levels with the total anxiety of the child were found to be statistically significant ($p<0.05$). The increase in happy points of the child lowered the total anxiety level, while the increases in anger and fear emotion points increased the anxiety level of the child. When the literature is investigated, children with clinical anxiety were determined to use negative emotion expression styles more frequently than children without anxiety (Esbjørn et al., 2012). Morris et al. (2011) investigated the correlation between maternal emotion regulation skills with child emotion regulation skills and identified that certain parenting practices were associated with developed emotion regulation; children of mothers who refocused on emotions especially expressed fewer negative emotions. In another study, sad emotion expression styles in children in the preschool period negatively predicted physical aggression, which is an expression of anxiety. There was a positive correlation between anger emotion and physical aggression. These findings support this study (Ersan & Tok, 2020). When the literature is investigated, children with high positive emotion expression styles points were found to have lower anxiety levels (Esbjørn et al., 2012). Based on the findings in these studies, the emotion expression styles of children may affect their anxiety levels.

Conclusion

In this research investigating the correlation between the emotion regulation skills of mothers with children in the preschool period and child anxiety levels and emotion expression styles, the mean total points for emotion regulation skills of mothers were found to be higher than studies in the literature.

The awareness and tolerance subscales of the ERSQ were higher among emotion regulation skills for mothers who were working. Mothers with a total of one or two children had higher awareness and readiness to confront compared to mothers with three or more children. Mothers of children aged five years had higher awareness compared to mothers of children of different ages. Mothers of children who began preschool classes at five years of age had higher awareness compared to mothers of children beginning preschool at three, four, or six years of age.

The separation anxiety of children with mothers who were not employed was higher compared to children with mothers who worked. Children of mothers with primary school or lower educational levels had higher separation anxiety compared to children of mothers with a higher educational vessel; children in families with three or more children had higher social anxiety compared to families with one or two children, and children living in nuclear families had higher social and separation anxiety compared to children living in extended families. Children beginning preschool at six years of age had higher specific fear compared to all other groups.

Children of mothers aged 30–34 years were observed to have higher anger emotions.

It has been determined that the mother's emotion regulation skills affect the child's sense of anxiety and expression of other emotions (happy, sad, angry, scared). According to these findings, as the total ERSQ of mothers increased, the total anxiety level, anger emotion, and fear emotion of children reduced, and happy emotion increased. As the total anxiety level of the child increased, their happy emotion reduced, and sad, angry, and fear emotions increased.

In line with this, psychoeducation may be organized to increase awareness to develop the emotion regulation skills of mothers. Training or seminars may be organized for parents about the topic of managing child anxiety. In the name of supporting child emotion expression styles, training may be given to parents and teachers.

Training may be planned for families about the importance of emotions for a child's mental health. It is recommended to increase and develop the roles of pediatric mental health nurses in this field.

Implications for practice

It was found that awareness and tolerance levels of emotion regulation skills of working mothers were higher. Awareness and confrontation levels of mothers with a total of one or two children

are higher than mothers with three or more children. Mothers who start their child's kindergarten/kindergarten at the age of five have higher awareness than mothers of children whose children start at the age of three, four, and six. Therefore, mothers should be informed and encouraged to work at a job, to have as many children as they can take care of, and to start kindergarten at an early age.

Children of non-working mothers have higher separation anxiety than children of working mothers. Separation anxiety is higher for children whose mothers' education level is in primary school or below. Children's social anxiety scores are higher in families with three or more children than in families with one or two children. Children with nuclear family types have higher social and separation anxiety than those with extended family types. Children starting kindergarten at the age of six have higher fears than any other age group.

To reduce separation anxiety, the child should be supported to participate in independent activities and to participate in large groups of people from the age of socialization. Mothers should be informed and supported about the importance of having as many children as they can care for and the benefits of starting kindergarten before the age of 6.

It was found that the children of mothers between the ages of 30–34 were angrier. It was found that as the emotion regulation skills of the mothers increased, the child's negative emotions (anxiety, anger, and fear) decreased, and positive emotions (happiness) increased. The positive or negative emotions expressed by the child mediate between the emotion regulation skills of the mother and the child's anxiety. Among these feelings, it was found that the child's anxiety was mostly mediated by the mother's fears. Therefore, it is important for the emotional and mental health of the child that mothers recognize their emotions and gain emotion regulation skills. in other words, it is necessary to control the mother's fears to cope with child anxiety, which is one of the important problems in childhood.

Limitations

These findings were obtained from a county centre and the emotion regulation skills of mothers were examined for those who lived with the other parent and were not pregnant. Therefore, it is limited in this sense. The relationship and effect between the child's anxiety and the mothers' emotional regulation difficulties were examined only in terms of the child's emotion expression styles. This is another limitation. The fact that there are many sociodemographic variables related to the child and the mother, and that the scales have many sub-dimensions and their examination is also a limitation.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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