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Socioemotional Development in the Preschool Period: Investigating the Predictive Role of Temperament, Language Development, and Emotion Comprehension *

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Abstract

The present study aimed to investigate the predictive role played by temperament, language and emotion comprehension skills in social competence and behavior problems in the preschool period. The sample consisted of 223 children aged between 39-83 months, their mothers, and 48 preschool teachers who were recruited from 16 municipal preschools located in two central districts of Istanbul through convenient sampling. Children's social competence was measured through teacher report of Social Competence Behavior Evaluation-Preschool Edition, Short Form (SCBE-30), and children's behavior problems were evaluated with the related subscales of mother report of Child Behavior Checklist (CBCL) and teacher report of the SCBE-30. Temperament, receptive language development and emotion comprehension skills were measured through Children's Behavior Questionnaire Very Short Form (CBQ-VSF), Turkish version of Test of Early Language Development-Third Edition (TELD-3:T), and Test of Emotion Comprehension (TEC), respectively. The predictive role of each child characteristics in social competence and behavior problems was tested with a series of hierarchical linear regression analyses. Findings indicated that emotion comprehension skills significantly and language development and temperamental effortful control marginally predicted children's social competence. Further, while temperamental negative affect and effortful control were significant predictors of both externalizing and internalizing problems, externalizing problems were also predicted by language development. The ways findings of this study can contribute to intervention programs that aim to prevent behavior problems and enhance social competence in the preschool period were discussed.

Keywords

Preschool period
Social competence
Behavior problems
Temperament
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Introduction

The view that socioemotional development in the preschool period is as important as early literacy and math skills for school readiness is nowadays well-accepted both in education and psychology (Blair & Raver, 2015). Children's social competence skills such as establishing good relations with peers, cooperating, and seeking solutions to conflicts are among the most important features of socioemotional development in the preschool years. These skills, which develop rapidly before school entry, contribute to the children's school readiness (Harrington, Trevino, Lopez, & Giuliani, 2020) and adjustment to their family and social environment (Denham, Bassett, Brown, Way, & Steed, 2015; Eisenberg, Spinrad, & Eggum, 2010). On the other hand, children who exhibit externalizing problems (noncompliance, verbal, or physical aggression) and those who exhibit internalizing problems (withdrawn behavior in group, frequently worrying) are at increased risk of peer rejection (Robson, Allen, & Howard, 2020) and school adjustment difficulties (Erkan & Sop, 2018; Ursache, Blair, & Raver, 2012). All these findings point to the importance of identifying factors that contribute to children's social competence and factors that prevent behavior problems during the preschool period.

Extant research in the literature indicated that both risk and protective factors at individual (e.g., temperament), relational (e.g., parenting), contextual (e.g., housing and schools), and societal (e.g., family socioeconomic status) levels play a role on children's socioemotional developmental outcomes (Sameroff, 2010). While it is important to examine the interaction of risk and protective factors across various levels, an in-depth examination of several risk and protective factors at a given level has also frequently been a subject of scientific inquiry (Cumberland-Li, Eisenberg, & Reiser, 2004; Morawska, Dittman, & Rusby, 2019). The present study entailed a comprehensive evaluation of children's individual characteristics and examined the relation of temperament, language development, and emotion comprehension skills to socioemotional development during the preschool period. Although the relations of temperament and language skills with socioemotional development and school adjustment have been a matter of focus in various studies for quite some time, children's emotion comprehension skills have gained recent research attention. Considering that emotions constitute a non-verbal way of communication, the importance of emotion comprehension skills to effectively navigate social interactions cannot be denied. These skills involve recognizing emotions from facial expressions, understanding that individuals with different desires and thoughts would feel differently and being aware of the societal norms that dictate how to express emotions in social contexts (Pons & Harris, 2005). Based on the relevant literature, there seems to be a dearth of research examining the role of emotion comprehension skills on preschoolers' socioemotional development over and above temperament and language development. Thus, we have limited information about the unique predictive role of emotion comprehension skills. The present study aimed to contribute to the literature by examining these three individual child characteristics in relation to preschoolers' social competence and behavior problems and identify the unique role of each characteristics.

Children's Individual Characteristics in Relation to Socioemotional Development

Temperament is one of the most important child characteristics that have an effect on young children's socioemotional outcomes (Kiff, Lengua, & Zalewski, 2011). With its widely accepted definition, temperament refers to the individual differences in children's reactivity and self-regulation (Rothbart & Bates, 2006). As part of the reactivity component, negative affect refers to children's disposition to respond to stressful events with intense and rapid expression of anger, sadness, or fear. On the other hand, differences in children's ability to use their attention effectively to regulate their emotional reactions, refer to the effortful control dimension of temperament (Rothbart & Bates, 2006).

Beginning at infancy, individual differences in affectivity, attention, and activity that reflect children's temperament were related to developmental outcomes, both directly as well as through interactions with parenting behaviors in several cross-sectional as well as longitudinal studies (Eisenberg et al., 2010; Moran, Lengua, & Zalewski, 2013). These studies identified temperamental negative affect as an important risk factor. It has been consistently shown that compared to their peers, those children who express their negative emotions more frequently, more intensely, and for longer time are more prone to externalizing and internalizing problems and exhibit less prosocial behaviors (Degnan, Almas, & Fox, 2010; Fechete, Susa-Erdoğan, & Benga, 2018; Diaz et al., 2017; Diener & Kim, 2004; Eisenberg et al., 2010, Laible et al., 2017; Moran et al., 2013; Wilson et al., 2021). Temperamental effortful control, on the other hand, plays a protective role against the risk of behavior problems and supports social competence. Effortful control was found to be positively related to children's social competence and socially appropriate behaviors (Çorapçı, Aksan, Arslan-Yalçın, & Yağmurlu, 2010; Diaz et al., 2017; Kochanska, Coy, & Murray, 2001; Moran et al., 2013; Wilson et al., 2021), whereas it was shown to be negatively related to externalizing and internalizing problems (De Pauw & Mervielde, 2010; Diaz et al., 2017; Gartstein, Putnam, & Rothbart, 2012; Sirois, Bernier, & Lemelin, 2019; Wilson et al., 2021; Yavuz, Selçuk, Çorapçı, & Aksan, 2017). Given that the magnitude of correlations in these relationships was moderate in size, there seems to be a need for examining other factors besides temperament in studying young children's socioemotional development.

In addition to temperament, language that shows rapid improvement during early childhood and preschool years has been considered as another important child characteristic that contributes to children's socioemotional development (Chow, Ekholm, & Coleman, 2018; Clegg, Law, Rush, Petters, & Roulstone, 2015; Girard, Pingault, Doyle, Falissard, & Tremblay, 2017; Menting, van Lier, & Koot, 2011; Rose, Lehri, Ebert, & Weinert, 2018). The ability to understand words and sentences, which is defined as receptive language, and the ability to use words, sentences, and gestures to communicate with others, which is defined as expressive language, facilitate children's adaptive social relationships with adults and peers around them (Barnett, Gustafsson, Deng, Mills-Koence, & Cox, 2012). Language development contributes to children's ability to verbally express their emotions when they feel disappointed, upset or angry and to request help from people around them (Reilly & Downer, 2019; Roben, Cole, & Armstrong, 2013), and findings of previous studies have indicated that children with such skills can regulate their emotions more easily and show enhanced social adjustment (Chow et al., 2018; Roben et al., 2013). Further, there have been studies indicating that as one of the most important indicators of social competence in early childhood, reconciliation in peer conflicts, is largely contingent upon children's language development, particularly on their ability to understand peers correctly and express themselves (Chow et al., 2018).

On the other hand, many cross-sectional and longitudinal studies have shown that children whose language development lag behind their age are at risk for peer rejection (Bouchard, Cloutier, Gravel, & Sutton 2008; Chow et al., 2018; Chow & Wehby, 2018; Longoria, Page, Hubbs-Tait, & Kennison, 2009; Menting et al., 2011; Petersen, Bates, & Staples, 2015) as well as for emotional and behavioral problems (Chow et al., 2018; Chow & Wehby, 2018). These studies indicated that children who have difficulty in language comprehension and expression resort to non-verbal, aggressive reactions as a mean of communication or they are more likely to withdraw from social interactions. Chow et al. (2018), in their meta-analytical work, indicated that regardless of their expressive language skills, children with poor receptive language skills had an increased risk of exhibiting externalizing and internalizing problems. These findings indicate the importance of understanding the language spoken in classrooms in the process of adaptation to school (Harmon & Wilson, 2012). Receptive language has been considered to be an important first step for adaptive social relationships and emotional development, and it is believed to contribute to the development of expressive language (Rose et al., 2018). For this reason, this study aims to examine the contributions that individual differences in receptive language development makes to preschoolers' social competence and behavior problems.

To maintain social harmony in interactions, children's ability to comprehend and correctly interpret non-verbal cues such as emotions has been investigated as much as their ability to understand the spoken language around them and express themselves (Tang, Harris, Zou, Wang, & Zhang, 2021; Trentacosta & Fine, 2010). Emotion comprehension includes children's recognition of emotions from facial, body, and vocal expressions, as well as the knowledge that mental processes (e.g., desires, thoughts) and societal norms can affect emotions (Denham, Ferrier, Howarth, Herndon, & Bassett, 2016; Di Maggio, Zappulla, & Pace, 2016; Pons & Harris, 2005). During the preschool period, children who comprehend emotion expressions better have been perceived as more socially competent by their teachers (Denham et al., 2015; Di Maggio et al., 2016; Ensor, Spencer, & Hughes, 2011; Klein et al., 2018). A meta-analytical work by Trentacosta and Fine (2010) showed that emotion comprehension skills in children aged 3 to 15 were positively correlated with social competence and negatively correlated with externalizing and internalizing problems, albeit at a small to moderate level. This meta-analysis revealed that the relationship between emotion comprehension skills and externalizing problems is stronger in studies that involved school-aged children or clinical groups.

In early childhood and preschool period, child characteristics that play role in socioemotional development do not develop independent of each other. In one of the few studies on the relationship between temperamental characteristics and language development, it was found that both receptive and expressive language skills at the age of 3 and expressive language skills at the age of 7 developed better in children who were extroverted and could easily adapt to new environments at the age of 2 (Slomkowski, Nelson, Dunn, & Plomin, 1992). These longitudinal findings indicated that language development is affected by the extraversion dimension of child temperament (Dixon & Smith, 2000; Slomkowski et al., 1992). Lonigan et al. (2017) have shown that effortful control based on behavioral observations and language development are associated with each other and that each child characteristics contribute unique predictive information to externalizing problems. There are also studies pointing out the relationships between negative affect and language development. Accordingly, children who showed faster language development at age 18 and 24 months expressed their anger in shorter periods of time and in lower intensity, and their anger expressions declined to a greater extent in preschool years (Roben et al., 2013). In another longitudinal study, negative affect assessed at 9 months negatively predicted language skills at 7 years (Cioffi et al., 2021). To note, these studies that found a relationship between negative affect and language skills were longitudinal and children's language development in these studies was measured through observation or tests that were administered to children individually. Yet, although less in number, there are also studies that failed to find a relationship between negative affect and language development. In a cross-sectional study, the relationship between the reactivity component of temperament and language development was non-significant (Yoleri, 2016). The designs that the above-mentioned studies have utilized as well as the way they assessed temperament and language development might explain the inconsistent findings with regard to the relationship between negative affect and language development.

The relations between effortful control component of temperament and emotion comprehension skills are more consistent (Denham et al., 2015; Klein et al., 2018). For example, in a longitudinal study, children's effortful control at age 3 predicted emotion comprehension at age 4.5 years, which in return predicted social competence at age 5 (Klein et al., 2018). These findings suggest that those children who could more efficiently regulate their attention might engage in more social interactions and gain more extensive experience around emotions. On the other hand, the relation between temperamental negative affect and emotion comprehension is not always consistent. While findings from a longitudinal study revealed that children with negative affect were slower in gaining emotion comprehension skills from preschool through fifth grade (Fine, Izard, & Trentacosta, 2006), another study did not reveal an association between negative affect and emotion comprehension (Bennett, Bendersky, & Lewis, 2005).

Finally, research reveals that as children's language skills develop, they become more adept at emotion comprehension (De Stasio, Fiorilli, & Di Chiacchio, 2014; Denham, 2007; Kårstad, Whicstrom, Reinfjell, Belsky, & Berg-Nielsen, 2015). These findings could be interpreted in such a way that children with advanced language skills can understand situations that gave rise to emotions better, ask more accurate questions about emotional states, thus, they can comprehend emotions more easily and accurately (Denham, 2007). Since both emotion comprehension and language skills develop with age, the relationship between these two child characteristics has been shown to remain significant even after the child's age has been statistically controlled. A longitudinal study has also shown that those children with better language development at the age of 2 showed greater emotion comprehension skills that were measured at age 3, which in return contributed to their prosocial behaviors at the age of 4 (Ensor et al., 2011). Similarly, it has been indicated that preschool children with better language skills developed emotion comprehension skills faster during school years (Kårstad et al., 2015).

In sum, extant research suggested that temperament, language development, and emotion comprehension skills are among child characteristics that contribute to children's social adaptation. However, to the best of our knowledge, there is no research that examines all three child characteristics at once and tests the unique, independent role of each characteristic on social adaptation, while controlling for the effects of other characteristics. The majority of the existing studies in this line of research have been conducted with Western samples. Studies that have examined different child characteristics with samples of preschoolers in Turkey are limited in number. For instance, Gülay (2012) evaluated the role of different temperament dimensions in 5- to 6-year-old children's positive as well as negative peer relations. Further, Yoleri (2016) indicated that reactive temperament and language skills played significant and independent roles in teacher-child relationships in preschool years. In another study, the roles of theory of mind, emotion understanding, and empathy in preschoolers' peer relations were investigated and the important role of empathy in reducing children's disruptive behaviors in peer contexts was found (Ekerim-Akbulut, Şen, Beşiroğlu, & Selçuk, 2020). In addition to these limited studies, the present study aims to contribute to the extant literature. Besides, findings of this study would inform the programs that aim to support preschoolers' social adaptation and school readiness.

Aims and Research Questions

The aim of the present study is to examine the unique role of temperament as an early emerging child characteristic as well as language and emotion comprehension skills that develop later than temperament on social competence as well as externalizing and internalizing problems. In accordance with the study aims, the following research questions were formulated.

1. How do child characteristics of temperament (negative affect and effortful control), language development, and emotion comprehension skills show associations with preschoolers' social competence and behavior problems?
2. Does language development uniquely predict preschoolers' social competence, externalizing, and internalizing problems above and beyond the effects of temperamental dimensions?
3. Do emotion comprehension skills uniquely predict preschoolers' social competence, externalizing, and internalizing problems above and beyond the effects of temperamental dimensions and language development?

Method

Study Design

The correlational research design was adopted in the present study. Correlational research design not only aims to determine the strength and the direction of the relationship between two or more variables, but also allows researchers to test the extent to which independent variable(s) contributes to the variance in the dependent variable (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2008). In the present study, while temperament, receptive language, and emotion

comprehension were tested as independent variables, preschoolers' social competence, externalizing and internalizing problems were examined as dependent variables.

Sample of the Study

The present study was carried out in 16 preschools served by two central district municipalities in İstanbul. Municipal preschools are among the childcare services provided by local governments within the scope of social services and offer education in accordance with the curriculum of the Ministry of National Education in neighborhoods representing lower and middle socioeconomic levels (SES). In the recruitment of the sample, non-random, convenient sampling method was used by inviting the preschools that were easily accessible with transportation and that had the highest child capacity. Five preschool administrators in one of these district municipalities and 11 preschool administrators in another gave consent for the study. Parents of all 3- to 5-year-old children enrolled in these preschools were invited to the study. Participation to the study was based on a voluntary basis.

The participants of the study were 223 children (105 girls, 118 boys), their mothers and 48 preschool teachers. The age of children ranged from 39 to 83 months, with a mean age of 59.75 months (*SD* = 8.27). Mothers' mean age was 34.55 years (*SD* = 4.63), and 86.1% of mothers had at least high school degree. 69% of the mothers and 94.7% of fathers were employed, either part-time or full-time. Significant relationships were observed between the parents' level of education and family income (*r* coefficients ranged from .45, *p* = .000 to .46 *p* = .000). These three variables were standardized and averaged, and a variable for the family socioeconomic status (SES) was obtained. Teachers who gave consent for the study had an average of 8 years of professional experience (*SD* = 6.04), and 84% had a university and 2-year vocational college degree.

Measures

Social Competence Behavior Evaluation-Preschool Edition, Short Form (SCBE-30, LaFreniere & Dumas, 1996): The scale evaluates the social skills of preschool children and the severity of problem symptoms with three subscales, each containing 10 items. Social Competence (SC) subscale assesses children's social skills such as cooperation and helping each other, while Anger-Aggression (AA) subscale evaluates externalizing problem symptoms such as defiant, maladaptive, and aggressive behaviors and Anxiety-Withdrawal (AW) subscale measures children's internalizing problem symptoms including sad and depressed moods and withdrawn behavior. Teachers were asked to rate the frequency of children's behavior described in each of 30 items on a 6-point Likert scale (1 = *never*; 2-3 = *sometimes*; 4-5 = *often*; 6 = *always*).

The Turkish adaptation of the teacher form of the SCBE-30 was made by Çorapçı and colleagues (Çorapçı et al., 2010). Supporting the validity of the scale, the SCBE-30 subscale scores were found to be correlated with preschool children's emotion regulation skills and temperamental effortful control in the expected direction (Çorapçı et al., 2010; Orta, Çorapçı, Yağmurlu, & Aksan, 2013). In previous studies, the internal consistency of the SCBE-30 subscales were found to be high (Çorapçı et al., 2010; Orta et al., 2013). In the original study, Cronbach's alphas were .88, .87, and .84, for the SC, AA, and AW subscales, respectively (Çorapçı et al., 2010). In the present study, Cronbach's alphas for the SC, AA and AW subscales were .88, .86, .84, respectively.

Child Behavior Checklist (CBCL/1.5-5; Achenbach & Rescorla, 2000): The Turkish version of the Child Behavior Checklist for Ages 1.5-5 (Erol, 2002) was used to evaluate externalizing and internalizing problem symptoms based on the mother's report. A total of 100 items related to child behavior in the scale are rated on a 3-point Likert scale (0 = *not true*; 2 = *mostly true*). In previous studies, Cronbach's alphas for the externalizing and internalizing subscales were reported as .76 and .77, respectively (Erol, Şimşek, Öner, & Münir, 2005). The test-retest reliability and validity of the scale were satisfactory. The test-retest reliability of the subscales ranged from .86 to .94. In the present study, Cronbach's alphas for the externalizing and internalizing subscales were .85 and .83, respectively.

In the present study, positive and significant correlations were found between the CBCL externalizing and SCBE-AA subscale scores, and between the CBCL internalizing and SCBE-AW

subscale scores, r = .12, p = .05 and r = .19, p < . 01, respectively. Each subscale score was standardized, and an externalizing composite score was obtained by taking the averages of CBCL externalizing and SCBE-30 AA scores, and an internalizing composite score was obtained by taking the averages of CBCL internalizing and SCBE-30 AW scores.

Children's Behavior Questionnaire Very Short Form (CBQ-VSF; Putnam & Rothbart, 2006): Children's Behavior Questionnaire -Very Short Form was developed to assess 3–8-year-old children's temperamental characteristics. In this study, the translated and adapted Turkish version of the form (Sarı, 2009) was used. Translated and adapted version of the form by Sarı (2009). Mothers were asked to complete the 36 items of this questionnaire on a 7-point Likert scale (1= *totally false*; 7= *totally true*). The questionnaire consists of 3 subscales: Surgency, Negative Affect and Effortful Control. The internal reliability of the translated questionnaire was .78 (Sarı, 2009). Mother reports of Negative Affect and Effortful Control subscales were used in this study, and the Cronbach's alphas for these subscales were .63 and .68, respectively.

Test of Early Language Development-Third Edition: Turkish Version (TELD-3:T; Topbaş & Güven, 2011): TELD-3:T has been developed to assess the language skills of children between the ages of 2-7. In this study, the 37-item Receptive Language subtest of TELD-3:T was used. In this subtest, children point to the pictures that correspond to the words they were told in the presented booklet. TELD-3:T, which is the Turkish adaptation of the language development test named "Test of Early Language Development-Third Edition" (TELD-3; Hresko, Reid, & Hammill, 1999) was conducted with 1627 participants from 33 provinces, and it is a valid and reliable measurement tool (Topbaş & Güven, 2011). Internal consistency coefficients of the test for different age and demographic groups were found to be .86 and above. The test-retest correlation coefficient for the receptive language form was reported as .96, and the inter-rater reliability coefficient as .99 (Topbaş & Güven, 2011). Findings revealing significant and positive relationships between TELD-3:T and WISC-R language scores and Peabody Picture-Vocabulary Test scores indicated the criterion-related validity of the test (Topbaş & Güven, 2011). In the present study, Cronbach's alpha for the receptive language subtest of TELD-3:T was .89.

Test of Emotion Comprehension (TEC; Pons & Harris, 2000): TEC was developed to screen children's understanding of emotions, which develops throughout the school period, starting from preschool. This test measures children's ability to recognize emotions based on different facial expressions, their knowledge that different beliefs and desires in a certain situation can lead to different emotions, knowledge of emotion display rules, and knowledge of social norms in relation to emotions (e.g., feelings of regret in response to wrongdoing). TEC consists of an A4 size picture book, and it has two versions with the story character, either a girl or a boy, depending on the gender of the child to be evaluated. TEC, which is administered to the child individually, involves a researcher who tells short stories to the child from a picture book, and the child is requested to make inferences about the emotional state of the character(s) in the story. TEC's total score ranges from 0 to 9. The Turkish translation and psychometric evaluation of this test was made by Buğan and Çorapçı (2018). Significant and positive relations of TEC total score with social skills and social problem-solving abilities supported the validity of the test (Buğan & Çorapçı, 2018). Findings from two other studies conducted with preschool children in Turkey that indicated significant and positive relationships between TEC total score and language development (Karadayı, 2018; Özsoy, 2018), counterfactual thinking, executive functions and theory of mind provided further support for the criterion-related validity of the test (Özsoy, 2018). Also, in another previous study, TEC was tested with a group of preschool children in Turkey with an interval of 3 months and it was shown that the test-retest reliability of TEC was satisfactory (Küçüközdemir, 2019).

Family demographic form: Information about child's age, sex, parents' level of education, and family income level were collected with a demographic form completed by the mothers.

Procedures

To avoid any ethical issues that may arise, the data for the present study were collected after the approval from the Human Research Ethics Committee and following the return of signed informed consents from the participants. For scheduling the assessments that were carried out with children, preschools' management was consulted and the assessments were planned in a way that does not deprive children of the daily flow or disrupt the course flow. An individual assessment session was carried out in a quiet room of the preschool. Children were first administered the TEC to assess their emotion comprehension skills followed by the TEDIL to assess their receptive language development. Assessments that were carried out by considering the preschool-aged children's attention span lasted on average 25 minutes and was carried out by graduate students in developmental and clinical psychology. Teachers completed the SCBE-30 scale and mothers filled out questionnaires containing information about the demographic characteristics of the family and the CBCL/1.5-5 for each participant children. Parents of 9 children who have recently turned to age 6 also filled out the CBCL/1.5-5 age form. As the pattern of findings did not change when the analyses were conducted with or without these 9 children, the data collected for these children were included in the analyses.

Data Analysis

To examine if the data was normally distributed, it was screened for uni- and multi-variate outliers. Study variables had skewness values between -1.65 ile .81 and kurtosis values between -.56 and 3.31. Three children who scored at the lower end of the distribution with respect to the social competence variable were identified as outliers. Following the winsorized mean method, their scores were replaced with the next highest value in the score distribution (Kwak & Kim, 2017). After this replacement, skewness and kurtosis values for all study variables were in acceptable range, between -2 and +2 (Byrne, 2010). To test if assumptions for hierarchical linear regression analyses were met, Mahalanobis distances were calculated, and no multivariate outliers were identified. Further, bivariate correlations ranged from -.29 and .46, not exceeding .80, variance inflation factor values were between 1.00 and 1.27, tolerance values were between .79 and 1.00, and condition index were between 6.59 and 27.35, thus, there was no multicollinearity problem between independent variables in the regression models (VIF < 10; Tolerance > 0.2, Condition Index < 30) (Büyüköztürk, 2010). As another assumption of hierarchical linear regression, autocorrelations in the residuals from the regression models were calculated, Durbin-Watson test values ranged from 1.47 and 1.84, and were in acceptable range (Kalaycı, 2006). Given that all assumptions for regression analyses were met, the predictive role of children's temperament, receptive language and emotion comprehension on their social competence, externalizing and internalizing problems were examined through three hierarchical linear regression models. In all analyses, variables that were entered to the model in previous steps were controls for the variables in the next step (Büyüköztürk, 2010). Thus, hierarchical regression analysis allows to examine if variable(s) in one step predicts dependent variable above and beyond the variable(s) in the previous steps. SPSS 27.0 package was used for data analysis.

Results

The descriptive statistics of all study variables were presented in Table 1. The relations of social competence and behavior problems with both demographics and child characteristics such as temperament, receptive language development and emotion comprehension skills were analyzed through Pearson Product-Moment Correlation coefficients (see Table 2). Findings revealed that child age had significant, positive, and moderate to high relationships with receptive language development (r = .51, p < .001), emotion comprehension skills (r = .38, p < .001) and social competence scores (r = .29, p < .001), whereas negative and small relationship with externalizing scores (r = -.18, p < .01). Child sex correlated significantly and positively with effortful control (r = .17, p < .01) which was small in magnitude. Accordingly, girls scored in effortful control significantly higher than boys. Finally, family SES and internalizing problem scores were significantly and negatively correlated. As SES increased, children's symptoms of internalizing problems decreased (r = -.23, p < .01).

Table 1. Descriptive Statistics of the Study Variables

Variable	*M*	*SD*	Range
Negative Affect	4.73	.73	2.58-6.50
Effortful Control	5.68	.63	3.83-7.00
TELD-3:T	28.57	5.64	13-37
TEC	4.34	1.55	1-8
SC	50.27	9.93	17-60
Externalizing	-.09	.73	-1.45-2.82
Internalizing	-.05	.76	-1.64-3.05

Note. TELD-3:T: Turkish Early Language Development Test; TEC : Test of Emotion Comprehension; SC : Social Competence

Table 2. Bivariate Correlations Among Demographics and the Study Variables

	1	2	3	4	5	6	7	8	9
1. Child Age									
2. Child Sex	-.04								
3. Family SES	-.10	.04							
4. Negative Affect	-.00	.11	-.11						
5. Effortful Control	.10	.17**	-.04	.15*					
6. TELD-3:T	.51**	.04	.12	.01	.06				
7. TEC	.38**	.12	.08	-.04	.05	.46**			
8. SC	.29**	.04	.05	.11	.16*	.30**	.30**		
9. Externalizing	-.18**	-.10	-.06	.21**	-.27**	-.26**	-.19**	-.31**	
10. Internalizing	-.09	.08	-.23**	.30**	-.15*	-.15*	-.11	-.13	.40**

*p < .05, **p <.01; Note. SES: Socioeconomic Status; TELD-3:T: Turkish Early Language Development Test; TEC: Test of Emotion Comprehension; SC : Social Competence

Next, a positive, significant, and moderate relationship was found between receptive language development and emotion comprehension skills (r = .46, p < .001). Since both variables showed improvement with age, a partial correlation was calculated controlling for child age, and the correlation between receptive language development and emotion comprehension skills remained significant after the child's age was statistically controlled (r = .37, p < .001). On the other hand, child's temperamental characteristics were not correlated significantly with receptive language development and emotion comprehension.

Even after child's age was controlled social competence had positive, significant but small relationships with temperamental effortful control (r =.14, p = .05), receptive language development (r =

.19, $p < .01$), and emotion comprehension skills ($r = .22$, $p < .01$). Accordingly children who were evaluated as socially competent by their teachers had significantly better receptive language and emotion comprehension skills. Similarly, when the child's age was controlled externalizing problems had a positive, significant but small relationship with temperamental negative affect ($r = .19$, $p < .01$) whereas it had negative and significant relationships with temperamental effortful control ($r = -.27$, $p < .001$), receptive language development ($r = -.20$, $p < .01$), and emotion comprehension skills ($r = -.15$, $p < .05$). These correlations suggest that children who exhibited higher levels of externalizing problems had significantly poorer receptive language and emotion comprehension skills. Finally, there was a positive, significant but moderate relationship between internalizing problems and temperamental negative affect ($r = .30$, $p < .001$) whereas internalizing problems had negative, significant but small relationships with effortful control dimension of temperament ($r = -.15$, $p < .05$) and receptive language development ($r = -.15$, $p < .05$). Since there were no age-related differences in internalizing problems, partial correlation was not calculated.

Regression Analyses for Children's Social Competence and Behavior Problems

Following the bivariate correlations, a series of hierarchical linear regression analyses were carried out to examine the unique variance accounted for by the independent variables in explaining social competence, externalizing, and internalizing problems. In each of these regression analyses, demographic variables that were significantly related to dependent variables were entered in the first step of the regression equation as covariates. The contribution of temperamental characteristics was tested in the second step followed by language development and emotion comprehension skills that were entered into the regression equation in the third and the fourth step, respectively. We used this order of entry because temperament is conceptualized as a characteristic that occur in time before language and emotion comprehension.

In the prediction of social competence scores (dependent variable), the overall model with all predictors was significant, $R^2 = .16$, F (5, 195) = 7.54, $p < .001$. Child age was entered in the first step and explained 8% of the variance. Age positively predicted social competence ($\beta = .29$, $p < .001$). In the second step, temperamental negative affect and effortful control did not account for incremental variance, $\Delta R^2 = .02$, ΔF (2, 197) = 2.66, $p = .07$. In the third step, TELD-3:T language was a significant predictor after controlling for child age and temperament variables ($\beta = .21$, $p < .01$), and contributed 3% of additional variance in explaining social competence , $\Delta R^2 = .03$, ΔF (1, 196) = 7.33, $p < .01$. Finally, emotion comprehension skills, added to the equation in the last step, significantly predicted social competence beyond child age, temperament, and language development, ($\beta = .18$, $p < .05$). Emotion comprehension positively and significantly predicted social competence ($\beta = .18$, $p < .05$) and explained an additional 2% of variance beyond the contribution of all variables, $\Delta R^2 = .02$, ΔF (1,195) = 5.69, $p < .05$. At this final step, in addition to statistically significant prediction by emotion comprehension, language development ($\beta = .14$, $p = .10$) and temperamental effortful control ($\beta = .11$, $p = .10$) also remained as marginal predictors of social competence (see Table 3).

Table 3. Findings of Hierarchical Regression Analysis for Child Characteristics Predicting Social Competence

		B	*SH*	*ß*	*t*	*p*	*R*	R^2	*F*
Step 1	Child Age	.34	.08	.29	4.19	.00	.29	.08	17.54**
Step 2	Child Age	.32	.08	.27	3.98	.00	.32	.11	7.72**
	Negative Affect	1.18	.93	.09	1.26	.21			
	Effortful Control	1.83	1.07	.12	1.70	.09			
Step 3	Child Age	.19	.09	.16	2.07	.04	.37	.14	7.81**
	Negative Affect	1.17	.92	.08	1.27	.21			
	Effortful Control	1.77	1.01	.11	1.67	.10			
	TELD-3:T	.37	.14	.21	2.71	.01			
Step 4	Child Age	.15	.19	.13	1.64	.10	.40	.16	7.54**
	Negative Affect	1.27	.91	.09	1.40	.16			
	Effortful Control	1.70	1.04	.11	1.63	.10			
	TELD-3:T	.24	.14	.14	1.68	.10			
	TEC	1.16	.49	.18	2.39	.02			

*p < .05, **p < .01; Note. TELD-3: T: Turkish Early Language Development Test; TEC: Test of Emotion Comprehension

In the prediction of externalizing problems (dependent variable), the overall model with all predictors was significant, R^2 = .20, F (5, 216) = 10.95, p < .001. There was a decrease in the externalizing problems of older children in the first step (β = -.19, p < .01). In the second step, both temperamental negative affect (β = .26, p < .001) and effortful control (β = -.30, p < .001) significantly predicted externalizing problems, explaining an additional 13% of variance beyond child age, ΔR^2 = .13, ΔF (2, 218) = 16.94, p < .001. TELD-3:T language score entered into the equation in the third step was also a significant predictor (β = -.22, p < .01) and explained an additional 4% of the variance over and above child age and temperament dimensions, ΔR^2 = .04, ΔF (1, 217) = 9.40, p < .01. Emotion comprehension skills, when added to the equation in the last step, made no unique contribution to the explained variance in externalizing problems beyond child age, temperament, and language development, ΔR^2 = .003, ΔF (1, 216) = .91, p = .34. At this final step, temperamental effortful control (β = -.29, p < .001), negative affect (β = .26, p < .001), and language development (β = -.19, p < .01) remained as significant predictors of externalizing problems. (see Table 4).

Table 4. Findings of Hierarchical Regression Analysis for Child Characteristics Predicting Externalizing Problems

		B	*SH*	*ß*	*t*	*p*	*R*	R^2	*F*
Step 1	Child Age	-.02	.01	-.19	-2.80	.01	.19	.03	7.82**
Step 2	Child Age	-.01	.01	-.16	-2.49	.01	.41	.16	14.28**
	Negative Affect	.26	.06	.26	4.11	.00			
	Effortful Control	-.35	.07	-.30	-4.72	.00			
Step 3	Child Age	-.00	.01	-.05	-.65	.52	.45	.20	13.47**
	Negative Affect	.26	.06	.26	4.20	.00			
	Effortful Control	-.34	.07	-.30	-4.77	.00			
	TELD-3:T	-.03	.01	-.22	-3.07	.00			
Step 4	Child Age	-.00	.01	-.03	-.46	.65	.45	.20	10.95**
	Negative Affect	.26	.06	.26	4.15	.00			
	Effortful Control	-.34	.07	-.29	-4.75	.00			
	TELD-3:T	-.03	.01	-.19	-2.57	.01			
	TEC	-.03	.03	-.07	-.96	.34			

*p < .05, **p < .01; Note. TELD-3: T: Turkish Early Language Development Test, TEC: Test of Emotion Comprehension

In the prediction of internalizing problems (dependent variable), the overall model with all predictors was significant, R^2 = .18, F (5, 217) = 9.73, p < .001. In the first step, there was a decrease in internalizing problems of children from higher family SES (β = -.23, p < .001). In the second step, both temperamental negative affect (β = .31, p < .001) and effortful control (β = -.20, p < .001) significantly predicted internalizing problem symptoms, explaining an additional 12% of variance beyond family SES, ΔR^2 = .12, ΔF (2, 219) = 15.42, p < .001. TELD-3:T language score entered in the third step was made a unique contribution to the prediction of internalizing problems (β = -.12, p < .05), explaining an additional 2% of variance beyond the variance explained by family SES and temperament dimensions, ΔR^2 = .02, ΔF (1, 218) = 3.94, p < .05. Emotion comprehension, added to the equation in the last step, made no unique contribution to explained variance beyond age, temperament, and language development, ΔR^2 = .00, ΔF (1, 217) = .15, p = .70. At this final step, temperamental negative affect (β = .31, p < .001), effortful control (β = -.19, p < .01), and family SES (β = -.18, p < .01) remained as significant predictors of internalizing problems (see Table 5).

Table 5. Findings of Hierarchical Regression Analysis for Child Characteristics Predicting Internalizing Problems

		B	*SH*	*ß*	*t*	*p*	*R*	R^2	*F*
Step 1	SES	-.20	.06	-.23	-3.43	.00	.23	.05	11.78**
Step 2	SES	-.18	.06	-.20	-3.20	.00	.41	.17	14.72**
	Negative Affect	.32	.07	.31	4.93	.00			
	Effortful Control	-.25	.08	-.20	-3.25	.00			
Step 3	SES	-.17	.06	-.18	-2.96	.00	.43	.18	12.17**
	Negative Affect	.33	.07	.31	4.99	.00			
	Effortful Control	-.24	.08	-.20	-3.14	.00			
	TELD-3:T	-.02	.01	-.12	-1.98	.049			
Step 4	SES	-.17	.06	-.18	-2.94	.00	.43	.18	9.73**
	Negative Affect	.32	.07	.31	4.96	.00			
	Effortful Control	-.24	.08	-.19	-3.12	.00			
	TELD-3:T	-.02	.01	-.11	-1.59	.11			
	TEC	-.01	.03	-.03	-.39	.70			

*p < .05, **p < .01; Note. SES: Socioeconomic Status, TELD-3:T : Turkish Early Language Development Test, TEC : Test of Emotion Comprehension

Discussion

The present study examined the role of individual child characteristics, namely, temperament, language development, and emotion comprehension skills on social competence, externalizing and internalizing problems. Investigating the relative contribution of language development and emotion comprehension skills beyond temperament was a novel contribution of this study. Correlational findings have shown that each of these child characteristics showed associations with children's social competence, externalizing and internalizing problems in line with past research. When all predictors were considered simultaneously, their additive effects were detected with emotion comprehension as a significant predictor, along with the contribution of language development and temperamental effortful control, albeit marginally significant. In the prediction of both externalizing and internalizing problems, temperamental negative affect, and effortful control both were significant predictors, along with language development in the case of externalizing problems. While language skills contributed additional information to explain individual differences in behavior problems beyond temperament, emotion comprehension made no unique contribution over and above temperament and language. Below, the significant and non-significant findings regarding the correlational and regression analyses were discussed in the order of research questions and in light of relevant literature.

In the present study, the associations between children's temperamental characteristics and socioemotional development were examined in the first place given that temperament is presumed to emerge very early in life and has a biological basis (Rothbart & Bates, 2006). Findings indicated that children with high negative affect exhibited higher levels of externalizing and internalizing problems. Furthermore, the findings revealed that temperamental effortful control was associated positively with social competence and negatively with externalizing and internalizing problems. Temperament was assessed with mother ratings, whereas behavior problems were evaluated through composite scores based on both mother and teacher ratings. In this way, evaluation of these two variables by the same reporter was prevented and the data independence principle was taken into account, which allows to estimate the magnitude of the relationship between these variables more accurately (Campbell & Fiske, 1959).

In this study, the obtained relationships between negative affect as a dimension of temperamental reactivity and socioemotional outcomes were in expected direction and in line with the findings of relevant past research (Degnan et al., 2010; Diaz et al., 2017; Diener & Kim, 2004; Fechete et al., 2018; Laible et al., 2017; Wilson et al., 2021; Yavuz et al., 2017). In the face of a stressful situation, children who expressed negative emotions more frequently, more intensely, and for a longer period of time, are at increased risk of having emotion regulation difficulties (Yağmurlu & Altan, 2010). Moreover, these children are more prone to develop behavior problems, especially in the absence of a supportive environment such as positive parenting (Kiff et al., 2011; Rothbart & Bates, 2006). Findings with regard to temperamental effortful control were also consistent with past studies conducted with children of similar ages. All these studies pointed out the role of temperamental effortful control in supporting children's social competence (Çorapçı et al., 2010; Diaz et al., 2017; Klein et al., 2018; Kochanska et al., 2001; Moran et al., 2013; Wilson et al., 2021) and in reducing the risk of behavior problems (De Pauw & Mervielde, 2010; Fechete et al., 2018; Gartstein et al., 2012; Moran et al., 2013; Roben et al., 2013; Yavuz et al., 2017). The relationship between effortful control and developmental outcomes makes sense, particularly during preschool years as children establish new social relations, and expectations of the social environment for self-control also increase during this period. Remaining silent in preschool classroom when required, engaging in harmonious relations with peers and teachers, avoiding aggressive behavioral tendencies during peer conflicts necessitate the effective use of attentional control skills and the control of negative affect.

The present study also examined socioemotional development in relation to language skills that develop very fast in the first years of life. As expected, both language and socioemotional outcomes have been shown to develop with age. Even after child age was controlled, language development remained positively correlated with social competence and negatively correlated with externalizing and internalizing problems. These findings were consistent with various cross-sectional and longitudinal studies examining the relationships between language and socioemotional development of children aged 2 to 6 years (Barnett et al., 2012; Chow et al., 2018; Rose et al., 2018; Vallotton & Ayoub, 2011). In some of these previous studies, language development was assessed through observation of children's use of words when interacting with parents and their ability to follow directions, whereas in other studies standardized tests of language were used as in the present study. These bivariate relationships were both expected and theoretically meaningful. Vygotsky (1962) claimed that the relationship between language and children's socioemotional development might be facilitated through thinking, problem-solving and self-regulation functions of language. Studies in the literature also suggest that children who understand and use language better are better able to express themselves in socially appropriate ways during challenging situations and obtain social support they need in order to solve their problems and regulate themselves (Chow et al., 2018; Frick, Forslund, & Brocki, 2019; Roben et al., 2013; Vallotton & Ayoub, 2011; Whedon, Perry, Curtis, & Bell, 2021).

Besides child temperament and language development, emotion comprehension skills were also the focus of the present study. The findings indicated that emotion comprehension skills were correlated positively with social competence and negatively with externalizing problems, even after the

effect of child age was controlled. These findings were in line with extant research in the literature carried out with preschool-aged children (Denham et al., 2015; Ensor et al., 2011; Giménez-Dasí, Fernández-Sánchez, & Quintanilla, 2015; Klein et al., 2018; Ornaghi, Pepe, & Grazzani, 2016; Tang et al., 2021; Trentacosta & Fine, 2010). This pattern of findings can be interpreted in a way that children, who are able to make correct inferences about emotions, can be more emphatic in their social relationships and better regulate their emotions (Denham et al., 2015; Di Maggio et al., 2016; Trentacosta & Fine, 2010). In majority of the relevant studies, emotion comprehension skills were assessed by individually testing the child, whereas socioemotional development was assessed either through mother or teacher ratings or through observation. The similarity of the findings obtained by using different methods and by considering the principle of data independence indicated the consistency of the relationship between emotion comprehension and socioemotional development.

In the current study, when bivariate associations among the individual child characteristics were examined, it was found that language development was more advanced in children with better emotion comprehension skills. This finding was consistent with similar studies carried out with preschool children (De Rosnay & Harris, 2002; De Stasio et al., 2014; Izard et al., 2001; Kårstad et al., 2015; Schultz, Izard, Ackerman, & Youngstrom, 2001; Tang et al., 2021). Based on these findings, it can be speculated that children with advanced language skills can make a better sense of their and others' emotional experiences (De Stasio et al., 2014; Ensor et al., 2011). Besides, children with advanced language skills engage in more social interactions in their home and school environment, which offer them emotion-related experiences and contribute to their emotion comprehension skills. However, these correlational findings can also imply that children with better emotion comprehension skills are more likely to engage in social interactions, which in turn might support their language development.

In the present study, temperament was not correlated with language development and emotion comprehension skills. Past studies documented that the relationship between temperament and language development was found for children who were high on extraversion dimension of temperament (Slomkowski et al., 1992) and who had advanced attention control (Lonigan et al., 2017). In this study, the reason why temperamental effortful control was not related to language development might be due to the way temperament was measured. In Lonigan et al.'s work, effortful control was measured through observation (Lonigan et al., 2017). Similarly, studies that indicated consistent associations between temperamental effortful control and emotion comprehension skills (Denham et al., 2015; Klein et al., 2018) relied on temperament measurement through observational method. These findings highlight the importance of utilizing observational methods as well as survey methods in future studies. Besides, it is noteworthy that the previous studies that found a relationship between temperament and language, and between temperament and emotion comprehension were in longitudinal design (Cioffi et al., 2021; Klein et al., 2018; Lonigan et al., 2017; Roben et al., 2013; Slomkowski et al., 1992). The cross-sectional design of the present study might be the reason why no relationship was found between temperament and other child characteristics.

The Relative Contribution of Individual Child Characteristics in Predicting Social Competence and Behavior Problems

In examining the second research question, controlling for the effect of early emerging temperament, the role of child language development on social competence and behavior problems was investigated. The findings indicated that language development predicted social competence and behavior problems over and above demographic variables (child age and SES) and child temperament. In particular, children who overreacted to stressful stimuli and exhibited poor effortful control and language skills had an increasing risk of experiencing both externalizing and internalizing problems. Consistent with these findings, in few available studies examined temperament and language development together, both child effortful control and early literacy skills were found to be unique predictors of problem behaviors (Lonigan et al., 2017). However, Lonigan et al. (2017)'s study differed from the present study as language development in their study was evaluated in terms of early literacy (e.g., phonological awareness and print knowledge). Furthermore, a study that was also carried out

with preschoolers in Turkey has shown that mother ratings of child temperament as well as teacher ratings of language development were each independent predictors of children's relationship quality with their teachers (Yoleri, 2016). All these findings pointed out the unique role of using language skills appropriately in social interactions besides the ability to regulate attention as well as negative affect particularly in stressful situations.

Investigating the extent to which emotion comprehension skills predict developmental outcomes in the preschool period beyond the effects of other child characteristics (e.g., temperament and language development) was a unique contribution of this study. Besides, examining temperament, language development, and emotion comprehension in the final step of regression equation allows us to determine the relative contribution of each child characteristic for developmental outcomes. Findings indicated that emotion comprehension skills explained an additional variance only in social competence, but not in externalizing and internalizing problems, over and above the effects of child age, temperament, and language development. Accordingly, regardless of their temperamental characteristics and the level of language competence, children's ability to make correct inferences about emotions play a major role to support the development of social behaviors such as consoling and helping peers and cooperating with them. Given the significant correlations between language development and emotion comprehension, the unique contribution of emotion comprehension to social competence becomes even more meaningful. Thus, this finding can be interpreted in a way that children's emotion comprehension skills contribute to their social competence beyond the contributions made by language development. In consideration of the relative contribution of each child characteristic, emotion comprehension skills showed the largest predictive power, followed by the marginally significant language development, child age, and temperamental effortful control. These results suggested that those children with better emotion comprehension skills, with more advanced language development, older children, and those with better effortful control were perceived more socially competent by their teachers.

Findings of the second hierarchical regression analysis revealed that when all individual child characteristics were examined together, temperament and language difficulties emerged as significant predictors of externalizing problems. Yet, emotion comprehension did not explain a unique variance over and above these risk factors despite its significant and negative correlation with externalizing problems. This finding might suggest that emotion comprehension skills relate to externalizing problems indirectly through language development, rather than directly. It is possible that children with poor emotion comprehension are likely to interpret social cues incorrectly, placing them at risk for interpersonal difficulties and social exclusion that act to hinder their language development. As noted above, poor language skills then prevent them from using efficient emotion regulation strategies in times of emotional distress, contributing to adjustment problems over time.

Finally, in the prediction of internalizing problems, emotion comprehension skills did not predict internalizing problems after controlling for family SES, child temperament and language development. When all child factors were considered together, the predictive power of the independent variables were in the following order: negative affect, effortful control, and family SES. These results suggested that those children with lower levels of negative affect, better effortful control, and from higher SES families were rated lower in internalizing problems. Emotion comprehension skills neither showed an association with internalizing problems in the bivariate correlation analysis nor emerged as a significant predictor in the hierarchical regression analysis. Trentacosta and Fine (2010) reported that the relationship between emotion comprehension and internalizing problems was often detected with samples of school-aged children. It is likely that those children with emotion comprehension difficulties tend to misinterpret the emotional cues of their peers or adults around them and experience aversive interpersonal consequences. As a result, they might learn to avoid interpersonal encounters, and this avoidant tendency might solidify into a more consistent pattern of withdrawn and inhibited behavioral style of internalizing problems over time when children enter the school age years. In this respect, the relationship between emotion comprehension and internalizing problems may emerge in school years.

Conclusion and Suggestions for Future Directions

When child temperament, language development and emotion comprehension skills were taken as predictors of children's socioemotional outcomes, the results of this study revealed that temperamental negative affect and effortful control emerged as significant predictors of externalizing and internalizing problems. Poor child language also made an independent contribution in the prediction of externalizing problems that include oppositional behaviors, impulsivity, and aggression. These results implied that besides scaffolding children's effortful control and emotion regulation skills, it is also important to support children's language skills to prevent externalizing problems. Growing research in recent years suggest that child temperament, despite its biological basis, is modifiable through ongoing interactions with the social environment (Kiff et al., 2011). For instance, while children with high temperamental negative affect are at risk for behavior problems when they are exposed to negative social interactions, the availability of supportive social environment such as responsive parenting, acts to protect these children against emotional and behavioral problems (Slagt, Dubas, Deković, & van Aken, 2016). Thus, the effectiveness of prevention programs might be strengthened by including teacher and parent modules that include trainings for supportive ways of responding to child anger, sadness, and fear. Moreover, by introducing playful activities that act to support children's language, attention, and emotion regulation skills into the curriculum of preschools in Turkey, the protective role of early childhood care and education programs for preventing behavior problems could be improved. Research on prevention programs has indeed demonstrated that supporting these skills in the preschool setting act to promote children's school readiness and effectively reduce the prevalence of behavior problems over the school years (Bierman, Heinrichs, Welsh, Nix, & Gest, 2017).

The results of the present study suggested that targeting children's negative affect and effortful control should be prioritized for the prevention of internalizing problems that include anxiety, depression, and withdrawn behaviors. Furthermore, even after accounting for all individual child characteristics of the study, the predictive role of family SES implied that children from lower SES families should be primarily targeted for the prevention programs. Emotion comprehension skills emerged as a relatively more powerful predictor of social competence compared to temperamental effortful control and language development, which were marginally significant predictors. This result suggests that programs to support children's social competence might primarily target children's emotion comprehension skills.

The results of this study must be considered within the context of its limitations. These include relying on a single informant for collecting data on temperament (mother ratings only) and social competence (teacher ratings only) as well as measurement of the receptive language only. Besides, participant children were selected from municipality-run public preschools only. There is some evidence suggesting that public and private preschools in Turkey differ in certain respects. In a recent report by World Bank (2015), private preschools were better than public preschools in terms of infrastructure, physical attributes (e.g., a separate bedroom, garden), and curriculum. These differences restrict our ability to generalize the findings of this study to children attending private preschools and those who do not attend any preschool at all.

Given that all predictors in the present study's regression model accounted for 16-20% of the variance in the developmental outcomes, this result clearly shows that other risk and protective factors at the family, school, and community level should also be considered for a more comprehensive investigation of socioemotional development. In addition, child's individual characteristics such as temperament, language development, and emotion comprehension can be affected by parent's child rearing attitudes (Diener & Kim, 2004; Kårstad et al., 2015). In this sense, parent's behaviors that were not assessed in this study such as warmth and control can be confounding variables that contribute to the co-occurring changes in child characteristics and socioemotional developmental outcomes.

Finally, in this correlational study, the internal validity was lower compared to experimental studies and cross-sectional research design of the present study does not allow to determine the directionality of the relationships between individual child characteristics and developmental outcomes. For instance, while it is possible to argue that language development enhances child's social competence, social competence might also contribute to child language development. In a similar vein, while emotion comprehension skills can contribute to children's social adjustment, it is also likely that socially adjusted children have more opportunities for social interaction in their family and school environment, which may increase their emotional awareness and knowledge. While there were longitudinal studies indicating that early emotion comprehension skills predict later prosocial behaviors (Ensor et al., 2011), more studies with longitudinal design are needed to better understand the directionality between the variables and detect underlying mechanism between child characteristics and developmental outcomes.

Despite its weaknesses, the strengths of the present study should also be acknowledged. Evaluation of temperament by mothers and indicators of socioemotional development by teachers was one of the strengths. Besides, testing language development and emotion comprehension skills individually with children can be considered as another strength that the present study had. With this approach that takes data independence principle into account, more accurate description of the magnitude of the relationships between the study variables was enabled (Campbell & Fiske, 1959). Further, TEC that was used to assess emotion comprehension evaluates a wide range of skills ranging from recognition of emotions from facial expressions to understanding situations, beliefs, and desires that give rise to emotional experience, knowledge of emotion display rules, and prediction of emotions that may be experienced as a result of the violation of societal norms (Pons & Harris, 2000). TELD-3:T that was also utilized in the present study is a valid and reliable measure of 2-7 year-old children language skills that has widely been used in research (Topbaş & Güven, 2011).

In conclusion, this study examined socioemotional development in the preschool period, a critical factor for school readiness, and revealed the unique predictive role of temperament, language development, and emotion comprehension skills for social competence and behavior problems. The findings of the present study have a potential to guide programs that support social adjustment and school readiness.

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