The Relationship between the Motivation Levels and Emotional Intelligence Levels of the Preschool Children*

Research Article

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ARTICLE INFO	ABSTRACT
<p><i>Article History:</i></p> <p>Received: 01.09.2020</p> <p>Available online: 22.12.2020</p>	<p>The study was conducted to examine the relationship between the motivation levels and emotional intelligence levels of the preschool children in the ages of 60-72 months. The population of the study consists of the children in the ages of 60-72 months attending to the independent preschools and nursery classes of the public primary schools in the Ortahisar central district of the Trabzon province in the education year of 2017 to 2018. The sample of the study consists of the 300 children selected from the population by random cluster sampling formula. The data were obtained by the "General Information Form" developed by the researchers, "The Dimensions of Mastery Questionnaire (DMQ18)" and "Sullivan Emotional Intelligence Scales". As a result of the study, it was found that the children's motivation levels differed by the variables including number of siblings, birth order, duration of preschool education and socioeconomic level ($p < 0.05$); but did not differ by the variables of gender and family type ($p > 0.05$). Furthermore, a positive and medium-level relationship was determined between the motivation levels and the emotional intelligence levels of the children.</p>
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	<p>Keywords: preschool, motivation, emotional intelligence</p>

Introduction

"Do rewards motivate people? Of course. They motivate people to receive rewards."
-Alfie Kohn

* This article is derived from Sare TÜRKMEN's Master's thesis entitled "An investigation of the relationship between 60-72 months children's motivation levels and emotional intelligence, and self concept", conducted under the supervision of Saide ÖZBEY.

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Human beings are in interaction with the social environment since the moment of birth. This interaction forms the process of adapting to life laying the foundations shaping the future life of an individual. The life experiences of an individual shaped by the interaction with the environment enables adaptation to life. Along with the life experiences, the sense of wonder, which is one of the basic building blocks of human nature, plays an effective role in the adaptation process by motivating individuals for life since the moment of birth. Motivation is defined to be the inherent psychological needs or intrinsic dispositions of individuals to discover the surroundings and to possess demanding skills or tasks (Ryan & Deci, 2000).

The effect of motivation on individuals and on life led researchers to study the development of motivation. The interaction of a child in the first years of life to discover the surrounding is the motivational attempts of a child (Abdulfattah & Badawood, 2017). Babies are interested in and tend to discover new objects from birth until the 9th month (cited from Jennings by Lee, 2014). They notice various conditions they can create with objects with the help of their movements (grip, throw, squeeze etc.). They develop their motivations between the months 9 and 12 with the activities including games, puzzles, assembling and disassembling, keys, lid opening and closing etc which they do when trying to control the events around them. In the period between the months 24 and 36, skills of self-knowledge and self-appreciation develop and the children can have motivation development by playing with house cleaning sets, sorting toys, wooden puzzles etc (Özbey & Dağlıoğlu, 2017). According to Piaget, a baby gets to know the objects, shapes and sizes by discovering the environment; this is a process where a baby discovers and makes sense of environment with an inherent power. This is one of the oldest schemes with which a baby understands continuity of objects. Between the months 9 and 18, babies can distinguish the actions to be done to reach a simple object and the result of the action. Between the months 18 and 36, babies start to have focused on the result and on the point which will end the action (Lee, 2014).

Motivation and motivational actions are in parallel to the development of a child. Motivation during the development process is a multidimensional psychological power that guides an individual to discover and to fight with the challenges (Sparks, Hunter, Backman, Morgan & Ross, 2012). Multidimensionality is expressed to be the instrumental aspect that includes permanent interest in a goal, focusing for permanent solution of a problem and being determined and the expressive aspect that includes the positive feelings after determination in demanding tasks and the negative feelings covering after failing an expected achievement (Barrett & Morgan, 1995; Morgan, Józsa & Liao, 2017; Wang & Barrett, 2013).

Motivation is conceptualized between two end points including intrinsic motivation and lack of motivation and in instrumental and expressive aspects by taking extrinsic motivation into consideration (Deci & Ryan, 1985). Intrinsic motivation refers to the actions carried out by a person for the inherent satisfactions as they are interesting or pleasure inducing (Ryan & Deci, 2000). It is based on curiosity, satisfaction of curiosity and action by the person for own satisfaction (Covington & Müeller, 2001). Intrinsic motivational actions can provide benefits to a person but this doesn't change the fact that the underlying goal of motivation is satisfaction. Lack of motivation is the condition of being reluctant for an action or behaviour. It emerges when the person has no positive perception on connection between the action and the outcome of the action (Ryan, 1991; Ryan & Deci, 2000). Vallerand et al. (1992) states that the lack of motivation emerges when the connection between the action and its outcome is not perceived. Extrinsic motivation refers to the increase of performance and effort that are required for a work aiming at rewards encouraging the desired behaviour (Benabou & Tirole, 2003). In other words, these behaviours are used as an instrument to conclude not according to the personal goals (Deci & Ryan, 1985). Intrinsic motivation can be sufficient for the conditions interested and cared by the individual while the activity of an individual can be provided by extrinsic motivation with the extrinsic motivation elements like reward (Goldfinger, 2016).

Activating an individual by extrinsic elements in unmotivated conditions suppresses activity and source of activity of an individual and the result-oriented individuals take the process for granted leading to lack of quality. Actions initiated by intrinsic motivation focuses on the process providing both permanency in learning process and quality in actions. Previous studies indicate that the performance quality of the intrinsic motivation-based actions are more effective than that of extrinsic motivation based actions (Church, Elliott & Gable, 2001; Kaufman, Agars & Lopez-Wagner, 2008). Children with intrinsic motivation focus on the activity or task and maintain the task for a longer time. They choose challenging tasks instead of easy ones. They enjoy forcing themselves, taking decisions, figuring out ways of solution and trying solutions, and taking responsibilities. They are enthusiastic, smile more and show more positive expressions during or after a task (Lee, 2014; Berhenke, 2013). In addition, they are eager in realizing their goals, enjoying learning experience and having a deeper understanding of the content (Köyceğiz & Özbey, 2019). Low motivation, extrinsic motivation and lack of motivation are associated with behavioural and emotional problems (Deater-Deckard, Petrill, Thompson, & DeThorne 2005). Individuals seem to be avoiding from responsibilities and problems, having no perseverance and resolution, cutting corners and being unsatisfied.

It is attempted to activate an individual by providing reinforces, rewards and penalties related to the instrumental aspect of motivation in the events of extrinsic motivation and lack of motivation. With regards to the emotional aspect, a satisfaction is promised when the goal is achieved. Therefore, individuals cannot achieve satisfaction in the process and become unsatisfied due to the short period of satisfaction when the process is completed. In the events of intrinsic motivation, the instrumental aspect is arranged by the individual according to the motivation level and condition. Satisfaction of the emotional aspect is more complex than the instrumental aspect. Motivation activates individuals, however, it may not be sufficient on its own for the individual to manage the emotions and mood states experienced during the process, and to complete the process eagerly by ensuring satisfaction. Children have emotional outcomes when they focus, try to overcome problems, tend to discover, make researches, are motivated and reach satisfaction. Children have positive and negative emotional experiences when working on demanding tasks and discoveries or just after the completion of tasks (Barrett & Morgan, 1995). For example, a 3-year-old child may experience happiness after successful attempts while discovering the environment with curiosity, sadness after failure, perseverance after sadness (motivation for perseverance) and excitement (cited from Heckhausen by Wang, 2018). Self-knowledge of an individual, awareness of abilities, ability to regulate emotions, to fight negative conditions without yielding and to hope are required to conclude the motivation process with satisfaction and not to lower the motivation level (Çakar & Arbak, 2004). Ability of individuals to keep their impulses and emotions in the path to success under control is also necessary for emotional satisfaction. Particularly the shortcomings in the emotional regulation skills have a negative impact for the children to focus on the motivated condition and to spend time with a toy; and lead them to withdraw against the smallest difficulty they face and to impulsive behaviors including emotional crises such as bursts of anger. All these emotional abilities are the products of the emotional intelligence of individuals. Emotional intelligence is the ability to motivate oneself, to control impulses, to regulate mood, not to allow problems hindering thinking, to put oneself in the shoes of others and to hope (Goleman, 2016). Its definition includes continuity and constant motivation like “realize, understand, fight and be hopeful”. Individuals whose emotional intelligence is supported focus on being the part of the solution not on the problem, display perseverance and determination against difficulties, consider failure to be an experience and scrutinize the causes of failure (Bradberry & Greaves, 2012). In addition, individuals are able to focus attention, to express emotions, to give their own decisions and to take responsibility of these decisions when they are motivated (Berhenke, 2013).

This study was conducted to examine the relation between the motivation levels and emotional intelligence of the children in the ages of 60 to 72 months taking the relation of emotional intelligence with motivation into consideration. The study also examined whether the motivation levels of children differed by

the variables including sex, order of birth, number of siblings, time in attendance to preschool education and family structure. Studies on motivation in the early childhood period are limited in number and they focus on newborn babies and on the children with development disorder. Motivation in the period of early childhood was first addressed within the country by Özbey and Dağlıoğlu (2017) with their reliability study on the motivation scale for the preschool children. Following the scale study, Özbey (2018a; 2018b) conducted a study on the relation of self-regulation and moral development with motivation, while Köyceğiz and Özbey (2019) conducted a study on the relation between the problem-solving skills and motivation. It is shown that the motivation in the period of early childhood is a new concept for the national literature and there are limited studies on the subject. Multidimensional studies on the motivation of children are necessary. This study is believed to contribute to the literature by revealing the relation between motivation in the early childhood period and emotional intelligence.

Method

Research Model

Correlational survey methods among the quantitative research designs were used in the study. Correlational survey enables to determine the existence and/or level of a collective change between two or more variables (Karasar, 2014).

Population and Sample

The population of the study consists of the children in the ages of 60-72 months attending to the independent preschools and nursery classes of the public primary schools in the Ortahisar central district of the Trabzon province in the education year of 2017 to 2018. The sample of the study consists of the 300 children selected from the population by random cluster sampling method.

50 % of the children (n=150) are girls and remaining 50 % (n=150) are boys. 28 % of the children (n=85) are single child. 41 % (n=123) have two siblings, 23 % (n=67) have three siblings and 8 % (n=25) have four and more siblings. 48 % of the children (n=143) are the first child, 35 % (n=105) are the second child, 13 % (n=38) are the third child and 4 % (n=14) are the fourth child or above. 57 % of the children (n=173) had a preschool education for one year and 43 % of the children (n=127) had a preschool education for two years and more. 86 % of the children (n=257) attend to independent preschools and 14 % (n=43) attend to the nursery classes of primary education. 91 % of the children (n=274) have united families and 9% (n=26) have fragmented families. 56 % of the children (n=168) have a family with a low socio-economic level, 33 % (n=99) have a family with a medium socio-economic level and 11 % (n=33) have a family with a high socio-economic level.

Data Collection Tools

General Information Form: It includes questions to determine information on the demographic qualities of children including sex, order of birth and number of siblings.

The Dimensions of Mastery Questionnaire (DMQ18): “The Dimensions of Mastery Questionnaire (DMQ18)” is a scale that was developed by Morgan, Maslin-Cole, Harmon, Busch-Rossnagel, Jennings, HauserCram and Brockman since 1993 and it is still being developed. It has forms suitable for different grades of education. The validity and reliability works of the DMQ18 version of the scale which was revised by Józsa and Morgan (2015) were conducted by Özbey and Dağlıoğlu (2017).

The Dimensions of Mastery Questionnaire (DMQ18) revised in 2015 consists of 39 articles. It consists of 7 subscales including “Cognitive Persistence (CP)”, “Gross Motor Persistence (GMP)”, “Social Persistence with Adults (SPA)”, “Social Persistence with Children (SPC)”, “Mastery Pleasure (MP)”, “Negative Reaction (NR)” and “General Competence (GC)”. The subscales including cognitive persistence, persistence in gross motor skills and social persistence in adults measure the instrumental aspect of motivation while the subscales

including Mastery Pleasure and negative reaction measure the emotional aspect. In addition, there is the "General Competence (GC)" subscale to measure the task competencies of children (e.g. general ability).

The adaptation study by Özbey and Dağlıoğlu (2017) confirmed the seven-factor structure of the scale as a result of the confirmatory factor analysis. In the confirmatory factor analysis, it was found that the standardized solutions were significant in the level of .05 and that the *t* values of the items were significant in the level of .01. The Alpha reliability coefficients of the scale vary between .84 and .91. The Spearman Brown Split Half reliability coefficients of the scale vary between .77 and .90. Pearson Correlation test was conducted for the correlation between the factors of the scale and a medium and high-level significant relation was found between the factors of the scale.

Cronbach Alpha and Spearman coefficients were used in the calculation of the reliability coefficient related to the data obtained from the children obtained from 300 preschool children. The relevant coefficients were obtained for both subscales and whole of the scale. Reliability coefficient values in the subscales vary between 0,654 and 0,948. These values were determined to be in the acceptable levels of medium and high.

Sullivan Emotional Intelligence Scale for Children: The validity and reliability work of the Turkish adaptation of the Sullivan Emotional Intelligence Scale for Children developed by Sullivan (1999) was conducted by Ulutaş (2005). The scale consists of four subscales including Faces, Stories, Understanding and Managing. It is applied individually to every child in the age group of 4 to 10.

The Faces test includes two example pictures and 19 test pictures to measure the child's skill to recognize the feelings of the face expression. The Stories test measures the child's skill to understand the feelings of the basic hero in the story that is told. It includes two example stories and five test stories. First a story is read to the child and then the child is asked about the feeling of the hero of the story and point this feeling among the face expressions that are shown. The Understanding test measures the child's skill to understand the feeling of himself and others. It includes one example story and three example stories. First a story is read to the child, then the child is asked about the feelings of the person in the story and the answers are recorded in the form as "yes, I'dont know, no". This section includes ten questions in total. The Management test measures how the child will decide against some conditions that are assumed to be felt by the child. It includes one example condition and three test conditions. Three questions are asked to the child about what he/she will do in the said condition. The answers of the child are recorded in the form as "yes, I'dont know, no".

The reliability of the test was checked with the test-retest method. The test-retest correlation calculated between the sub sections of the Emotional Intelligence Scale is found to vary between .97 and .99. The test-retest correlation is .97 in the faces test, .97 in the stories test, .98 in the understanding test and .99 in the management test. Item analyses were done and alpha values were determined to determine the validity of the scale. As a result of the analyses, the alpha value was found to be 0.68 for the faces test, 0.54 for the stories test, 0.63 for the understanding test and 0.76 for the management test. The alpha value was found to be .84 for the total of the Emotional Intelligence Scale. The inventory that was drafted in line with these analyses is considered to be a valid and reliable tool (Ulutaş, 2005).

Sullivan Teacher Rating Scale of Emotional Intelligence for Children: The validity and reliability study of the Turkish adaptation of Sullivan Teacher Rating Scale of Emotional Intelligence for Children developed by Sullivan (1999) was conducted by Ulutaş (2005). The scale is a 5-point Likert scale consisting of 11 items.

Sullivan Brief Empathy Scale for Children: The validity and reliability study of the Turkish adaptation of Sullivan Brief Empathy Scale for Children developed by Sullivan (1999) was conducted by Ulutaş (2005). Sullivan Brief Empathy Scale for Children was created to provide educators and other specialists working with children with information on the emphatic reaction of the children in the ages between four and ten.

The scale consists of ten items. It is applied individually to the children in the ages of four to seven years and collectively to those in the ages of eight to ten years. The scale items are read aloud to the children. Each answer is recorded to the Sullivan Brief Empathy Scale for Children Form like “yes”, “I don’t know” and “no”.

Sullivan Emotional Intelligence Scale consists of 3 separate scales including “Sullivan Emotional Intelligence Scale for Children”, “Sullivan Teacher Rating Scale of Emotional Intelligence for Children” and “Sullivan Brief Empathy Scale for Children”. “Sullivan Emotional Intelligence Scale for Children” includes four sub dimensions. Other scales have one dimension. KR-20 value, that is equivalent of the Cronbach alpha coefficient was calculated if the data has a code of 0-1 in the estimation of reliability. In this case, KR-20 value was reported for the Sullivan Emotional Intelligence Scale for Children and Sullivan Brief Empathy Scale for Children; and Cronbach alpha coefficient was reported for the Sullivan Teacher Rating Scale of Emotional Intelligence for Children.

The present study includes the reliability coefficients of .52 and .862 for the “Sullivan Emotional Intelligence Scale” and its sub dimensions, “Sullivan Teacher Rating Scale of Emotional Intelligence for Children” and “Sullivan Brief Empathy Scale for Children”. The reliability coefficients are seen to be at an acceptable level.

Findings

This part of the study includes the findings that reveal the relation between the motivation level and the emotional intelligence and that indicate whether the motivation levels of the children in the age group of 60 to 72 months vary according to the sex, number of siblings, order of birth, time of attendance in preschools, school type and family type.

Motivation / Sex

Table 1. Results of the Mann Whitney U Test regarding the Scores of Children from the “The Dimensions of Mastery Questionnaire” according to the sex of the children.

	Sex	n	Average rank	Total rank	U	p
Cognitive	Girls	150	149,48	22421,50	11096,50	,837
Perseverance	Boys	150	151,52	22728,50		
Gross Motor	Girls	150	147,76	22164,00	10839,00	,583
Perseverance	Boys	150	153,24	22986,00		
Social	Girls	150	148,97	22345,00	11020,00	,758
Perseverance with Adults	Boys	150	152,03	22805,00		
Social	Girls	150	151,35	22702,50	11122,50	,865
Perseverance with Children	Boys	150	149,65	22447,50		
Mastery Pleasure	Girls	150	147,47	22121,00	10796,00	,544
	Boys	150	153,53	23029,00		
Negative Reaction	Girls	150	150,50	22575,00	11250,00	1,000
	Boys	150	150,50	22575,00		
General	Girls	150	144,83	21724,00	10399,00	,255
Competence	Boys	150	156,17	23426,00		

According to Table 1, the scores of the children from the sub scales of the “The Dimensions of Mastery Questionnaire” don’t have a significant difference ($p>0,05$).

Motivation / Number of Siblings**Table 2.** Kruskal Wallis H Test Results Regarding the Scores of the Children from the “The Dimensions of Mastery Questionnaire” according to the number of siblings

	Sex	n	Average rank	Total rank	U	p
Cognitive Perseverance	Girls	150	149,48	22421,50	11096,50	,837
	Boys	150	151,52	22728,50		
Gross Motor Perseverance	Girls	150	147,76	22164,00	10839,00	,583
	Boys	150	153,24	22986,00		
Social Perseverance with Adults	Girls	150	148,97	22345,00	11020,00	,758
	Boys	150	152,03	22805,00		
Social Perseverance with Children	Girls	150	151,35	22702,50	11122,50	,865
	Boys	150	149,65	22447,50		
Mastery Pleasure	Girls	150	147,47	22121,00	10796,00	,544
	Boys	150	153,53	23029,00		
Negative Reaction	Girls	150	150,50	22575,00	11250,00	1,000
	Boys	150	150,50	22575,00		
General Competence	Girls	150	144,83	21724,00	10399,00	,255
	Boys	150	156,17	23426,00		

*significance level: $p < 0,05$

According to Table 2, the scores of the children from the sub scales including Cognitive Perseverance, Gross Motor Perseverance, Social Perseverance with Adults, Social Perseverance with Children, Mastery Pleasure and Negative Reaction have a significant difference according to the number of siblings ($p > 0,50$).

Mann Whitney U test was conducted to determine the groups where the difference exists. As a result of the Mann Whitney U Test:

It was found that the difference in the sub scale of *Cognitive Perseverance* was in favour of the children with 1 sibling in all comparisons between children with 1 sibling (average rank=116,02) and children with 2 siblings (average rank=96,54); between children with 1 sibling (average rank=87,68) and children with 3 siblings (average rank=62,31); between children with 1 sibling (average rank=60,44) and children with 4 and more siblings (average rank=38,72).

It was found that the difference in the sub scale of *Gross Motor Perseverance* was in favour of the children with 1 sibling in all comparisons between children with 1 sibling (average rank=87,22) and children with 3 siblings (average rank=62,90); between children with 1 sibling (average rank=60,36) and children with 4 and more siblings (average rank=38,98); in favour of the children with 2 siblings in the comparison between children with 2 siblings (average rank=101,83) and children with 3 siblings (average rank=83,88); and in favour of the children with 2 siblings in the comparison between children with 2 siblings (average rank=78,09) and children with 4 and more siblings (average rank=56,84).

It was found that the difference in the sub scale of *Social Perseverance with Adults* was in favour of the children with 1 sibling in all comparisons between children with 1 sibling (average rank=119,15) and children with 2 siblings (average rank=94,38); between children with 1 sibling (average rank=87,63) and children with 3 siblings (average rank=62,38), and between children with 1 sibling (average rank=60,04) and children with 4 and more siblings (average rank=40,08).

It was found that the difference in the sub scale of *Social Perseverance with Children* was in favour of the children with 1 sibling in all comparisons between children with 1 sibling (average rank=85,49) and children

with 3 siblings (average rank=65,09), and between children with 1 sibling (average rank=58,70) and children with 4 and more siblings (average rank=44,62).

It was found that the difference in the sub scale of *Mastery Pleasure* was in favour of the children with 1 sibling in all comparisons between children with 1 sibling (average rank=84,81) and children with 3 siblings (average rank=65,96), and between children with 1 sibling (average rank=58,84) and children with 4 and more siblings (average rank=44,16).

It was found that the difference in the sub scale of *Negative Reaction* was in favour of the children with 1 sibling in all comparisons between children with 1 sibling (average rank=84,18) and children with 3 siblings (average rank=66,75), and between children with 1 sibling (average rank=60,31) and children with 4 and more siblings (average rank=39,14), and in favour of children with 2 siblings in the relation between children with 2 siblings (average rank=60,31) and children with 4 and more siblings (average rank=58,60).

Motivation / Order of Birth

Table 3. Kruskal Wallis H Test Results Regarding the Scores of the Children from the “The Dimensions of Mastery Questionnaire” according to the order of birth

	Birth Order	n	Rank Average	sd	χ^2	P	Mann Whitney U
Cognitive Perseverance	1	143	167,32	3	11,989	<u>.007*</u>	2 <1
	2	105	140,29				3 <1
	3	38	129,97				4 <1
	4 +	14	111,04				
Gross Motor Perseverance	1	143	168,45	3	13,223	<u>.004*</u>	2 <1
	2	105	139,84				3 <1
	3	38	124,74				4 <1
	4 +	14	117,04				
Social Perseverance with Adults	1	143	164,87	3	7,989	<u>.046*</u>	2 <1
	2	105	139,07				
	3	38	138,03				
	4 +	14	123,32				
Social Perseverance with Children	1	143	162,59	3	5,791	,122	
	2	105	142,08				
	3	38	137,09				
	4 +	14	126,54				
Mastery Pleasure	1	143	160,52	3	4,023	,259	
	2	105	142,78				
	3	38	142,18				
	4 +	14	128,61				
Negative Reaction	1	143	164,24	3	8,991	<u>.029*</u>	3 <1
	2	105	144,28				
	3	38	130,01				
	4 +	14	112,39				
	1	143	164,54	3	7,840	<u>.049*</u>	2 <1
	2	105	139,69				
	3	38	138,55				
	4 +	14	120,64				

According to Table 3, the scores of the children from the sub scales including *Cognitive Perseverance*, *Gross Motor Perseverance*, *Social Perseverance with Adults*, *Negative Reaction* and *General Competence* have a significant difference according to the order of birth ($p < 0,05$).

Mann Whitney U test was conducted to determine the groups where the difference exist. As a result of the Mann Whitney U Test;

It was found that the difference in the subscale of Cognitive Perseverance was in favour of the first-born children in all comparisons between the first-born children (average rank=134,02) and the second-born children (average rank=111,53); between the first-born children (average rank=95,70) and the third-born children (average rank=73,30); and between the first-born children (average rank=81,59) and the fourth-born children (average rank=52,50).

It was found that the difference in the subscale of Gross Motor Perseverance was in favour of the first-born children in all comparisons between the first-born children (average rank=134,50) and the second-born children (average rank=110,88); between the first-born children (average rank=96,60) and the third-born children (average rank=69,91); and between the first-born children (average rank=81,34) and the fourth-born children (average rank=55,11).

It was found that the difference in the subscale of Social Perseverance with Adults was in favour of the first-born children in the comparison between the first-born children (average rank=133,65) and the second-born children (average rank=112,03).

It was found that the difference in the subscale of Negative Reaction was in favour of the first-born children in all comparisons between the first-born children (average rank=95,16) and the third-born children (average rank=75,36); and between the first-born children (average rank=81,30) and the fourth-born children (average rank=55,50).

It was found that the difference in the subscale of General Competence was in favour of the first-born children in the comparison between the first-born children (average rank=133,40) and the second-born children (average rank=112,39).

Motivation / Time of Attendance in Preschool Education

Table 4. Mann Whitney U Test Results Regarding the Scores of the Children from the "Dimensions of Mastery Questionnaire" according to time of attendance in preschool education

	Time of Attendance	n	Rank average	Rank total	U	P
Cognitive Perseverance	1 year	173	125,01	21626,00	6575,00	<u>.000*</u>
	2 years and above	127	185,23	23524,00		
Gross Motor Perseverance	1 year	173	122,64	21216,00	6165,00	<u>.000*</u>
	2 years and above	127	188,46	23934,00		
Social Perseverance with Adults	1 year	173	125,10	21642,50	6591,50	<u>.000*</u>
	2 years and above	127	185,10	23507,50		
Social Perseverance with Children	1 year	173	122,90	21261,00	6210,00	<u>.000*</u>
	2 years and above	127	188,10	23889,00		
Mastery Pleasure	1 year	173	125,97	21792,50	6741,50	<u>.000*</u>
	2 years and above	127	183,92	23357,50		
Negative Reaction	1 year	173	127,55	22065,50	7014,50	<u>.000*</u>
	2 years and above	127	181,77	23084,50		
	1 year	173	130,92	22649,50	7598,50	<u>.000*</u>

General Competence	2 years and above	127	177,17	22500,50
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* significant in the level of $p < 0,05$

According to Table 4, the scores of the children from the sub scales including *Cognitive Perseverance*, *Gross Motor Perseverance*, *Social Perseverance with Adults*, *Social Perseverance with Children*, *Mastery Pleasure*, *Negative Reaction* and *General Competence* have a significant difference according to the time of attendance in preschool education ($p < 0,50$).

The difference in favour of the children attending to preschool for 2 and more years for the relevant subscales (rank average_{BS}=185,23; rank average_{KMS}=188,46; rank average_{YSS}=185,10; rank average_{ÇSS}=188,10; rank average_{ÜDM}=183,92; rank average_{OT}=181,77; rank average_{GY}=177,17)

Motivation / School Type

Table 5. Mann Whitney U Test Results Regarding the Scores of the Children from the “Dimensions of Mastery Questionnaire” according to school type

	School type	n	Rank Average	Rank Total	U	P
Cognitive Perseverance	Independent preschool	257	164,28	42219,00	1985,00	<u>.000*</u>
	Nursery class in primary schools	43	68,16	2931,00		
Gross Motor Perseverance	Independent preschool	257	163,91	42124,50	2079,50	<u>.000*</u>
	Nursery class in primary schools	43	70,36	3025,50		
Social Perseverance with Adults	Independent preschool	257	162,87	41857,50	2346,50	<u>.000*</u>
	Nursery class in primary schools	43	76,57	3292,50		
Social Perseverance with Children	Independent preschool	257	162,46	41751,50	2452,50	<u>.000*</u>
	Nursery class in primary schools	43	79,03	3398,50		
Mastery Pleasure	Independent preschool	257	161,07	41394,50	2809,50	<u>.000*</u>
	Nursery class in primary schools	43	87,34	3755,50		
Negative Reaction	Independent preschool	257	160,74	41310,00	2894,00	<u>.000*</u>
	Nursery class in primary schools	43	89,30	3840,00		
General Competence	Independent preschool	257	161,82	41587,00	2617,00	<u>.000*</u>
	Nursery class in primary schools	43	82,86	3563,00		

* significant in the level of $p < 0,05$

According to Table 5, the scores of the children from the sub scales including *Cognitive Perseverance*, *Gross Motor Perseverance*, *Social Perseverance with Adults*, *Social Perseverance with Children*, *Mastery Pleasure*, *Negative Reaction* and *General Competence* have a significant difference according to school type ($p < 0,50$). The difference is in favour of the children attending to independent preschool for the relevant subscales (rank average_{BS}= 164,28; rank average_{KMS}=163,91; rank average_{YSS}=162,87; rank average_{ÇSS}=162,46; rank average_{ÜDM}=161,07; rank average_{OT}=160,74; rank average_{GY}=161,82)

Motivation / Family Structure**Table 6.** Mann Whitney U Test Results Regarding the Scores of the Children from the “The Dimensions of Mastery Questionnaire” according to family type

	Family Structure	n	Rank Average	Rank total	U	p
Cognitive Perseverance	Full family	274	152,67	41831,00	2968,00	,158
	Fragmented family	26	127,65	3319,00		
Gross Motor Perseverance	Full family	274	152,30	41731,50	3067,50	,241
	Fragmented family	26	131,48	3418,50		
Social Perseverance with Adults	Full family	274	151,18	41424,50	3374,50	,656
	Fragmented family	26	143,29	3725,50		
Social Perseverance with Children	Full family	274	152,77	41859,00	2940,00	,140
	Fragmented family	26	126,58	3291,00		
Mastery Pleasure	Full family	274	151,49	41507,50	3291,50	,520
	Fragmented family	26	140,10	3642,50		
Negative Reaction	Full family	274	152,39	41756,00	3043,00	,218
	Fragmented family	26	130,54	3394,00		
General Competence	Full family	274	152,37	41750,00	3049,00	,222
	Fragmented family	26	130,77	3400,00		

* significant in the level of $p < 0,05$

According to Table 6, the scores of the children from the sub scales of the Motivation Scale for the Preschool Children have no significant difference according to variable of family structure type ($p < 0,50$).

Motivation / Socioeconomic Level (SEL)**Table 7.** Kruskal Wallis H Test Results Regarding the Scores of the Children from the “The Dimensions of Mastery Questionnaire” according to the socioeconomic level

	SEL	n	Rank Average	sd	χ^2	P	Mann Whitney U
Cognitive Perseverance	Low	168	121,84	2	46,566	<u>.000*</u>	Low < Medium Low < High Medium < High
	Medium	99	177,85				
	High	33	214,33				
Gross Motor Perseverance	Low	168	116,66	2	61,990	<u>.000*</u>	Low < Medium Low < High
	Medium	99	185,39				
	High	33	218,08				
Social Perseverance with Adults	Low	168	122,07	2	48,643	<u>.000*</u>	Low < Medium Low < High Medium < High
	Medium	99	175,05				
	High	33	221,61				
Social Perseverance with Children	Low	168	116,24	2	65,406	<u>.000*</u>	Low < Medium Low < High Medium < High
	Medium	99	184,05				
	High	33	224,26				
Mastery Pleasure	Low	168	119,91	2	52,485	<u>.000*</u>	Low < Medium Low < High Medium < High
	Medium	99	180,19				
	High	33	217,14				
	Low	168	117,57	2	57,086	<u>.000*</u>	

Negative Reaction	Medium	99	186,58	2	43,760	<u>.000*</u>	Low < Medium Low <
	High	33	209,92				High
General Competence	Low	168	122,57	2	43,760	<u>.000*</u>	Low < Medium Low <
	Medium	99	177,67				High Medium < High
	High	33	211,21				

* significant in the level of $p < 0,05$

According to Table 7, the scores of the children from the sub dimensions of *Cognitive Perseverance* ($\chi^2_{BS}(2,300) = 46,566 p < 0,05$), *Gross Motor Perseverance* ($\chi^2_{KMS}(2,300) = 61,990 p < 0,05$), *Social Perseverance with Adults* ($\chi^2_{YSS}(2,300) = 48,643 p < 0,05$), *Social Perseverance with Children* ($\chi^2_{ÇSS}(2,300) = 65,406 p < 0,05$), *Mastery Pleasure* ($\chi^2_{ÜDM}(2,300) = 52,485 p < 0,05$), *Negative Reaction* ($\chi^2_{OT}(2,300) = 57,086 p < 0,05$) and *General Competence* ($\chi^2_{GY}(2,300) = 43,760 p < 0,05$) have a significant difference according to the socio-economic level ($p < 0,05$). Mann Whitney U test was conducted to determine the groups where the difference exists. As a result of the Mann Whitney U test;

It was found that the difference in the sub scale of *Cognitive Perseverance* was in favour of the children with high SEL in the comparisons between the children with high SEL (average rank= 82,36) and the children with medium SEL (average rank=61,21); and between the children with high SEL (average rank=148,97) and the children with low SEL (average rank=91,58); and in favour of the children with medium SEL in the comparison between the children with medium SEL (average rank=166,64) and the children with low SEL (average rank=114,76).

It was found that the difference in the sub scale of *Gross Motor Perseverance* was in favour of the children with high SEL in the comparison between the children with high SEL (average rank= 155,14) and the children with low SEL (average rank=90,37); and in favour of the children with medium SEL in the comparison between the children with medium SEL (average rank=173,37) and the children with low SEL (average rank=110,80).

It was found that the difference in the sub scale of *Social Perseverance with Adults* was in favour of the children with high SEL in the comparisons between the children with high SEL (average rank= 83,06) and the children with medium SEL (average rank=60,98); and between the children with high SEL (average rank=155,55) and the children with low SEL (average rank=90,29); and in favour of the children with medium SEL in the comparison between the children with medium SEL (average rank=164,07) and the children with low SEL (average rank=116,28).

It was found that the difference in the sub scale of *Social Perseverance with Children* was in favour of the children with high SEL in the comparisons between the children with high SEL (average rank= 80,92) and the children with medium SEL (average rank=61,69); and between the children with high SEL (average rank=160,33) and the children with low SEL (average rank=89,35); and in favour of the children with medium SEL in the comparison between the children with medium SEL (average rank=172,36) and the children with low SEL (average rank=111,40).

It was found that the difference in the sub scale of *Mastery Pleasure* was in favour of the children with high SEL in the comparisons between the children with high SEL (average rank= 82,06) and the children with medium SEL (average rank=61,31); and between the children with high SEL (average rank=152,08) and the children with low SEL (average rank=90,97); and in favour of the children with medium SEL in the comparison between the children with medium SEL (average rank=168,88) and the children with low SEL (average rank=113,45).

It was found that the difference in the sub scale of *Negative Reaction* was in favour of the children with high SEL in the comparison between the children with high SEL (average rank= 153,00) and the children with low SEL (average rank=90,79); and in favour of the children with medium SEL in the comparison between the children with medium SEL (average rank=172,55) and the children with low SEL (average rank=111,28).

It was found that the difference in the sub scale of *General Competence* was in favour of the children with high SEL in the comparisons between the children with high SEL (average rank= 80,42) and the children with medium SEL (average rank=61,86); and between the children with high SEL (average rank=147,79) and the children with low SEL (average rank=91,81); and that there was a significant difference in favour of the children with medium SEL in the comparison between the children with medium SEL (average rank=165,81) and the children with low SEL (average rank=115,26).

Motivation / Emotional Intelligence

Table 8. Spearman Rank Differences Correlation Coefficient Results between the Subscales of the Dimensions of Mastery Questionnaire, Sub dimensions of the Sullivan Emotional Intelligence Scale for Children, Sullivan Teacher Rating Scale of Emotional Intelligence for Children and Sullivan Brief Empathy Scale for Children

	<i>Faces</i>	<i>Stories</i>	<i>Understanding</i>	<i>Management</i>	<i>SEISC</i>	<i>STRSEIC</i>	<i>SBESC</i>
Cognitive Perseverance	,258**	,359**	,284**	,283**	,388**	,774**	,407**
Gross Motor Perseverance	,301**	,337**	,318**	,342**	,431**	,742**	,421**
Social Perseverance with Adults	,227**	,392**	,317**	,267**	,385**	,704**	,449**
Social Perseverance with Children	,228**	,343**	,259**	,213**	,332**	,813**	,385**
Mastery Pleasure	,222**	,333**	,268**	,221**	,337**	,804**	,419**
Negative Reaction	,236**	,328**	,193**	,196**	,309**	,822**	,367**
General Competence	,173**	,274**	,218**	,182**	,276**	,823**	,348**

** Correlation is significant in the level of 0.01.

Upon examining the Table 8, it was found that there was a significant, positive and medium relation between the scores of children in the subscales of the "The Dimensions of Mastery Questionnaire" including *Cognitive Perseverance* ($r=.388$), *Gross Motor Perseverance* ($r=.431$), *Social Perseverance with Adults* ($r=.385$), *Social Perseverance with Children* ($r=.332$), *Mastery Pleasure* ($r=.337$) and *Negative Reaction* ($r=.309$) and the total of the "Sullivan Emotional Intelligence Scale for Children" ($p<0,01$). A positive and low significant relation was found in the sub dimension of *General Competence* ($p<0,01$).

It was found that there was a significant, positive and medium relation between the scores of children in the subscales of the "The Dimensions of Mastery Questionnaire" including *Cognitive Perseverance* ($r=.774$), *Gross Motor Perseverance* ($r=.742$), *Social Perseverance with Adults* ($r=.702$), *Social Perseverance with Children* ($r=.813$), *Mastery Pleasure* ($r=.804$), *Negative Reaction* ($r=.822$) and *General Competence* ($r=.823$) and in the "Sullivan Teacher Rating Scale of Emotional Intelligence for Children" ($p<0,01$).

It was found that there was a significant, positive and medium relation between the scores of children in the subscales of the "The Dimensions of Mastery Questionnaire" including *Cognitive Perseverance* ($r=.407$), *Gross Motor Perseverance* ($r=.421$), *Social Perseverance with Adults* ($r=.449$), *Social Perseverance with Children*

($r=.332$), *Mastery Pleasure* ($r=.337$), *Negative Reaction* ($r=.309$) and *General Competence* ($r=.348$) and in “Sullivan Brief Empathy Scale”.

Discussion

There was no significant difference between the scores of the children from the “The Dimensions of Mastery Questionnaire (DMQ18)” according to the variable (Table 1). The majority of the studies that are available in the literature did not found any significant difference or found only low level of difference between the motivation levels of the children. Yet some studies found significant difference in favour of the girls (Wang, Morgan & Biringen, 2014; Özbey and Dağlıoğlu, 2017). In their study on the motivation of the primary education 5th, 6th and 7th graders related to the sciences education, Uzun and Keleş (2010) found that the motivation scores of girls for research, performance, communication, cooperation and participation were significantly higher than boys. Khamis, Dukmak and Elhoweris (2008) concluded that the learning motivation of girls was higher than boys. McGeown, Goodwin, Henderson and Wright (2011) found that the learning motivation of girls higher than boys while Yıldız (2013) did not found a significant difference in the intrinsic motivation level for reading according to sex. Özbey (2018a), did not found a significant difference based on sex in her study on the relation between the motivation levels and self-organization levels of the preschool children. Morgan, Liao, Nyitrai, Huang, Wang, Blasco, Ramakrishnan and Józsa (2017) did not found a significant difference based on sex among the babies from Hungary, Taiwan and American in a broad sample from 6 months to 5 years. Mokrova, O'Brien, Calkins, Leerkes and Marcovitch (2013) did not found a significant difference based on sex in their study on the prediction of motivation on preschool academic skills (in the fields of language and mathematics). Motivation is an intrinsic power covering curiosity, focusing, problem solving, determination and self-organization. Individuals have different motivation levels and different conditions for motivation. This is based on the development levels, curiosity, motivation level and reaching satisfaction. Although the motivation levels and motivation conditions of individuals are different, their motivational behaviours are similar and therefore it is believed that the motivation varies according to the level of motivation and reaching satisfaction, not according to sex.

A significant difference was found in favour of the first-born children and single children in the scores of the children from the “The Dimensions of Mastery Questionnaire (DMQ18)” according to the variables of *number of siblings* and *order of birth* (Table 2-3). No study was found in the literature on the relation between the variables of number of siblings and order of birth. Yılmaz and Tepeli (2013) found in their study on the social problem solving skills of the children in the age group of 60 to 72 months that the social problem solving skills of the 3rd and later born children were significantly lower than that of the 1st and 2nd-born children. In the same study, a significant difference was found in favour of the single children and the children with 1 sibling between the social problem solving skills of the of the single children and the children with 1 sibling and that of the 2nd, 3rd and later-born children. When the sample group is examined, the majority of children are the first-born and second-born children and have 1 or 2 siblings. The significant difference in favour of the first-born children may be caused by the fact that the individuals having their first child are more sensitive to the interests and needs of their child, try to provide their child with larger possibilities and are more sensitive for their child. In addition, almost half of the children in the sample (143 people) were the first-born children.

A significant difference was found in favour of the children with a preschool education of 2 years and more in the scores of the children from the “Dimensions of Mastery Questionnaire (DMQ18)” according to the variable of *time in attendance to preschool education* (Table 4). According to the 2002 PISA results, the mathematics score of the students with a preschool education more than one year is 53 points higher than those without any preschool education. This result show that preschool education has a positive effect on the academic achievement of every child independent from the income status of families (AÇEV – ERG, 2016 cited by Öztürk, 2017). In a study on the social problem solving skills of the children in the ages of 60 to 72 months,

Yılmaz and Tepeli (2013) found that the social problem solving skills of children attending to a preschool for two or more years were higher than the children attending to a preschool for one year. In a study with the five years old children, Gültekin (2008) found that the social skill levels of the children with a preschool education for more than two years were higher than that of the children with a preschool education of one year. It can be said that the time in attendance to preschool increases the motivation of children based on the grounds that children feel belonging to a school, enjoy being at school, establish relation, experience sharing, cooperation and easier adaptation to social life. It is believed that children will display behaviours of pursuing motivated conditions, perseverance and act for intrinsic satisfaction in environments where they feel comfortable and a part of the environment.

A significant difference was found in favour of the children attending to an independent preschool in the scores of the children from the "Dimensions of Mastery Questionnaire (DMQ18)" according to the variable of *school type* (Table 5). Canbeldek (2015) found a positive correlation between the structural quality of the preschool education institutions and the linguistic, cognitive, gross and fine motor, self care and social development fields of children. In other words, the quality of the variables including the size of the classrooms where education take place, number of the supporting personnel, width of the school yard, environment offered by the school to the children etc. have a positive effect on the linguistic, cognitive, gross and fine motor, self care and social development fields of children. Independent preschools are advantageous compared to primary school nursery classes with their own yards, free play environments and positive physical conditions. In the study of Türkmen and Özbey (2018), the preschool teachers working in the nursery classes of the primary schools stated that the quality of education was affected by the inadequate physical conditions of the school like that the toilets are out of the classroom and ineffective use of the yard due to the shared use with the primary school. The physical inadequacy of the nursery classes of the primary schools may have a negative effect on the motivation of children. The autonomous structure of the independent preschools and their coverage of children in the period of early childhood may have caused them feel comfortable in the school environment, express and pursue their motivated conditions.

No significant difference was found in the scores of the children from the "Dimensions of Mastery Questionnaire (DMQ18)" according to the variable of *family structure* (Table 6). Upon examining the data of the Turkey Statistics Institute (TÜİK), a periodical increase is seen in the divorce rates of the Turkish society as of the year 2002. 56% of the divorced couples in Turkey have children. Only parents and children live in 8,5% of the total households (TÜİK, 2017). According to Günindi (2011), divorces are caused by the communication problems and conflict tendencies experienced by couples. Köyceğiz (2017) found a negative and significant relation between the conflict tendency and communication skills of parents. The communication of parents in the family affects the child, the communication of the child with the father affects the mother and the communication of the child with the mother affects the father (Çağdaş, 2003). In addition, the communication and interaction of the child with parents are the basis of the relations of the child. The child will have normal behaviours and psycho-social development in parallel to the good communication between parents and to the consistent behaviours reflected to the child (Cüceloğlu, 2012; Çağdaş, 2003; Ellison and Barnet, 2010). In addition, the decision making, establishing communication, perseverance in social relations, focusing and fulfilling satisfaction will develop in parallel to the good communication between parents and convenient environment offered to the child. Tatlılıoğlu and Demirel (2016) stated that the fragmented family has a negative effect for the continuity of the daily routine of the child (change in the environmental possibilities and parent-relations of the child), the age of the child in the divorce process and staying with parents, however, there are studies in the literature which revealed that divorce had no apparent effect on the self-perception, adaptation, social skill and achievement level of the children (Esen, 2010; Mena, 2007; Özcan, 2018; Winkle, 2010). In addition, children growing in an environment with lack of communication between parents may take their families to be a model and display behaviours including lack of perseverance and

understanding in their relations, being problem oriented and having impulsive reactions. Conflict and lack of communication of parents may limit the motivated conditions of children. Limitation of children to the conditions where parents will not be upset and react may develop lack of motivation in children as it will hinder activation and satisfaction for their motivated conditions. As seen here, divorce in unhappy family structures including conflict and lack of communication puts families into new structures which are reflected in the society with increasing divorce rates. Different results in the literature may be the result of the ability of parents to provide possibilities to support the development and environmental possibilities for children and the fact that the negative effects of divorce are felt less. It is believed that further studies will not have any significant difference according to the family type.

A significant difference was found in favour of the children with high socioeconomic level in the scores of the children from the “Dimensions of Mastery Questionnaire (DMQ18)” according to the variable of *socioeconomic level*. Children with low socioeconomic level are in the disadvantageous group (Table 7). Socioeconomic level is the determinant of the possibilities and environmental facilities offered to the child. Karabulut (2018) found a positive significant relation between the income levels of families and the social skill levels of children. Yılmaz and Tepeli (2013) found that the social problem-solving score averages increases in parallel to the increase of the total monthly income of families. Families with high socioeconomic level may encourage their children to be motivated, be determinant and pursue their motivated conditions by supporting them with rich stimuli, environment, material and education possibilities. In low socio-economic conditions, parents may have tendencies of obedience and loyalty from their children that would prevent the development of intrinsic control, enterprise, curiosity feeling, self-confidence and autonomy (cited from Elmacioğlu by Yurdakavuştu, 2012). In other words, low socio-economic possibilities may affect all development areas of children. With regards to motivation, it may limit the motivated conditions of children and cause them be motivated in line with the possibilities and unmotivated if not satisfied by the motivated conditions.

A significant and positive relation was found between the motivation levels and emotional intelligence of the children in the ages of 60 to 72 months (Table 8). There are emotional outputs in the motivation process where children are focussed, try to overcome difficulties, tend to discover, make researches and reach satisfaction. For example, a 3 years old child may have feelings of happiness after successful attempts when discovering the environment with curiosity, sadness after failure, perseverance and excitement after sadness (cited from Heckhausen by Wang, 2018). Self-knowledge of individuals, awareness of capabilities, organization of emotions, fighting without yielding and hoping against the negative conditions that are faced are necessary to terminate the motivation process with happiness and to maintain the motivation level (Çakar & Arbak, 2004). By taking the results of the study into consideration, it can be interpreted that the children with self-knowledge, who can fight against negative feelings, who are hopeful and who can manage their feelings display more perseverance, determination and self-organization in motivated conditions and that the children with inadequate emotional capabilities and emotion organization skills experience conditions like refraining from struggles, yielding, fearing of failure, lack of satisfaction, getting bored of things they are interested in, and terminating the activity without satisfaction. Similarly, it can be said that the curious, investigative individuals with high motivation levels achieve satisfaction by organizing the emotional dimension in their lives.

Conclusion

When we consider the results of the study, there is a significant difference in the motivation levels of the preschool children in the ages of 60 to 72 months according to the variables including number of siblings, time in attendance to preschool education and school type ($p < 0,05$). The significant difference is in favour of the children who have one sibling, who attend to preschool education for two years and more and who attend

to independent preschools. There is no significant difference in the motivation levels of the preschool children in the ages of 60 to 72 months according to the variables of sex and family structure ($p>0,50$). A significant, positive and medium level relation was found between the motivation levels and emotional intelligence of the children in the ages of 60 to 72 months.

The following recommendations can be given by taking the results of the study into consideration.

- The data in this study were obtained by one-to-one interviews with children and by the scale filled in by teachers on behalf of the children. Studies with family environment observation together with the family involvement may investigated the environment and its effect where the motivation sources and emotional intelligence of children are formed.
- This study examined the motivation levels of the children in the ages of 60 to 72 months according to their demographic qualities and investigated the relation between the motivation levels and emotional intelligence of children. Further studies on the motivations of children may be conducted examining the demographic qualities and education practices of the preschool teachers to determine the role of the preschool teachers who are the organizers of the education environment.
- Trainings may be organized for parents so that children may pursue what they are curious for, attempt to discover and manage their feelings.

Children should be active and structure learning processes so that they know themselves and tend to discover the conditions they are curious for. Trainings may be provided to preschool teachers regarding the active and constructivist learning approaches.

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