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The mediating role of social skills in the relationship between preschool children's academic self-esteem and problem behaviours*

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Abstract

This study evaluated the role of social skills as a mediator in the relationship between problem behaviours and academic self-esteem in preschoolers. The study included 189 randomly selected 5-year-old children attending preschool education in Turkey. As a result of the study, negative relationships were found between preschoolers' academic self-esteem, problem behaviours and social skills. As children's academic self-esteem and social skills increased, their problem behaviours decreased. Positive relationships were also found between children's social skills and academic self-esteem. Academic self-esteem was a major predictor of problem behaviours and social skills, and as academic self-esteem increased, so did children's social skills. In addition, social skills were shown to mediate the relationship between children's internalizing behaviour problems and academic self-esteem, however, these effects did not differ according to the presence or absence of externalizing behaviour problems. These findings show that internalising behaviour problems influence academic self-esteem in children in part via social skills.

Keywords: Academic Self-Esteem, Social Skills, Preschool Children, Preschool Education

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INTRODUCTION

In many societies, increasing children's social skills (SS) and academic self-esteem (ASE) and reducing problem behaviours (PB) are goals valued by teachers, parents, and other educational stakeholders. One of the main reasons for this is that PB negatively impacts children's academic achievement (Kremer et al., 2016), interactions with peers, learning environment, teacher-child communication (McDermott et al, 2022), school readiness levels (Yong & Abdullah, 2022), self-regulation (Rademacher et al., 2022), and peer interactions. There is also evidence that this negative relationship is present in later academic achievement (Kremer et al., 2016; Masten et al., 2005). Some researchers have suggested that a significant proportion of children start kindergarten with PB and lack the social and academic skills necessary for success (McDermott et al., 2022; Taner-Derman & Başal, 2013). Children with low ASE exhibit cautious, indecisive, aggressive, and often careless behaviours (Warash & Markstrom, 2001). These PB constitute an obstacle for both ASE and children's academic achievement. Early PB can lead to children receiving increasingly negative reactions from the social environment, in which they may not have enough opportunities to develop their skills (Eisenberg et al., 2015) while the negative relationship between PB and academic performance has long-term consequences (Kremer et al., 2016). Therefore, it is essential to identify the significant antecedents of pre-schoolers' SS to design interventions supporting positive development while reducing problem behaviour PB.

The Relationship Between Problem Behaviours and Academic Self-Esteem

Problem behaviours are defined as behaviours that interfere with learning, negatively affect social interactions, are inappropriate for the child's developmental stage, disrupt the environment, are socially harmful, and are consistently repeated. Depending on the intended outcome of the behaviour, these may arise from the child's need for attention, gaining access to an object, or as a way of avoiding unwanted situations (Erbaş & Yücesoy-Özkan, 2010; Melekoğlu et al., 2015; Özgü & Yılmaz, 2017). Merrell (1994) has separated problem behaviours into the subcategories of internalised and externalised problem behaviours. Accordingly, internalised problem behaviours were associated with a nervous, anxious and fearful behaviour form that may be associated with various somatic or physical problems. Internalizing problem behaviours are defined in two ways. One is related to social withdrawal and the other to anxiety, depression, and psychosomatic complaints in a broader sense (Eisenberg et al., 2001). Merrell (1994) has separated problem behaviours into the subcategories of internalised and externalised problem behaviours. Accordingly, internalised problem behaviours were associated with a nervous, anxious and fearful behaviour form that may be associated with various somatic or physical problems. Externalizing behaviours are characterised by aggression, impulsiveness, noisy, and overactive behaviours. In other words, behaviours such as impulsive behaviour without thinking, making noises that disturb others, having difficulty concentrating or staying on task and disrupting ongoing activities are mentioned. Children with externalizing behaviours may harm others in forceful ways. They have harmful and aggressive styles in their social interactions (Merrell, 1994).

Previous research has examined the links between ASE and school adjustment (Basharpoor et al., 2022), problem-solving skills (Kaytez & Kadan, 2016; Mercan & Özbey, 2020), academic self-concept (Basith, 2021), intelligence, working memory, and academic achievement (Giofrè et al., 2017). ASE and academic self-concept are significantly correlated (Basith, 2021), and ASE has an indirect effect on academic achievement mediated by intelligence (Giofrè et al., 2017). In addition, it has been shown that school adjustment is positively related to academic self-concept, and children's positive social acceptability has direct and indirect effects on their school adjustment via their interest in learning and perception of themselves as successful learners (Basharpoor et al., 2022). In addition, it has been demonstrated that low self-esteem is correlated with children's use of maladaptive behaviours, which is related to their school maladjustment, and internalizing and externalizing behaviour problems (Aunola, Stattin & Nurmi, 2000). When children exhibit PB in preschool education settings, it is likely to cause negative reactions from peers and teachers, which causes children with PB to have negative thoughts about themselves and their academic success. When children feel negatively about themselves academically, they are likely

to show negative reactions towards their more competent peers in the educational environment. Indeed, Rentzsch et al. (2015), revealed that individuals with low ASE may exhibit hostile tendencies due to feelings of jealousy, especially in highly competitive environments while Salmiyalli (1998) reported that bullying behaviour was associated with low ASE. On the other hand, researchers who examined the ASE of preschoolers' in Turkey found that children's ASE level was below average (Cevher & Buluş, 2006) and their PB were high (Aktepe et al., 2010). Although there are studies examining different variables (such as age, gender, number of siblings, parental attitude) affecting prechool childrens' ASE in Turkey (Cevher & Buluş, 2006; Kaytez & Kadan, 2016; Mercan & Özbey, 2020), no study examining the mechanism(s) affecting ASE was found. Therefore, we investigated the relationship between preschoolers' PB and ASE in this study.

Potential Mediating Role of Social Skills

Social skills are essential for children to participate in social interactions and adapt to social life, which directly affects their acceptance by others or the quality of friendships (Little et al., 2017). Social skills are considered as a three-factor structure comprising social cooperation, social independence, and social interaction. Social cooperation includes following adult directions, appropriate self-control, peer cooperation and compromise. Social interaction includes children's behaviour with regards to peer acceptance and the ability to initiate and maintain friendships. Social independence, by contrast, is concerned with the child's ability to behave independently of adults and to demonstrate safe and positive assertiveness in interactions with peers. The present study investigates social skills in relation to these three factors (Merrell, 1994).

Children's SS could be a potential mediator of the association between ASE and PB. One proposed association between SS and ASE is that SS enhances children's ability to develop positive relationships with others, which improves learning and raises their ASE. Existing evidence suggests that children with better SS tend to have better academic achievement (Caemmerer & Hajovsky, 2022; Cooper et al., 2014; Elksnin & Elksnin, 1998; Malecki & Elliot, 2002; Offer-Boljahn et al., 2022; Okeke, Anene & Agu, 2022). SS have been found to be a predictor of good academic development as children's positive feelings towards school prevent both academic and social problems (Arnold et al., 2012). SS require both initiating communication and responding appropriately (Little et al., 2017) while being considered as friendly, responsible, and socially capable individuals (Basharpoor et al., 2022).

There are studies indicating that SS are closely linked to later success. Children with higher SS in kindergarten (86% of the sample) were found to perform better academically on 5th grade assessments (Cooper et al., 2014). Another longitudinal study of children showed that the reciprocal relationships between children's SS and academic achievement existed throughout elementary school while academic achievement had a stronger and more consistent effect on children's later SS (Caemmerer & Hajovsky, 2022). Moreover, low SS in kindergarten increased the chance of having poor academic performance, but persistently high SS improved academic performance in elementary school (Frogner et al., 2022).

One possible relationship between SS and PB is that children with SS deficiencies are more likely to display PB. That is, SS deficiencies in children are a risk factor for a variety of poor outcomes, including PB (Köyceğiz & Özbey, 2018), guilt, depression, social withdrawal (Cook et al., 2008), school dropout (Elksnin & Elksnin, 1998), and academic failure (Malecki & Elliot, 2002). SS deficiencies, which include behaviours like not making eye contact when speaking to someone, interrupting others, anger, and other maladaptive behaviours (Little et al., 2017), can hurt a child's current and future level of functioning (Danielson & Phelps, 2003). For example, children with SS deficits are more likely to have low frustration tolerance and emotional dysregulation (Beaumont et al., 2017) which may lead to higher rates of juvenile delinquency (Elksnin & Elksnin, 1998), exhibiting lower academic performance (Cook et al., 2008). There is a strong negative correlation between PB and social competence (Hukkelberg et al., 2019) as Heyman et al. (2018), indicated that both SS and PB dimensions represent not only interrelated but also

independent components of social competence. Therefore, we hypothesized that the possible mechanism underlying the relationship between ASE and PB was the child's SS. We thought that having information about the factors affecting the relationship between children's PB and ASE was important for improving their ASE and reducing their PB.

Theoretical Framework

The majority of SS and PB research is based on Dodge's (1986) social information processing paradigm. Social information processing theory is an explanation of how mental processing affects behavioural responses in social situations (Crick & Dodge, 1994; Dodge, 1986). According to this theory, social behaviours are controlled by the schemas that the child acquires from the early years of life. The social information processing model is a model designed to explain social behaviour through basic social problem-solving strategies. Social problem-solving strategies consist of various stages following a sequential order. These stages are guided by the schemas that represent the experiences that the individual has internalised since the early years of his/her life (Jarvinen, 2001).

To respond appropriately in social settings, social information needs to be processed in an organized way: (1) social cues in the environment must be correctly encoded; (2) the encoded information must be correctly interpreted during the representation phase; (3) the target must be clarified or selected; (4) alternative answers must be developed; (5) response possibilities must be examined; and (6) the selected response is behaviourally implemented (Crick & Dodge, 1994). According to Dodge, both skill deficits and cognitive biases in processing during any of these steps can increase the likelihood of children behaving aggressively. The social information processing hypothesis of Dodge provides an appropriate theoretical framework for the investigation of the mediating role of SS in the relationship between the PB and the ASE of preschool children.

The Current Study

Despite the studies which have been conducted separately on the relationship between SS, PB and ASE of young children, to the best of our knowledge, no study tested the mediating role of SS in the relationship between PB and ASE. In this respect, we intended to investigate the mediating role of SS in the relationship between PB and ASE of preschoolers. Firstly, we tested whether children's PB, ASE and SS were related to each other. Hinshaw (1992) proposed four possibilities for the relationship between academic achievement and PB: (1) academic achievement decreases externalizing behaviour problems, (2) externalizing behaviour problems lead to academic failure, (3) academic failure and PB occur simultaneously, and each domain leads to the other, (4) some antecedent variables mutually influence academic achievement and PB. Moreover, the problems of children with academic underachievement are not limited to the academic field, self-esteem deficiencies and problems related to SS are also commonly seen. Focusing on the model proposed by Hinshaw (1992), four hypotheses were tested in this study. First and second, we hypothesized that PB would simultaneously be negatively related to ASE and SS. Consistent with the previous studies (Caemmerer & Hajovsky, 2022; Hinshaw, 1992; Köyceğiz & Özbey, 2018; Kremer et al., 2016; Malecki & Elliot, 2002), the theoretical model in the current study was constructed considering that as children's PB increased, their ASE and SS would be negatively affected. Third, we assumed that children's SS and ASE would be positively related at the same time, and as children's ASE increased, their SS would also increase. We also assumed that SS would act as a mediating variable in the relationship between PB and ASE. As shown in the literature (e.g., Cooper et al., 2014; Frogner et al., 2022; Hukkelberg et al., 2019), children's SS were an important predictor of both academic achievement and PB. Therefore, preschoolers' SS might have different effects on PB and ASE. In this sense, we examined whether the relationship between preschoolers' PB and ASE varied according to preschoolers' SS (see Figure 1). It is thought that the analysis technique of this study will contribute to making stronger predictions due to its difference from the analysis techniques of existing studies in the relevant literature.

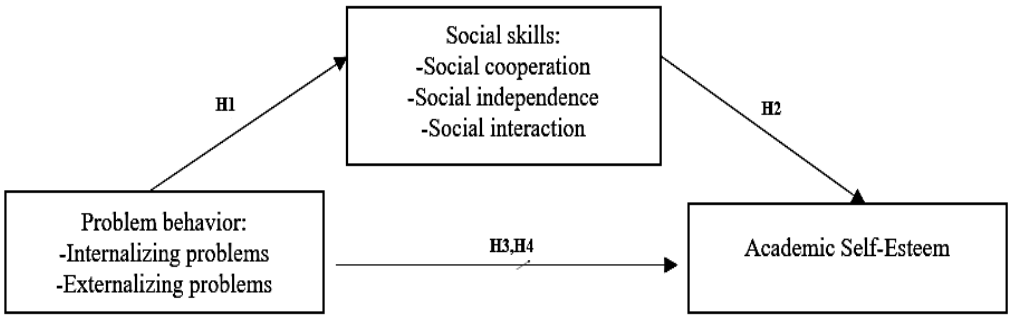

Figure 1. Predictive Mediation Model Proposed in the Study

In this study, the following hypotheses were developed:
H1: There is a negative relationship between PB and ASE.
H2: There is a negative relationship between PB and SS.
H3: There is a positive relationship between SS and ASE.
H4: The mediating role of SS in the effect PB on their ASE is significant.

METHOD

Research Design

This study is cross-sectional by design. Relation research is concerned with determining whether an association exists between two or more variables and, if so, determining the direction and strength of that association (Fraenkel et al., 2011). Although this model does not establish a causal relationship between the variables, Kline (2015) asserts that structural equation modelling (SEM) allows for inferences to be made about cause and effect (p. 18). SEM allows for explaining predicted relationships between variables, testing different models, and investigating causal relationships between variables (Fraenkel et al., 2011; Kline, 2015). To examine the mediating effect of SS on the relationship between ASE and PB in preschool children, we used SEM based on the relational screening model.

Participants and Procedure

The study included 189 randomly selected 5-year-old children attending preschool in a northern Turkish city. Demographic information of the children was obtained through a questionnaire form sent to the parents. The parent consent was gathered with the questionnaire form. As reported by the parents of the participating children, 92 (48.5%) of the study participants were girls and 97 (51.1%) were boys. 39 individuals (20.6%) had one sibling, 86 (45.5%) had two siblings, 28 (14.8%) had three siblings, 8 (4.2%) had four siblings, and 28 (14.8%) were only child. The socioeconomic status of the families of the children was low-medium.

Before the study, we granted consent from the school management, teachers, and the parents who were very well informed of our study. Ethical consent approval was obtained. Preschool teachers, who participated voluntarily, were given the PKBS-2 to assess the children's SS and PB and the ASES to assess the children's ASE. We asked the teachers to complete the forms for the children within one week. Data was collected in the spring so that teachers had the chance to better know the children and observe them.

Measures

In this study, the Academic Self-Esteem Scale to assess children's ASE and the Preschool and Kindergarten Behaviour Scales to assess children's SS and PB were used.

Academic Self-Esteem Scale (ASES)

Cevher and Buluş (2006) developed it to assess the ASE of students aged 5-6 to eighth grade. While developing 5-point Likert-type scale, they used the Behavioural ASES (Coopersmith & Gilbert, 1982), and the Assessment Inventory (Hamachek, 1995). There are a total of 22 test items. The range of points is between 22-110. Test items that are rated on a 5-point scale from "always" to "never" and are part of the scale. A one-factor structure was discovered to account for 54% of the variance. As children scored higher, their ASE is higher, and vice versa. Cronbach Alpha (α) value of the scale was found to be .95.

Preschool and Kindergarten Behaviour Scales (PKBS-2)

Having developed by Merrell (2002) to measure the SS and PB of preschoolers aged 3-6 years, the scale consists of two independent scales: the SS and PB Scales. The SS scale includes 3 subscales: Social Cooperation (SC), Social Interaction (SIt), and Social Independence (SI). The PB scale includes 2 subscales: Externalizing Behaviour Problems (EBP) and Internalizing Behaviour Problems (IBP). Alisinanoğlu and Özbey (2009), adapted the scale for Turkish children and Cronbach's alpha values of the SS scale ranged between .92-.88 and the total value was .94. The SS scale is a Likert-type scale consisting of 23 items and scored as "Never, Sometimes, Rarely, and Often". The highest possible score on the scale is 92, and the lowest possible score is 23. A high total score indicates that children have high SS. Cronbach's alpha values of the PB Scale ranged between .95-.72, and the total value was found to be .96. The PB Scale consists of 27 items. The scale has a lowest possible score of 27 and a highest possible score of 108. A higher score indicates that children have more PB (Alisinanoğlu & Özbey, 2009).

Data Analysis

The data obtained in the study were analyzed through path analysis with observed variables. In SEM-based analysis, the model created over the observed variables was tested. Instead of latent variables, children's ASE (dependent variable), PB (independent variable) and SS (independent and mediating variables) were examined as observed variables. The reason was that, unlike traditional regression analysis, it offers the opportunity to test the relationship of many variables at the same time while revealing the mediating effects between variables (Gürbüz, 2019).

SPSS 22, and AMOS were used for data analysis. Firstly, the distribution of the data was analyzed. Skewness and kurtosis values were taken into consideration for distribution. In this context, ASE (skewness -.467; kurtosis -.492), EBP (skewness 1.179; kurtosis .287), IBP (skewness 1.713; kurtosis 2.545), SC (skewness -1.460; kurtosis .998), SI (skewness -1.151; kurtosis .320), and SIt (skewness -1.401; kurtosis 1.032) scores should be in the range of -/+2 (George & Mallery, 2010). It is known that there is different skewness, and kurtosis assumptions for normal distribution. For example, ± 2 for skewness and ± 7 for kurtosis are accepted as normal distribution (Hair et al., 2010; Tabachnick and Fidel, 2007). As the data were considered to have a normal distribution, the relationships between the variables were examined (See Table 1). We found that the highest relationship between the variables was .84. This revealed that there was no multicollinearity problem ($r<.90$) in the model (Karagöz, 2017). In addition, we determined that VIF values did not exceed .10 and that these values were within acceptable ranges (Hair et al., 2010). We also investigated whether SS played a mediating role in the relationships between PB and ASE. By considering Bootstrap confidence intervals, the mediating role of the variables was statistically significant as the lower limit (BootLLCI) and upper limit (BootULCI) of the Bootstrap analysis results did not include zero value at 95% confidence interval (Hayes, 2013).

FINDINGS

The results obtained because of path analysis are presented below. The results of the path analysis are shown below, starting from the relations between the variables (see Table 1), then the path coefficient of the first model (see Table 2, Table 3), then the path coefficient of the second model after removing the variables that are not significantly related (see Table 4, Table 5), and finally the results of the mediator variable (see Table 6).

Table 1. Relationships Between ASE and Variables

	1	2	3	4	5	6
1. ASE (Academic Self-Esteem)	**1**					
2. EBP (Externalizing Behaviour Problems)	-.55***	**1**				
3. IBP (Internalizing Behaviour Problems)	-.67***	.41***	**1**			
4. SC (Social Cooperation)	.73***	-.69***	-.48***	**1**		
5. SI (Social Independence)	.84***	-.43***	-.70***	.70***	**1**	
6. SIt (Social Interaction)	.75***	-.54***	-.55***	.67***	.74***	**1**

****p<.001*

In the study, moderate negative (r=-.55, p<.001), and highly negative (r=-.67, p<.001) significant relationships were found between ASE and EBP, and between ASE and IBP, respectively. In contrast to these findings, highly positive relationships were found between ASE and SC (r=.73, p<.001), between ASE and SI (r=.84, p<.001), and between ASE and SIt (Fig. 2).

In addition, there were high (r=-.69, p<.001), moderate (r=-.69, p<.001), and moderate negative (r=-.54, p<.001) relationships between EBP and SC, EBP and SI, and EBP and SIt, respectively. Similarly, there were moderate negative relationships between IBP and SC (r=-.48, p<.001), high negative relationships between IBP and SI (r=-.70, p<.001) and negative relationships between IBP and SIt (r=-.55, p<.001). Thus, there was a significant relationship between all variables.

Table 2. Path Coefficients of the First Model

			β	**S.E.**
IBP	→	EBP	.41***	.24
EBP	→	SC	-.60***	.03
IBP	→	SC	-.24***	.11
EBP	→	SI	.19***	.02
IBP	→	SI	-.50***	.07
SC	→	SI	.60***	.05
EBP	→	SIt	-.27***	.01
IBP	→	SIt	.014	.06
SI	→	SIt	.64***	.04
ASE	→	IBP	-.12*	.31
ASE	→	EBP	-.10	.09
ASE	→	SC	.14*	.20
ASE	→	SI	.49***	.27
ASE	→	SC	.17**	.39

*Note: *p < .05; **p <.01; ***p < .001.* n= 189

According to the results of the path analysis, which examined the variables observed in the first model, the paths between IBP and SIt (β= .60; p>.01), and between EBP and ASE (β=-.10; p>.01) were not significant. On the contrary, all other paths included in the model were found to be significant. In addition, the fit indices were found to be at acceptable values. These findings showed that the proposed

model was acceptable and compatible with the data (χ2 [20, N=189] =2.745; p<.01; χ2/sd= 2.745; RMSEA= .096; CFI= .998; GFI= .995).

According to the other results obtained from the path analysis, IBP negatively predicted ASE (β=-.12; p<.05), but EBP did not (β=-.10; p>.05). Together, the two variables explained 17% of the variance in ASE. In addition, SC (β = .14; p>.05), SI (β=.49; p<.001) and SIt positively predicted ASE (β=.17; p<.01), and SI was the strongest predictor of ASE. All variables together explained 77% of the change (variance) in ASE. Hence, the model was re-tested by removing the variables (IBP-Sit, and EBP-ASE) with insignificant path coefficients from the model.

Table 3. Regression Results for the First Model

Forecast Variables			***Outcome Variable*** **ASE**	
			β	**S.E.**
(IBP	→	ASE)	-.12*	.31
(EBP	→	ASE)	-.10	.09
R^2 =.17			-	-
(SC	→	ASE)	.14*	.20
R^2 =.52			-	-
(SI	→	ASE)	.49***	.27
R^2 =.69			-	-
(SIt	→	ASE)	.17**	.39
R^2 =.61				
Total R^2 =.77				

*Note: * p <.05; ** p <.01; *** p <.001. n= 189*

Path analysis revealed that IBP negatively predicted ASE (β=-.15; p<.05). IBP explained 17% of ASE. In addition, SC (β=.21; p>.05), SI (β=.45; p<.001) and SIt positively predicted ASE (β =.20; p<.01), and SI continued to be the strongest predictor of ASE. All variables together explained 77% of the variance in ASE. We observed that path coefficients changed with the addition and subtraction of variables in the models. Therefore, the assumption that the change in the coefficients could play a mediating role for some variables was supported and the mediation analysis was conducted.

Table 4. Path Coefficients of the Second Model

			β	**S.E.**
IBP	→	EBP	.41***	.24
EBP	→	SC	-.60***	.03
IBP	→	SC	-.24***	.11
EBP	→	SI	.19***	.02
IBP	→	SI	-.50***	.07
SC	→	SI	.60***	.05
EBP	→	SIt	-.22***	.01
SI	→	SIt	.63***	.06
IBP	→	ASE	-.15**	.04
SC	→	ASE	.21***	.31
SI	→	ASE	.45***	.09
SIt	→	ASE	.20***	.20

*Note: * p <.05; ** p <.01; *** p <.001.* n= 189

According to the second model, all paths were found to be significant. We also determined that the path coefficients changed with the removal of the variables that were insignificant in the first model. The fit indices were found to be at acceptable values. These findings showed that the proposed model was compatible and acceptable with the data and the RMSEA value was within acceptable limits (χ2 [18, N=189] =6.569; p<.01; χ2/sd= 2.190; RMSEA= .080; CFI= .996; GFI= .988).

Table 5. Regression Results for the Second Model

Predictive variables			**Outcome Variable ASE**	
			β	**S.E.**
(IBP	→	ASE)	-.15**	.31
R^2 =.17			-	-
(SC	→	ASE)	.21***	.20
R^2 =.52			-	-
(SI	→	ASE)	.45***	.27
R^2 =.70			-	-
(SIt	→	ASE)	.20***	.39
R^2 =.61				
Total R^2 =.77				

*Notes: * p < .05; ** p < .01; *** p < .001. n= 189*

Path analysis revealed that IBP negatively predicted ASE (β=-.15; p<.05). IBP explained 17% of ASE. In addition, SC (β =.21; p>.05), SI (β=.45; p<.001) and SIt positively predicted ASE (β=.20; p<.01) and SI continued to be the strongest predictor of ASE. All variables together explained 77% of the variance in ASE. We observed that path coefficients changed with the addition and subtraction of variables in the models. Therefore, the assumption that the change in the coefficients could play a mediating role for some variables was supported and the mediation analysis was conducted.

Table 6. The Mediating Role of SS in the Relationship Between IBP and ASE

Indirect effect	**Effect**	**BootS.H.**	**BootLLCI**	**BootULCI**
IBP -> SC -> ASE	-.62	.23	-1.12	-.21
IBP -> SI -> ASE	-1.30	.28	-1.91	-.81
IBP -> SIt -> ASE	-.07	.15	-.45	.15

Note: b: Unstandardized beta coefficient; Bootstrap resampling = 5000.

The indirect effect of IBP on ASE was significant for SC, and SI. Therefore, the mediation effect of ASE (b=-.62; 95% CI [-1.12; -.21]), and SI (b=-1.30; 95% CI [-1.91; -.81]) on the relationship between IBP and ASE was statistically significant and played a full mediation role. However, the mediating effect of SIt on the relationship between IBP and ASE was not significant (b=-.07; 95% CI [-.45; .15]). In other words, the negative effect of IBP on ASE is reduced by the effects of SIt and SI.

DISCUSSION AND CONCLUSION

We aimed to investigate the relationship between preschoolers' ASE and PB and the mediating role of SS in this relationship. As a result, we found negative relationships between preschoolers' ASE and SS and PB. Accordingly, as children's ASE and SS increased, their PB decreased. Positive relationships were also found between children's ASE and SS. As children's ASE increased, their SS also increased, and ASE

was a significant predictor of PB and SS. In addition, we can report that SS mediated the relationship between preschoolers' IBP and ASE.

Negative relationships were found between preschoolers' PB and their ASE and SS. These results supported the first and second hypotheses. Accordingly, it was determined that as children's ASE and SS increased, their PB decreased. These findings are consistent with previous research results (Aunola et al., 2000; Eisenberg et al., 2015; Heyman et al., 2018; Köyceğiz & Özbey, 2018; Kremer et al., 2016; Rentzsch et al., 2015). ASE is children's feelings about their academic success and ability (Warash & Markstrom, 2001) and is a non-cognitive factor (Giofrè et al., 2017). In this respect, we can associate ASE with a child's social and emotional development. Preschoolers' SS facilitate their adaptation to the social environment and their ability to communicate with their peers and teachers. Such children are more likely to participate more actively in learning processes and to be successful. This leads to positive self-esteem about their academic achievement and skills as a result of their self-evaluations. Similarly, Offer-Boljahn et al. (2022), found that preschoolers' learning achievement was most strongly related to SS. A study conducted with secondary school students in Nigeria also found a high positive correlation between SS and academic achievement (Okeke et al., 2022).

On the other hand, children exhibiting PB due to lack of SS may create a negative belief in their ASE. Children who frequently experience problems with their teachers or peers often experience reluctance to participate in learning processes with a sense of low ASE, which may negatively affect their academic achievement. For example, Walker (2006) found that ASE and preschoolers' aggressive behaviours were related to each other. In addition, Johnson and colleagues (2000) reported that aggressive preschool children were rejected by peers and that these early impressions had a long-term effect on peer acceptance. Meanwhile, a significant negative relationship was found between PB and SS (Gültekin-Akduman, Günindi & Türkoğlu, 2015). In a study of adolescents, Aunola et al. (2000), found that low self-esteem was associated with maladaptive behaviour, which was associated with school maladjustment and internalized and externalized behaviour problems. In this respect, children with PB and a history of academic failure are more likely to develop lower ASE than children with fewer experiences of academic failure and SS.

Finding a positive relationship between children's ASE and their SS supported our third hypothesis. As children's ASE increased, their SS also increased, and SS was a significant predictor of ASE and PB. These findings are consistent with previous research results (Arnold et al., 2012; Caemmerer & Hajovsky, 2022; Cooper et al., 2014; Elksnin & Elksnin, 1998; Frogner et al., 2022; Hukkelberg et al., 2019; Malecki & Elliot, 2002; Offer-Boljahn et al., 2022; Okeke et al., 2022). Özbey and Köyceğiz Gözeler (2020) discovered that providing social skills training to children during the preschool period (48-60 months) enhances their academic self-respect levels. The findings suggest that enhancing children's social skills can result in positive effects on their academic self-esteem. Also looking at the relationship between children's academic self-esteem and their academic performance, it can be said that social skills have a positive effect on academic performance (Arnold et al., 2012) and a similar effect on academic self-esteem. It has also been found that SS has a very important effect on children's academic achievement (Caemmerer & Hajovsky, 2022), and that consistently low SS in preschool increases the likelihood of low school performance, whereas high SS increases the likelihood of high elementary school performance (Frogner et al., 2022). In addition, it was concluded that gains in children's SS were necessary for the realization of academic gains (Ansari & Gershoff, 2015). In this context, it can be thought that preschoolers' high SS and ASE will positively affect their future academic experiences. In addition, the fact that ASE and SS are related in early periods provides a framework that early intervention programs aiming to support one of ASE or SS can also have positive effects on the other.

This study partially supported the mediating role of SS in the effect of preschoolers' PB on their ASE, which was our fourth hypothesis. Accordingly, SS mediated the relationship between preschoolers' IBP and ASE, and this means a children's SS are part of the mechanism through which IBP affect ASE. This

result supports and extends the theories in the literature as Hinshaw (1992) stated that some antecedent variables mutually influenced academic achievement and PB. In this sense, interaction analyses contribute to the theory by identifying the moderator of these relationships and showing SS as an important factor in the relationships. Studies using SEM showed that SS mediated the relationships between teacher training and child achievement (Ansari and Gershoff, 2015), school engagement and PB (Mihalec-Adkins & Cooley, 2020), social exclusion and PB (Arslan, 2021), parental attitudes and aggression (Parsak & Kuzucu, 2020). These findings were consistent with previous theory based on the link between these dimensions and extend the evidence that SS is related to IBP effects on preschool ASE from the outset. Therefore, we can state that the ability of the children to regulate their behaviour more effectively and not to show IBP in conflict situations has a positive impact on their ASE, and this relationship is mediated by the ability of the children to better develop and maintain their social relationships.

Specifically, in this study, SS had a mediating role in the effect of preschoolers' PB on their ASE according to their IBP; however, this effect did not change according to their EBP. Accordingly, it was found out that SS did not have any mediating role in preschoolers' EBP. Researchers examining children's PB have revealed different results regarding IBP and EBP. For example, Hay and Pawlby (2003) found that preschoolers' SS were negatively related to later EBP but not to IBP. Nelson et al. (2004), found that EBP were associated with deficits in all three academic areas: reading, mathematics, and written language achievement, while no relationship was found for IBP. In a meta-analysis study examining inhibitory control and PB in early childhood, it was determined that there was a relationship between inhibitory control and EBP in early childhood, but not IBP (Berger & Buttelmann, 2022). From a different perspective, Masten et al. (2005), showed that EBP evident in childhood hinder academic competence during adolescence and this had a negative impact on IBP later in young adulthood. In this and other studies, different results have been found for internalizing and externalizing behaviour problems. This may be because internalized and externalized conduct are different types of problems. Externalizing behaviour problems include impulsive, criminal, and aggressive behaviours that may harm themselves and others whereas internalizing behaviour problems include behaviours that reflect internal states such as anxiety, depression, and withdrawal (Masten et al., 2005; Stacks & Goff, 2006). In this respect, it can be said that IBP and EBP are conceptualized in different ways. Similarly, it is accepted that ASE reflects children's emotional and internal processes. Therefore, the mediating role of SS in the effect of children's PB on their ASE only according to IBP but not according to EBP can be explained by the fact that IBP and ASE function depending on internal factors.

The results of this study suggest that ASE and SS may help explain the effects of ASE and SS on children's PB and contribute to developing prevention and intervention strategies in school settings to promote children's healthy development and adjustment. These results and their implications for practice and policy are preliminary but promising. Based on the findings of the study, ASE, PB, and SS should be included in assessment screenings. The observed association between ASE and PB suggests that interventions that focus on the social development of children may help to reduce the risk of children dropping out of school at an early age. Also, knowing that SS may be a protective factor gives us another way to try to prevent the serious risks that come with struggling with ASE and PB. Finding that a child's SS is part of the mechanism by which IBP affects ASE is significant because it confirms and extends the theories offered in this area of research.

It is critical to recognize the study's limitations. Firstly, because the data is cross-sectional, it cannot be utilized to infer causation; thus, future longitudinal study should investigate the association between PB, ASE, and SS. Second, we used reports from only one source of information (teachers) for children's ratings, but previous research has revealed inconsistencies in parents' and teachers' ratings (Heyman et al., 2018; Miner and Clarke-Stewart, 2008; Parsak & Kuzucu, 2020; Wang et al., 2022). In this respect, it would be beneficial for future researchers to integrate information from multiple sources (such as

teachers, parents, caregivers) in the assessment of children. Third, different variables such as the child's age, gender, teacher-child relationship, parental attitudes, etc. that may affect ASE, SS and PB were not addressed in the present study. The ways in which and how such variables affect children's ASE, SS and PB can be further investigated.

Statement of Researchers

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