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Investigation of the Relationship between Academic Competencies and Social Information Processing of 60–72 Month-Old Children

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Abstract

Starting from the preschool period, children need to grow up as individuals with high academic skills, academic enablers and respond positively to their social situations. Academic skills and academic enablers together constitute academic competence. The positive reaction of children to the problems they face constitutes social information processing. This study aimed to examine the relationship between the academic competencies of 60–72-month-old children and their social information processing. The study was designed with the relational survey method. The study group consisted of 132 children aged 60–72 months with normal development who attend preschool education. The data collection tools of the study are as follows: Personal Information Form, The Social Information Processing Interview–Preschool Version, and Teacher Rating Scales of Early Academic Competence. Spearman's rank-order correlation test was used to evaluate the relationship between the scales. The findings of the study revealed that there is a relationship between the interpretation of cues and response decision, which are subdimensions of the social information processing model, academic skills (numeracy, early literacy, thinking skills, and comprehension) and academic enablers (social-emotional competence, approaches to learning, and communication).

Keywords:

Academic Skills, Academic Enablers, Preschool Children, Social Information Processing

Introduction

Nowadays, in order for children to be successful and happy in their adulthood, it is necessary to raise children having high academic success, develop social skills, and respond positively to the problem situations they encounter, starting from the preschool period. Academic achievement is possible through the combination of academic skills and academic enablers toward acquiring academic skills, that is, by providing academic competence. Social information processing mechanism, which is responsible for the processing of new social information, forms the basis of the social situations that children encounter in their daily

lives. Children's academic competencies and social information processing develop together.

Academic competence is the belief that children can perform the necessary actions for an academic task or activity (Duchesne & Larose, 2018; Niemiec & Ryan, 2009). The concept of competence, which plays a key role in achieving academic success, forms the basis of personal and environmental factors (Anderman & Patrick, 2012). The concept of academic competence consists of academic skills and academic enablers. Academic skills include numeracy, early literacy, thinking, and comprehension skills. Acquiring academic skills from the preschool period is important because it increases children's readiness for school and academic achievement in the following years (Reid et al., 2014). In addition, considering children constantly need such skills in their daily lives, they should be supported from the preschool period.

Mathematics skills are an important predictor of academic success (Cohrssen & Niklas, 2019). Mathematics skills make significant contributions to thinking and reasoning skills (Knowles, 2009). According to Stipek et al. (2001), mathematics is expressed as 'a static body of knowledge that includes a set of rules and procedures applied to give a single correct answer'. However, the development of early mathematics skills in the preschool period is the understanding of mathematical rules and procedures through various activities such as games and drama (Stipek, 2013). Early mathematical skills gained in this way include understanding mathematical symbols, relationships, comparisons (Wakabayashi et al., 2020), numbering, relations, and arithmetic operations (National Research Council, 2009). Early math skills are also referred to as early numeracy skills in the literature. Broadly examined, early numeracy skills include understanding and manipulating both symbolic and non-symbolic numbers (Raghubar & Barnes, 2017).

Symbolic number skills are associated with the development of counting skills and the development of numeracy skills. Early symbolic number skills include counting sequence, numerical meanings of numbers, and the last number indicates the number of objects in the group when counting a group of objects (Gobel et al., 2014; Merkley & Ansari, 2016). Studies have concluded that the acquisition of early symbolic number skills in the preschool period significantly affects mathematics achievement in the first grade of primary school (Gobel et al., 2014; Jordan et al., 2009; Jordan et al., 2007).

Non-symbolic number skills include numerical representations, relationships and comparisons without symbols (Raghubar & Barnes, 2017). Early non-symbolic number skills include adding and subtracting with three-dimensional objects and pictures, comparing the concept of quantity (such as telling which sequence is more), and making one-to-one matching (Leibovich & Ansari, 2016; Bisanz et al., 2005). Acquiring non-symbolic number skills is the basis of early numeracy skills. Studies have shown that non-symbolic number skills affect the continuity of subsequent mathematics performance (Leibovich & Ansari, 2016; Purpura & Logan, 2015). Early literacy is the acquisition of knowledge, skills, and attitudes, which are the prerequisites for children to learn how to read and write. Mathematical skills acquired in preschool period, mathematics knowledge in primary school period, and early literacy skills form the basis of literacy skills (Sonnenschein et al., 2021). As children's interactions with the environment increase, their critical and creative thinking skills increase, and children interpret, analyze, and evaluate what they live and learn based on their experiences (Pasquinelli et al., 2021). Comprehension is one of the basic academic skills that progress with children's basic language skills. Children with developed comprehension skills should better analyze and make sense of their academic skills (Kargın et al., 2017a).

Mathematical skills acquired in pre-school period constitute the basis of mathematics knowledge and early literacy skills in primary school period (Sonnenschein et al., 2021). In this direction, early literacy is the acquisition of knowledge, skills, and attitudes, which are the prerequisites for children to learn how to read and write, which are the prerequisites that children should acquire before learning to read and write. Early literacy skills are classified as verbal language, alphabet and letter knowledge, phonological awareness and print awareness (Elliott & Olliff, 2008; Kargın et al., 2017b).

As children's interactions with the environment increase, their critical and creative thinking skills increase, and children interpret, analyze, and evaluate what they live and learn based on their experiences (Pasquinelli et al., 2021). Critical and creative thinking skills are considered within the scope of high-level thinking skills. These skills are accepted as one of the lifelong learning processes. The acquisition of these skills from the pre-school period increases the developmental levels of children (Nachiappan, et al. 2019; Wojciehowski & Ernst, 2018). Comprehension is one of the basic academic skills that progress with children's basic language skills. Children with developed comprehension skills should better analyze and make sense of their academic skills (Kargın et al., 2017a).

Early academic enablers consist of learning approaches, social and emotional competence, fine motor skills, gross motor skills, and communication skills. Academic enablers were associated with academic skills, and it has been stated that children with positive

attitudes toward academic achievement had high academic skills (Reid et al., 2014). Approaches to learning are the behaviors of children during acquiring academic skills (Bulotsky-Shearer et al., 2011).

When children's social-emotional competencies and communication skills are high, they have fewer problems in the classroom and can focus on academic skills. Therefore, children with high social-emotional competence and communication skills have a positive attitude toward acquiring academic skills (Denham & Bassett, 2020). Fine and motor skills are also effective on academic enablers, as they are related to children reaching sufficient maturity to perform academic skills (Cameron et al., 2016). The fact that children have high academic enablers ensures that they are more advanced in academic skills and that children's academic competence is high. Children with high academic competence behave determinedly in the educational environment, approach social situations more positively, and are highly motivated. Children with low academic competence are stressed in the educational environment, act reluctantly, and have low motivation (Schunk & Pajares, 2016). These explanations show that non-cognitive factors also focused on academic competence (Anthony & DiPerna, 2018; Duckworth & Yeager, 2015).

A framework including academic skills and behaviors, academic enablers, and social skills has been developed to define non-cognitive factors (Farrington et al., 2012). Children with higher academic competence respond positively to social situations they encounter (Konold & Pianta, 2005). In this direction, it is thought that there is a relationship between academic competence and the social information processing that explains children's responses, and the social information processing model is included.

The social information processing model relates beliefs, emotions, attributions, and responses (Larkin et al., 2013). According to this cyclical model, the formation of a behavioral response consists of a six-step cognitive process (Crick & Dodge, 1994). Individuals encode and interpret social cues in the first two steps before a response occurs in the face of social situations, they develop solutions for the situation they encounter with the clues they encode in the third step, they search for the appropriate behavioral response from their memories in the fourth step, they decide on the appropriate response in the fifth step and evaluate their responses in the sixth step (Zajenkowska et al., 2021; Ziv & Elizarov, 2020). Social information processing is linked to behaviors deemed appropriate by society (Mayeux & Cillessen, 2003). A positive reaction to the situations one encounters is socially acceptable behavior. Cognitive processes should be developed for the development of socially accepted and non-aggressive behaviors in the preschool period (Bierman et al., 2009). Because children who react positively are accepted by their peers, and their relationship with their teachers and peers develops. Thus, children's commitment to school increases, they are more motivated to learn what is taught at school, have a positive attitude toward learning, and increase their academic success increases (Konold & Pianta, 2005).

The importance given to children's growing up as adults who respond positively to the social problems they encounter has begun to increase (Şenol & Metin, 2021). Bierman et al. (2009) found that vocabulary, intelligence scores, participation levels, academic knowledge, and skills of the children who showed responses and behaviors that were not accepted by society were low. Studies showed that the academic competencies of children who have developed social competence in the society they live in have better academic competencies (Backer-Grøndahl et al., 2019; Franco et al., 2017; Ziv, 2013). In this direction, there may be a relationship between social information processing, which is emphasized to be effective on social skills and social competence, and academic competence. Responding to socially accepted behaviors within the scope of social information processing could lead to classroom harmony and more effective participation in activities. Thus, while contributing to forming a positive attitude toward learning, having negative responses creates a risk profile for academic competence.

It is thought that positive responses and behaviors accepted by society are associated with high social information processing and affect the development of academic competence. This effect also emerges from the preschool period. In this direction, the study aimed to examine the relationship between the social information processing of 60–72-month-old children and their academic competencies.

For this purpose, the study seeks answers to the following research questions:

- What are the social information processing and academic competence levels of 60–72-month-old children?
- Is there a relationship between social information processing and academic competence of 60–72-month-old children?

Method

Research Design

The study was designed with the relational screening model, one of the quantitative research methods. In relational screening models, the relationship between two variables is examined without any intervention (Büyüköztürk et al., 2016). This study was designed through a relational screening method as the

relationship between social information processing and academic competence was examined.

Study Group

The study group consists of 132 60–72-month-old children with normal development who attended kindergarten and nursery schools in the spring semester of the 2020–2021 academic year.

Table 1
Demographics of Children Included in the Study

Demographics			N		%
Gender	Girl		70		53.03
	Boy		62		46.97
	Total		132		100
Children level	First child		35		26.51
	Second child		43		32.58
	Third child		44		33.33
	Fourth child		10		7.58
	Total		132		100
Education level		Mothers		Fathers	
		N	%	N	%
	Second	28	21.21	12	9.09
	High	37	28.03	40	30.30
	University	67	50.76	80	60.61
	Total	132	100	132	100
Occupation	Unemployed	47	35.61	3	2.27
	Civil servants	33	25.0	58	43.94
	Workers	40	30.30	42	31.82
	Self-employed	12	9.09	29	21.97
	Total	132	100	132	100

The demographic characteristics of the children in the study group show that 53.03% of the children are girls, and 46.97% are boys. When the birth order of the children was examined, it was seen that 26.51% were the first, 32.58% were the second, 33.33% were the third, and 7.58% were the fourth. About 21% of the children's mothers are secondary school graduates, 28.03% are high school graduates, and 50.76% are university graduates. Approximately 9% of their fathers were secondary school graduates, 30.30% are high school graduates, and 60.61% are university graduates. Twenty-five percent of mothers are civil servants, 30.30% are workers, 9.09% are self-employed, and 35.61% are unemployed. Almost half of the fathers (43.94%) are civil servants, 31.82% are workers, 21.97% are self-employed, and %2.27 are unemployed.

Data Collection Tools

Personal Information Form, Teacher Rating Scales of Early Academic Competence (TRS-EAC) and The Social Information Processing Interview–Preschool Version (SIPI-P) were used as data collection tools.

Personal Information Form

The form consists of questions about the children's gender, their ages, the number of siblings, the educational status of the parents, their profession, age, and income status of the family.

Teacher Rating Scales of Early Academic Competence (TRS-EAC)

TRS-EAC was developed by Reid et al. (2014) to measure the early academic competence of 38–70-month-old children, and it was adapted into Turkish by Şenol and Turan (2019). TRS-EAC consists of a combination of the following two subscales: Early Academic Skills (EAS) and Early Academic Enablers (EAE). The subscales consist of 35 and 46 items, respectively. The Early Academic Skills subscale consists of the following subdimensions: "Creative Thinking (CRT), Critical (CLT) Thinking Skills, Numeracy (N), Early Literacy (EA), Comprehension (C)." Early Academic Enablers subscale consists of the following subdimensions: "Approaches to Learning (AL), Social and Emotional Competence (SEC), Fine Motor Skills (FM), Gross Motor Skills (GM), and Communication (C)." Each statement about academic competence in the scale is scored as significantly below age expectations (1), below age expectations (2), compatible with age expectations (3), above age expectations (4), and significantly above age expectations (5). From the Early Academic Skills Scale, participants scored a minimum of 35 and a maximum of 175; participants obtained the lowest score of 46 and the highest score of 230 from the Early Academic Enablers Scale. The Cronbach alpha internal consistency coefficients of the Early Academic Skills Scale were found to be .98 and ranged from .94 to .97 for its subdimensions. The Cronbach's alpha internal consistency coefficients of the Early Academic Enablers Scale were found to be.98 and ranged from .89 to .97 for its subdimensions (Reid et al., 2014). In this study, the Cronbach's alpha internal consistency coefficient of the Early Academic Skills Scale was .96, and its subdimensions ranged from .97 to .98. The Cronbach alpha internal consistency coefficients of the Early Academic Enablers Scale were found to be .92 and ranged from .96 to .99 for its subdimensions.

The Social Information Processing Interview-Preschool Version (SIPI-P)

The social information processing interview-preschool version (SIPI-P) was developed by Ziv and Sorongon (2011) to obtain information about children's social information processing, and it was adapted into

Turkish by Şenol and Metin (2019).

The test consists of four stories. The first and third stories are about a child who is offended by a peer, while the second and fourth stories are about a child trying to participate in the game of his two playing peers. The test has separate forms for girls and boys. These forms include parallel pictures and the same stories. The stories were read to the children one-on-one by the researcher in a quiet setting, and children's answers to the questions about the story were written on the answer form. SIPI-P has three subdimensions Scores from SIPI-P are effective in predicting children's social behavior. The three subdimensions are interpretation of cues, response construction, and response decision. It was observed that the internal consistency coefficient of SIPI-P was .76 for the interpretation of cues sub-subdimension, .78 for the response construction subdimension, and .87 for the response decision subdimension (Ziv & Sorongon, 2011). The internal consistency coefficients calculated in this study were .70, .74, and .76, respectively.

Data Collection

Approval was obtained from the parents by interviewing the principals of the kindergartens to be implemented. Children whose parents gave consent were informed about the application, and children who volunteered were included in the study. Data were collected from children aged 60–72 months who received preschool education in the fall semester of the 2020–2021 academic year.

SIPI-P data were collected through reading stories and asking questions to children. The answers given by the children were written on the answer form. Data were collected through individual interviews with the children. The administration of the test took approximately 20–25 minutes for each child. Teachers filled out the TRS-EAC for the children one by one. It took approximately 20 minutes to complete the scale for each child.

Analysis of Data

Percentage and frequency of demographic information; continuous data were presented as mean, standard deviation, median, maximum, and minimum. The normal distribution properties of continuous data were evaluated using the Kolmogorov-Smirnov test, and the findings of the analysis revealed that it did not fit the normal distribution. Spearman's rank-order correlation test was used to evaluate the relationship between scales. Significance level in the study was set at $p < .05$.

Results

In this section, first, descriptive analysis of children's scores from the Teacher Rating Scales of Early Academic Competence (TRS-EAC) and The Social Information Processing Interview–Preschool Version (SIPI-P) and the analysis of the relationship between the two scales were discussed.

The mean scores of the children from the Academic Skills Sub-Scale were "numeracy skills (M = 18.11, SD = 3.49), early literacy (M = 18.27, SD = 3.90), creative

Table 2

The Mean Scores of the Children in TRS-EAC and SIPI-P

Scales		Subdimensions	Mean	Median	*SD*	Min.	Max.
TRS-EAC	Academic skills	Numeracy	18.11	19.00	3.49	10.00	25.00
		Early literacy	18.27	20.00	3.90	10.00	40.00
		Creative thinking	28.93	31.00	5.50	16.00	40.00
		Critical thinking	36.39	38.00	6.68	20.00	50.00
		Comprehension	25.65	28.00	4.69	14.00	35.00
		Total	127.36	128.50	23.32	70.00	175.00
	Academic enablers	Approaches to learning	53.87	55.50	10.92	0.00	75.00
		Social-emotional competence	43.75	46.00	8.69	16.00	60.00
		Communication	36.39	38.00	6.90	20.00	50.00
		Fine motor	21.68	23.00	4.18	12.00	30.00
		Gross motor	10.88	12.00	2.32	0.00	15.00
		Total	166.57	170.00	31.66	83.00	230.00
SIPI-P		Interpretation of cues	2.24	2.00	0.77	1.00	4.00
		Response construction	0.14	0.00	1.19	1.00	3.00
		Response decision	37.28	37.00	4.70	26.00	46.00

thinking (*M* = 28.93, *SD* = 5.50), critical thinking (*M* = 36.39, *SD* = 6.68), comprehension skills (*M* = 25.65, *SD* = 4.69), and total (*M* = 127.36, *SD* = 23.32)." The mean scores of children from the Academic Enablers Sub-Scale were "approach to learning (*M* = 53.87, *SD* = 10.92), social-emotional competence (*M* = 43.75, *SD* = 8.69), communication skills (*M* = 36.39, *SD* = 6.90), fine motor skills (*M* = 21.68, *SD* = 4.18), gross motor skills (*M* = 10.88, *SD* = 2.32), and total (*M* =166.57, *SD* = 31.66)." High scores from the Teacher Rating Scales of Early Academic Competence indicate high academic competence. These results were similar to the findings of studies using the same measurement tool (Reid et al., 2014; Sezgin & Ulus, 2020).

The mean scores of the children on the Social Information Processing Interview-Preschool Version were "interpretation of cues (*M* = 2.24, *SD* = 0.77), response construction (*M* = 0.14, *SD* = 1.19), and response decision (*M* = 37.28, *SD* = 4.70)". Higher scores of children in SIPI-P indicate more positive response decisions under the social information processing model. The results obtained from the subdimensions of interpretation of cues and response decision were similar to the results of studies using the same measurement tool (Şenol & Metin, 2021; Ziv, 2013; Ziv & Sorongon, 2011). No studies supported the low score obtained from the subdimension of the response construction. The reason for getting a low score on this subdimension was associated with the cultural characteristics of the study group.

As Table 3 shows, there was a statistically significant positive correlation between the total scores and subdimensions of the Teacher Rating Scales of Early Academic Competence and the subdimensions of the Social Information Processing Interview-Preschool Version. However, no relationship between the "response construction" subdimension of SIPI-P and TRS-EAC was observed. There was a correlation between interpretation of cues and numeracy (*r* = .174), early literacy (*r* = .223), creative thinking (*r* = .203), critical thinking (*r* = .209), comprehension (*r* = .198) academic skills sub-scale total (*r* = .218), communication (*r* = .203), fine motor (*r* = .220) and gross motor (*r* = .174) sub-dimensions. There was a correlation between response decision and numeracy (*r* = .318), early literacy (*r* = .255), creative thinking (*r* = .337), critical thinking (*r* = .275), comprehension (*r* = .311), academic skills sub-scale total (*r* = .310), approaches to learning (*r* = .257), social emotional competence (*r* = .304) communication (*r* = .330), fine motor (*r* = .295), gross motor (*r* = .233) and academic enablers sub-scale total (*r* = .273) sub-dimensions.

Table 3

Relationship between Early Academic Competence and Social Information Processing

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Numeracy	r	1.000														
2. Early literacy	r	.898**	1.000													
3. Creative thinking	r	.957**	.884**	1.000												
4. Critical thinking	r	.921**	.952**	.913**	1.000											
5. Comprehension	r	.944**	.936**	.930**	.941**	1.000										
6. Total (academic skills sub-scale)	r	.956**	.953**	.958**	.978**	.970**	1.000									
7. Approaches to learning	r	.918**	.915**	.910**	.921**	.934**	.936**	1.000								
8. Social emotional competence	r	.897**	.912**	.882**	.915**	.912**	.923**	.964**	1.000							
9. Communication	r	.925**	.940**	.930**	.942**	.937**	.961**	.926**	.939**	1.000						
10. Fine motor	r	.917**	.896**	.927**	.899**	.913**	.932**	.911**	.906**	.951**	1.000					
11. Gross motor	r	.895**	.873**	.892**	.882**	.891**	.900**	.940**	.909**	.895**	.888**	1.000				
12. Total (academic skills sub-scale)	r	.919**	.921**	.908**	.930**	.929**	.942**	.987**	.983**	.943**	.930**	.943**	1.000			
13. Interpretation of cues	r	.174*	.223*	.203*	.209*	.198*	.218*	.154	.143	.203*	.220*	.174*	.167	1.000		
14. Response construction	r	.021	.015	-.003	-.012	.041	.013	.006	-.010	.018	.004	-.007	.003	.070	1.000	
15. Response decision	r	.318**	.255**	.337**	.275**	.311**	.310**	.257**	.304**	.330**	.295**	.233**	.273**	.351**	.250**	1.000

***. Correlation is significant at the .01 level (2-tailed).*
**. Correlation is significant at the .05 level (2-tailed).*

Discussion

As a result of the study examining the relationship between the social information processing of 60–72-month-old children and their academic competence, a relationship was found between the subdimension of interpreting social cues and the decision to react and the subdimensions of the academic competence scale. The decision to interpret and respond to social cues is an indicator of whether children have a positive or negative response and intention to a situation. Similarly, children who react positively to their peers and maintain these behaviors have higher academic achievement and attitudes toward learning (Denham & Brown, 2010; Fantuzzo & McWayne, 2002). In addition, the academic achievement of children excluded by their peers and interacting negatively with them is low (DeRosier et al., 1994; Ladd & Coleman, 1997). In the society or class, they live in, the children's academic competence with higher social competence is in a better position than those with lower social competence (Backer-Grøndahl et al., 2019; Franco et al., 2017; Ziv, 2013). The results obtained from the study are explained below, taking into account the subscales and subdimensions.

The findings of the study revealed that there is a relationship between children's academic skills (numeracy, early literacy, and thinking skills) and the interpretation of cues, and the response decision. It is necessary for children to meet the world of mathematics in the preschool period for their success in mathematics. Children can code numbers from infancy (Cordes & Brannon, 2008). Contributing to their number skills from the pre-school period increases their numerical thinking skills (Jordan et al., 2006). There is evidence that mathematical skill can be developed from interactions with the physical, social and cultural worlds (Alibali & Nathan, 2012). The development of mathematical skills can positively improve not only mathematical problems but also solution methods for social problems. In this way, positive effects can occur on children's social competencies. Since studies have proven that there is a relationship between mathematical skills and social competence in early childhood, it is important to develop children's social competences in the development of early mathematics skills (Duncan & Magnuson, 2011; Griffin, 2004). Developing children's social competencies is important for developing early mathematics skills (Duncan & Magnuson, 2011). In a study on Latino children, it was stated that social competence plays an important role in the growth of preschool children's early mathematical skills (Galindo & Fuller, 2010). In addition, in a study examining the relationship between early cognitive skills and social competence, it was determined that social competence predicted early mathematics skills (Scott, et al., 2013). Contribution of social competence including interpersonal skills to early mathematics skills has been emphasized in studies (Ginsburg, 2006; Master et al., 2016). Responding positively to situations is the basis of social competence. The current study, in that sense, is consistent with the results of the study of Mackintosh and Rowe (2021) examining the role of preschool children's social problem-solving skills in the development of early mathematics skills. Similarly, studies reported that there is a relationship between preschool children's early math skills and social competencies (Dobbs et al., 2016; Doctoroff et al., 2016; Galindo & Fuller, 2010). In a study by Denham et al. (2012), it was found that children with low numeracy and early literacy skills displayed more aggressive behavior. Bierman et al. (2008) reported a relationship between children's social information processing and early literacy skills, and a relationship was found between ''adequate'' (prosocial or assertive) and ''inadequate'' (passive) behavioral solutions and literacy skills. In addition to numeracy and early literacy skills, critical and creative thinking skills are evaluated within the scope of academic skills. Social skills and social information processing of children with weak thinking skills are adversely affected (Fonagy et al., 2018; Ziv & Arbel, 2020). Studies had shown that when children's alternative thinking skills were developed, their social competencies also improved (Arda & Ocak, 2012), and they responded positively to social situations (Logie, 2014). The results of these studies on thinking skills were consistent with the results obtained from this study. The role of different developmental areas should be considered to facilitate the learning of academic skills in early childhood. Within the scope of the study, the fact that the social information processing steps are related to academic skills shows that the social information processing is effective in the acquisition of early academic skills. In other words, children with more competent social information processing may be more likely to acquire better academic skills. This result should be explained by the fact that children responding positively to social situations experience positive results in their social lives; therefore, it would be safe to say that children concentrate more on academic skills.

A relationship between children's early academic enablers (Learning Approaches, Social and Emotional Competence, Fine Motor Skills, Gross Motor Skills, and Communication), the interpretation of social cues, and the decision to react was observed. According to the study findings, early academic enablers are the behaviors of children during acquiring academic skills. It also reflects children's basic perceptions of learning. Therefore, it is safe to say that it is effective in the academic competence of children. The findings of the study revealed that there was a relationship between approaches to learning and social information processing. Similarly, some studies found a relationship between children's approaches to learning and

problem behaviors (Bulotsky-Shearer et al., 2011; Escalon & Greenfield, 2009; Fantuzzo et al., 2005). In addition, the result obtained was compatible with the finding of the study of Ziv (2013), claiming that there was a direct relationship between social information processing and approaches to learning. Early academic enablers include children's social-emotional competencies and communication skills (Reid et al., 2014). The results of the current study show that there is a relationship between preschool children's social and emotional competence and communication skills and the social information processing. This result was compatible with the findings of Denham and Bassett's study (2020), reporting that there was a relationship between social competence and social information processing. Some studies claimed that children with high social-emotional competencies gave positive reactions to social situations and had positive social information processing structures (Denham et al., 2014; Nix et al., 2013). Studies examining communication skills reported that the communication skills of children who responded positively in social situations were high (Burks et al., 1999; Gifford-Smith & Rabiner, 2004). Children's negative reactions and less interaction with their peers can cause low communication skills. Being competent in motor skills is effective in academic enablers. According to the study findings, there is a relationship between motor skills and social information processing. Similar studies found a relationship between motor skills and social competence (Giske et al., 2018; You et al., 2019). Another study also found that children's motor skills positively affected their social competence (Özkara & Kalkavan, 2021). It was noteworthy that there was a relationship between attitudes that provide academic success and social information processing. The results showed that children's academic achievement attitudes are associated with socially competent mental representations when encountering social situations. In the process of social information processing, children who respond positively to social situations spend less mental energy in social situations, thus enabling early academic enablers to rise.

The study found no relationship between the Teacher Rating Scales of Early Academic Competence's subscales and subdimensions and the "Response Construction" subdimension of the Social Information Processing Interview-Preschool Version. In the response construction subdimension, children interpret the clues in the previous step and diversify their responses. Rising scores in this subdimension indicate that children form positive responses. All steps of the Social Information Processing Model are interconnected and have a cyclical structure. While a relationship between other subdimensions and academic efficacy was observed, it is noteworthy that these responses are not found in the subdimension of diversification. This may be due to the social and cultural characteristics of the study group.

Conclusion

The study found a relationship between the academic competence of 60–72-month-old children and the decision to interpret cues and react, which are subdimensions of the social information processing. This result can be interpreted as the higher the academic competence of children, the more competent they may be in social information processing. Children's positive perception and positive response to the social situations they encounter from preschool play an important role in providing and supporting academic competence and increase the social information processing of children.

Limitations and Recommendations

- This study examined the relationship between children's academic competencies and social information processing. Further experimental studies should be conducted to reveal the reason for this relationship.
- The study did not utilize any sample selection therefore; future studies can adopt probabilistic sampling method in selecting the study group to ensure the generalizability of the results.
- Further studies can evaluate the social information processing and academic competence in terms of demographic variables.
- Longitudinal studies should be conducted to determine the relationship between academic competence and social information processing in the primary school period.

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