

Article

Young Children's Social Competence and Peer Exclusion in Early Childhood Education and Care: The Role of Gender

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Abstract

Social competence in early childhood is a foundational, multifaceted construct and a strong predictor of academic and behavioral outcomes. Difficulties in this domain are often linked to challenges in forming positive peer relationships. The present study investigates the association between children's social competence and peer exclusion, while examining the effect of gender in both domains. Participants were 312 children (3–5 years old) from 39 early childhood education and care classrooms in Greece. Construct validity for the adapted version of the Social Behavior Scale was initially established, supporting its proposed three-dimensional structure, comprising emotional competence, social engagement, and aggressiveness. Measurement equivalence across gender was also confirmed at all levels. Structural Equation Modeling revealed moderate associations between peer exclusion and two dimensions of social competence (i.e., emotional competence and aggressiveness). Gender effects were identified only for aggressiveness, with boys exhibiting slightly higher levels of aggressive behavior. Mediation analysis further revealed that gender exerted an indirect effect on peer exclusion through aggressiveness. The findings highlight the importance of addressing specific behavioral patterns, rather than gender alone, when designing interventions to foster positive peer relations and support children's social development in early childhood education and care.

Keywords: social competence; peer exclusion; early childhood education and care; social behavior scale; gender effects

1. Introduction

The early childhood education and care (ECEC) period constitutes a pivotal foundation for children's overall development, including cognitive, social, and emotional domains. ECEC classrooms, in particular, represent a critical context for the development of young children's socio-behavioral skills. As children transition from the home environment to a shared social context with peers, their ability to develop, navigate, and maintain interpersonal relationships becomes increasingly important for social integration and well-being (Campbell et al., 2016; Rubin et al., 1998). Early social interactions are especially influential, as they shape children's understanding of social norms, foster a sense of belonging, and contribute to the development of interpersonal relationships (Allen et al., 2021; Murano et al., 2020). Research indicates that children with strong social skills are more likely to form positive peer relationships, engage more actively in



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classroom learning, and transition more smoothly into primary school (McClelland et al., 2017; Murano et al., 2020).

Defining social competence, particularly during the early years, and identifying expected outcomes across developmental periods is challenging. Social competence comprises a multifaceted system of interconnected and demanding abilities that children should mobilize in real-time social situations (Campbell et al., 2016; Denham et al., 2022; Junge et al., 2020). Because social competence is inherently embedded in social contexts such as the classroom, considerable attention by research has focused on peer relationships (Hay et al., 2018; van der Wilt et al., 2025). Interactions with peers provide unique opportunities for children to practice prosocial behaviors, develop cooperation and communication skills, negotiate needs, manage conflict and its resolution, test self-regulation, and adapt to social norms (Hay et al., 2018; Reijntjes et al., 2010). However, during the early years, these skills are still emerging and not yet fully mastered. Consequently, social interactions may result in conflict and negative social experiences. This can be particularly challenging in classroom environments, where peer groups are relatively stable. Negative social interactions and unresolved conflicts may therefore lead to feelings of being disliked and, ultimately, to peer rejection in future social situations (Mercer & DeRosier, 2008).

Experiences of peer rejection have been shown to predict a range of maladaptive outcomes (van der Wilt et al., 2019). For example, children who are rejected by their peers are more likely to experience elevated levels of internalizing problems, such as anxiety, loneliness, and depressive symptoms (Reijntjes et al., 2010). Moreover, peer rejection in early childhood is not necessarily a fleeting or temporary experience, but it can rather have profound and enduring consequences for children's psychological, social, and emotional well-being, extending even into adulthood (Lorijn et al., 2022; Zimmer-Gembeck et al., 2021). Given these risks, it is essential to identify factors that may prevent peer rejection and social exclusion. In this regard, social competence is considered a critical asset for children to develop from an early age, particularly upon entering ECEC settings following their transition from the home environment (McClelland et al., 2017).

Although previous research has highlighted the importance of social competence for children's social outcomes, notable gaps remain in the literature regarding its association with peer exclusion. While social competence is commonly conceptualized as a multidimensional construct, many studies focus primarily on aggression as a predictor of peer exclusion. This narrow focus limits understanding of how other dimensions of social competence may differently relate to peer exclusion (Denham et al., 2014, 2022). Thus, findings concerning the association between emotional competence and peer rejection remain inconclusive, underscoring the need for further theoretical and empirical work to clarify the pathways linking these constructs (Clark et al., 2022; Rose-Krasnor et al., 2009). Furthermore, although the role of social competence in children's development is well established among school-age populations (Denham et al., 2014, 2022; Murano et al., 2020), considerably less is known about these processes in younger children. Finally, although a substantial body of research documents gender differences in social behavior, relatively little attention has been paid to whether gender is directly associated with peer exclusion, particularly within ECEC settings (Perhamus & Ostrov, 2023; Singletary & Johnson, 2020). To address these gaps, the present study aims to examine the association between emotional competence, social engagement, and aggressiveness with peer exclusion, as well as the potential role of gender in this relationship.

2. Conceptual Framework

2.1. The Relationship Between Social Competence and Peer Exclusion

Social competence is conceptualized as the behavioral manifestation, or enactment, of underlying emotional and regulatory abilities, rather than merely as a set of static skills (Fabes et al., 2006). Previous research indicates that children's social behavior emerges from dynamic interactions among individual emotional capacities, peer relationships, and the broader social environment (Denham, 2006; Junge et al., 2020; Rose-Krasnor, 1997). Within this framework, social-emotional competence is commonly described as comprising three core components: self-regulation, social engagement, and prosocial behavior (Lanciano et al., 2017; Rose-Krasnor et al., 2009).

Theoretical work consistently highlights emotional understanding, expression, and regulation as central processes through which children manage peer relationships (Denham, 2006; Denham et al., 2003). For instance, Campbell et al. (2016) note that social competence requires children to regulate their own emotional states, respond appropriately to the emotions of others, and communicate their needs effectively during social interactions. In early childhood classrooms, children are frequently exposed to emotionally salient situations, such as negotiating play roles, coping with frustration, and interpreting peers' intentions. The ability to manage these emotional challenges is associated with cooperative behavior and greater peer acceptance (Nakamichi et al., 2019). Conversely, deficits in emotional regulation may lead to aggressive behavior or social withdrawal (Salerni & Messetti, 2025).

Social engagement represents another central component of social competence and is particularly salient in learning-related contexts. The ability to display adaptive behavior and to resolve potential conflicts is considered fundamental to maintaining positive social interactions in early childhood and beyond (Allen et al., 2021; Murano et al., 2020). In ECEC settings, daily peer interactions occurring through collaborative activities and play provide continuous opportunities for children to practice these skills. Through such interactions, children learn to analyze social situations and select strategies for navigating social relationships (Rose-Krasnor et al., 2009). Successful peer interactions contribute to increased social confidence, effective cooperation, and the development of positive peer relationships (van der Wilt et al., 2019). Moreover, as learning and development are fundamentally rooted in social interaction (Vygotsky, 1978), fostering social engagement is particularly important in ECEC contexts. Accordingly, children with strong social skills tend to participate more actively in learning, transition more smoothly into school, and achieve greater success in the academic domain (Murano et al., 2020).

Finally, prosocial behavior constitutes a further key component of social competence and reflects children's ability to behave in cooperative and altruistic ways that promote collaboration rather than conflict (Kılıç & Aydın, 2025; van der Wilt et al., 2025). Prosocial behavior is important for both the quantity and quality of peer relationships and contributes to social acceptance and social comfort (Rose-Krasnor et al., 2009). In contrast, when empathy is limited, unwillingness to negotiate is present, and egocentric behavior predominates, social interactions may escalate into aggression. Aggression is defined as the intention to hurt or frighten another person (Navarro et al., 2024; Singletary & Johnson, 2020). Peers who experience fear or harm as a result of such interactions may subsequently avoid re-engaging with the child and exclude them from future social situations. This process can have detrimental effects, as peer rejection may further exacerbate aggressive behavior due to the absence of supportive attachment relationships (García-Bacete et al., 2019; Ho et al., 2023; Zimmer-Gembeck et al., 2021).

2.2. The Role of Gender in Social Competence and Peer Exclusion

Extensive research in early childhood has examined gender differences in social competence and peer relations, consistently demonstrating distinct patterns of social behavior between boys and girls (e.g., [Perhamus & Ostrov, 2023](#); [Singletary & Johnson, 2020](#)). Girls are typically reported to exhibit higher levels of prosocial behavior, emotional regulation, and cooperation, while boys are more often associated with elevated levels of externalizing and aggressive behaviors ([Denham et al., 2014](#); [Perhamus & Ostrov, 2023](#); [Singletary & Johnson, 2020](#)).

Gender-specific social development is particularly evident when examining the link between aggression and peer rejection (e.g., [Rys & Bear, 1997](#)). Historically, the narrow focus on boys that were more likely to show over or physical aggression than girls, led to the misconception that girls were less aggressive than boys ([Perhamus & Ostrov, 2023](#); [Van Adrichem et al., 2019](#)). Contemporary research, however, has highlighted relational aggression, defined as the intentional harm another person through social relationships ([Singletary & Johnson, 2020](#)), revealing that overall aggression levels are similar across genders when both forms are considered (e.g., [Perhamus & Ostrov, 2023](#)). The difference in the form of aggression reflects differing social priorities: boys are often concerned with physical dominance, while girls tend to prioritize their values that center to interpersonal relationships ([Gavin & Porter, 2014](#)).

Peer rejection in early childhood education poses a significant risk to children's sense of belonging and affects long-term their socio-emotional development ([van der Wilt et al., 2019](#); [Zimmer-Gembeck et al., 2021](#)). Studies have demonstrated that children who experience peer rejection are at increased risk of loneliness, reduced self-esteem, and the development of mental health issues ([García-Bacete et al., 2019](#); [Lorijn et al., 2022](#)). Both genders may be affected in this process. Boys are often rejected for overt disruptive behaviors, while girls may experience exclusion through subtler relational aggression, such as social withdrawal ([Grigoropoulos, 2022](#)).

Understanding gender differences in social competence and peer exclusion is essential in ECEC, as educators significantly influence social environments and peer relationships. Accurate assessment of children's social competence enables early identification of risk and supports the implementation of targeted interventions that facilitate inclusive peer relationships, mitigate social isolation, and enhance children's overall well-being ([García-Bacete et al., 2019](#); [Lanciano et al., 2017](#); [Molinero-González et al., 2023](#)). Acknowledging gender-specific needs is essential because it provides boys and girls with the social foundations they need to succeed academically, emotionally and interpersonally throughout life.

Figure 1 shows the conceptual framework for this study. More specifically, the framework considers peer exclusion as a relational outcome determined by children's social-behavioral skills in ECEC settings. Social competences elaborated three dimensions, namely emotional competence, social engagement and aggressiveness, each representing distinct pathways to peer exclusion. Finally, gender is included as a variable expected to have an effect on social competence and peer exclusion.

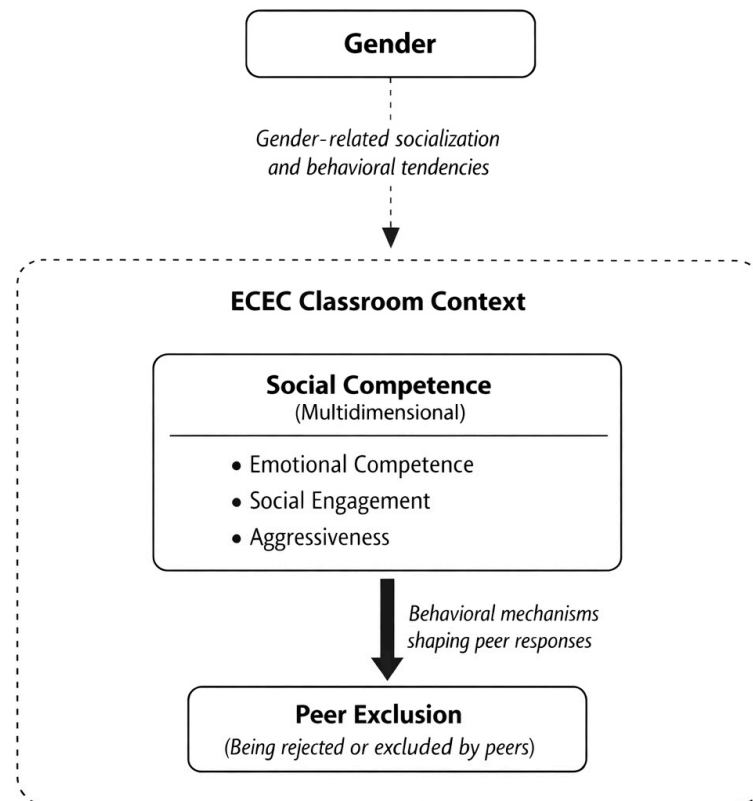


Figure 1. Conceptual framework of the association between social competence and peer exclusion.

3. Assessing Social Competence in ECEC

Examining children's social behavior competence poses challenges due to the dynamic and context-dependent nature of interactions. Previous research applied different assessment methods to evaluate children's relations and school adjustment, for example interviews, observations, and teachers'/parents' self-report questionnaires (e.g., Gregoriadis & Grammatikopoulos, 2014; Gregoriadis et al., 2022; Gregoriadis & Tsigilis, 2008; Sumatic et al., 2023; Vatou et al., 2023). While observational and task-based measures, such as the Challenging Situations Task (Denham et al., 1994), yield valuable insights into children's social problem-solving skills, teacher-report instruments can also be used to assess children's typical social behavior patterns during daily classroom interactions and can provide ecological perspectives. Moreover, informant-report scales, such as those completed by teachers or parents, are valuable and widely used tools for quantitatively assessing young children's competencies and behavior (e.g., the Child Behavior Checklist, CBC; Achenbach, 1991). However, their limitations should be acknowledged, such as some being time-consuming or presenting challenges in administration to parents (Lanciano et al., 2017).

Furthermore, in contrast to earlier generations, infants and toddlers in Western societies often experience significant social interactions with peers before formal schooling through various forms of daycare (Hay et al., 2018). Additionally, in recent decades, there has been a shift in the landscape of children's social contexts, marked by the increased media exposure. Children's average age of starting TV viewing or using apps drops to 3–5 months of age (Valkenburg & Piotrowski, 2017). Therefore, the need for reliable, newly developed measures becomes evident, in order to ensure that assessment accurately captures the multifaceted nature of children's social competence within today's evolving social contexts.

Addressing the aforementioned challenges, Lanciano et al. (2017) developed the Social Behavior Scale (SBS) which is a teacher-report measure to assess preschoolers' social behavior at school. Building on the work of Rose-Krasnor et al. (2009), researchers proposed that social behavior could be effectively measured by three dimensions, emotional competence, social engagement and aggressiveness. Emotional competence refers to children's competence to deal effectively with emotion and control inappropriate behaviors. Social engagement describes children's ability to develop affective relationships with peers and to exhibit independence from teachers. Aggressiveness underscores the degree to which children demonstrate noncompliance, aggression, impatience, and non-cooperation with peers (Lanciano et al., 2017). This approach includes essential factors that contribute to the complexity of children's social behavior. Nonetheless, additional studies are required to examine the SBS's factor validity in different educational contexts.

4. The Present Study

The present study aims to investigate the association between young children's social competence and peer exclusion in ECEC settings, while considering potential differences by gender. Specifically, the study extends existing research by examining social competence as a multidimensional construct, which allows for a more nuanced investigation of this association. To achieve this, the construct validity and measurement equivalence across gender of the Greek version of the Social Behavior Scale (SBS; Lanciano et al., 2017) are initially examined. To the best of our knowledge, this is the first study testing the functioning of the SBS in Greece. Then, the associations between children's social competence and peer exclusion are investigated, focusing on how specific dimensions of social behavior may relate to children's experiences with their peers. Finally, potential gender differences in both social competence and peer exclusion are examined, along with possible underlying effects of gender on peer exclusion through its associations with children's social behavior. In this respect, the study addresses the role of gender in shaping behavioral pathways associated with peer exclusion, an area that has received limited empirical attention in ECEC settings. Accordingly, the following research questions are postulated: (a) To what extent does the Greek version of the SBS demonstrate construct validity and measurement equivalence across gender in ECEC settings? (b) How are specific dimensions of social behavior associated with peer exclusion among young children? (c) Do gender differences exist in social competence and peer exclusion, and if so, how might gender influence their potential underlying associations?

5. Materials and Methods

5.1. Participants

The participants in the study were 312 children recruited from 18 ECEC settings located in urban areas of the prefecture of Thessaloniki in Northern Greece. Thessaloniki is the second largest city in the country. A random sample of eight children (four girls and four boys) was selected by the classroom teacher from each of the 39 classrooms. Of the participants, 53.8% were boys and 16% had an immigrant background. The age range of the children varied from 12 to 60 months ($M_{age} = 37.16$, $SD_{age} = 9.88$).

5.2. Measures

5.2.1. Children's Social Competence

The Social Behavior Scale (SBS; Lanciano et al., 2017) was used to explore children's social competence. The SBS consists of 19 items assessing social competence on three subscales: Emotional Competence, (9 items, e.g., *'The child tries to console a peer if he/she is crying'*), Social Engagement (6 items, e.g., *'The child tries to play near the peers, although*

they are engaged in different activities'), and Aggressiveness (4 items, e.g., *'The child attacks physically other children [i.e., spurs. Scratches. pulls hair]'*). Data for the social behavior of the children was provided by the teacher who had the main responsibility for each class. Responses were given on a three-point Likert scale anchored by rarely (1) to always (3).

5.2.2. Peer Exclusion

The peer exclusion dimension of the Child Behavior Scale (CBS; Ladd & Profilet, 1996) was utilized in this study to ascertain concurrent and discriminant validity for the subscales and the overall scale of the SBS. Teachers responded to six items (e.g., *'Excluded from peer activities'*), each rated on a three-point scale (1 = does not apply to 3 = certainly applies), aimed at assessing the extent to which a child experiences exclusion by their peers within the ECEC environment.

5.3. Procedures

Recruitment of ECEC teachers was conducted between April and May 2022 via email and telephone communication with preschool directors. Specifically, preschool directors organized meetings with teachers and parents where the first author had the opportunity to inform them about the purpose of the study. Participating teachers and parents signed informed consents forms on the author's first visit to the preschool. Once consent forms were obtained, eight children were randomly selected from each classroom and then, teachers filled in a form including the SBS and peer exclusion questions. All procedures performed in this study involving human participants were in accordance with the ethical standards of the university's committee and with the 1964 Helsinki Declaration.

The back-translation procedure was implemented for both SBS and CBS to ensure the accuracy and cultural appropriateness. The research team developed a Greek version of the instruments using a rigorous translation procedure that adhered to high-quality standards (Fenn et al., 2020). Initially, an independent bilingual expert translated the scales into Greek. The Greek version was then back translated by a native English speaker fluent in Greek. The research team and translators discussed any discrepancies and revised the Greek versions of the instruments as needed. Finally, the revised instruments were subjected to review by a panel of early childhood education teachers. This final step ensures the conceptual, linguistic and cultural equivalence for each item. Based on the feedback from the pilot study, minor adjustments were made to the final version to ensure that it was both linguistically accurate and contextually suitable for use in the Greek ECEC setting.

5.4. Data Analyses

To address the research questions, we employed structural equation modelling techniques. Initially, Confirmatory Factor Analysis (CFA) was employed to verify the proposed three-factor structure of the SBS (Lanciano et al., 2017). The parceling approach was utilized as suggested by the authors of the original scale and supported by previous researchers (Hau & Marsh, 2004; Lanciano et al., 2017). This approach was selected for three main reasons: (a) the purpose of our study was to verify the nature of the constructs based on a pragmatic approach rather than exploration, (b) to mitigate potential estimation issues arising from the large number of items and estimated parameters, considering the present study's sample size, and (c) to optimize the measurement of the predetermined structure of the SBS with ordinal data, which might not warrant the normality assumptions. Accordingly, we created nine parcels by randomly assigning items into parcels of their indicative dimension. The nine parcels were modeled to test the three-factor structure of the SBS (i.e., Emotional Competence, Social Engagement, and Aggressiveness) as shown in Table 1.

Table 1. Parameter Estimates of the Three-Factor Model of the SBS.

	McDonald's Omega Coefficient	Standardized Loadings	Standard Error	R ²
Emotional Competence				
P1		0.53 *	0.05	0.29 *
P2	0.97	0.76 *	0.03	0.58 *
P3		0.77 *	0.04	0.59 *
P4		0.71 *	0.04	0.49 *
Social Engagement				
P5		0.76 *	0.07	0.56 *
P6	0.94	0.47 *	0.06	0.23 *
P7		0.50 *	0.07	0.25 *
Aggressiveness				
P8	0.92	0.65 *	0.08	0.42 *
P9		0.57 *	0.07	0.33 *

Note. Standardized correlations between latent factors: *Emotional Competence* with *Aggressiveness* = -0.61 , *Emotional Competence* with *Social Engagement* = not statistically significant, *Social Engagement* with *Aggressiveness* = not statistically significant; * $p < 0.001$, P = Parcel.

As a second step, we examined for potential differences in social behavior between male and female children. For this reason, a measurement invariance test was conducted to assess the equivalence of SBS across gender and meaningfully compare the factors scores between boys and girls. Then, the relationships between the three constructs of the SBS and peer exclusion were examined using Structural Equation Modeling (SEM). All analyses were conducted in Mplus v.7.2 (Muthén & Muthén, 2015). The models' fit was assessed using the maximum likelihood method, based on the χ^2 statistic, Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA). Generally, CFI values above 0.90 are considered acceptable, while values above 0.95 indicate a very good fit. SRMR and RMSEA values below 0.08 suggest an acceptable fit, while values below 0.06 indicate a better fit (Hu & Bentler, 1999).

6. Results

6.1. Construct Validity of the Social Behavior Scale

According to the proposed theoretical framework of the SBS (Lanciano et al., 2017), a three-factor model was postulated and tested, with parcels loading onto their respective dimensions: Emotional Competence, Social Engagement, and Aggressiveness. This CFA model exhibited an acceptable fit ($\chi^2(24) = 62.51$, $p < 0.001$, CFI = 0.93, SRMR = 0.05, RMSEA = 0.07, CI 90% = [0.05–0.09]). However, inspection of the relationships between the latent factors revealed that the relationships between Emotional Competence and Aggressiveness, and Emotional Competence and Social Engagement were not statistically significant. Therefore, these relationships were constrained to zero and the model was run again. The model fit indices remained within acceptable levels ($\chi^2(26) = 66.58$, $p < 0.001$, CFI = 0.93, SRMR = 0.06, RMSEA = 0.07, CI 90% = [0.05–0.09]). As shown in Table 1, standardized parcel loadings ranged from 0.53 to 0.77 for Emotional Competence, 0.47–0.76 for Social Engagement, and from 0.57 to 0.65 for Aggressiveness. All parcels explained more than 23% of the variance of their latent factor. The relationship between Social Engagement and Aggressiveness was negative and moderate to high (estimated at -0.61), which indicates the importance of a pacific stance for engaging in social interactions. Last, the reliability of the three latent factors as estimated with coefficient McDonald's omega was high (see Table 1).

To address potential common method variance in teachers' ratings, we also tested a one-factor model to evaluate whether responses reflect a general response tendency rather than the proposed multidimensional structure of the SBS. In this model, all nine

parcels were modelled to load on a single factor that represented children's social behavior. The results of this analysis revealed that the fit of the model was significantly devalued compared to the three-factor model presented above, and most of the fit indices were not within acceptable levels ($\chi^2(27) = 238.84$, $p < 0.001$, CFI = 0.62, SRMR = 0.13, RMSEA = 0.16, CI 90% = [0.14–0.18]). Therefore, the unidimensional structure of the SBS was rejected and the presence of three latent constructs was further supported.

6.2. Gender Differences in Social Behavior

As a next step, it was examined whether the three-factor model of the SBS elicit the same response patterns across male and female children. Accordingly, the measurement invariance of the SBS across gender was examined using multigroup CFA in three consecutive levels: configural, metric, and scalar. The analyses revealed that invariance across gender hold at all levels. Specifically, the fit indices of the configural invariant model indicated that the model was not devalued compared to the baseline model when the pattern of fixed and free factor loadings was constrained to be equal across the two groups (see Table 2). Similarly, the analysis of the metric invariant model showed that the model fit was also good and not inferior compared to the configural model. Last, the most constrained model testing scalar invariance where factor loadings and intercepts were constrained to be equal across groups was also supported (see Table 2). Consequently, these tests supported that the SBS could be used to meaningfully compare the social behavior of both boys and girls as assessed by their early childhood education teachers.

Table 2. Measurement Invariance Results of SBS Across Gender.

	$\chi^2(\text{df})$	CFI	SRMR	RMSEA	$\Delta\chi^2(\text{df})$	ΔCFI	ΔRMSEA
Baseline	66.58 * (24)	0.927	0.061	0.071	-	-	-
Configural	92.77 * (48)	0.921	0.062	0.077	26.19(24) ^{ns}	−0.006	0.001
Metric	96.01 * (54)	0.926	0.068	0.071	3.24(60) ^{ns}	0.005	0.006
Scalar	103.32 * (60)	0.924	0.074	0.068	7.31(60) ^{ns}	−0.002	0.006

* $p < 0.001$, ns = not significant.

As soon as measurement invariance was established, differences in social behavior between male and female ECEC students were examined. In this respect, children's gender was modeled as a categorical predictor and regressed on the three dimensions of the SBS within a structural model. This model also had a good fit ($\chi^2(32) = 77.84$, $p < 0.001$, CFI = 0.92, SRMR = 0.06, RMSEA = 0.07, CI 90% = [0.05–0.09]). The structural relationships indicated no statistically significant effect of gender on Emotional Competence and Social Engagement, which suggest no substantial differences between male and female students in these two dimensions of social behavior. However, a statistically significant effect was observed in the case of Aggressiveness with the scores of boys being slightly higher ($M = 1.64$) than those of girls ($M = 1.54$) indicating that boys systematically express slightly more aggressive behavior than girls. The size of this effect though was found to be essentially small, with a standardized effect of gender estimated at -0.18 ($SE = 0.07$).

6.3. The Association Between Social Behavior and Peer Exclusion

The next step was to examine the potential relationship between children's social behavior and the extent to which they are excluded by their peers at school, i.e., Peer Exclusion. The fit of the latter latent construct was formerly tested and confirmed ($\chi^2(6) = 9.48$, $p = 0.14$, CFI = 0.99, SRMR = 0.03, RMSEA = 0.04, CI 90% = [0.01–0.09]). Standardized item loadings ranged from 0.42 to 0.90. The reliability of the scale, as indicated by McDonald's omega, was high ($\omega = 0.89$). In addition, the effect of gender was examined on Peer Exclusion. The results indicated no statistically significant effect, suggesting no gender

differences in Peer Exclusion, in contrast to the differences observed for Aggressiveness as described above.

Then, structural effects were modeled from the three dimensions of the SBS (i.e., Emotional Competence, Social Engagement, and Aggressiveness) on the latent factor representing Peer Exclusion. The fit of this structural model was good ($\chi^2(93) = 181.11$, $p < 0.001$, CFI = 0.94, SRMR = 0.07, RMSEA = 0.05, CI 90% = [0.04–0.06]). Inspection of the results revealed that two of the three dimensions of children's social behavior (i.e., Social Engagement and Aggressiveness) had an effect on Peer Exclusion at the 0.05 level. Notably, both associations were moderate: Social Engagement with Peer Exclusion = -0.43 (SE = 0.07); and Aggressiveness with Peer Exclusion = 0.49 (SE = 0.08). On the other hand, Emotional Competence was not found to be related to Peer Exclusion. These results confirmed the hypothesis that lack of social skills to engage in interactions with peers and behavior that is aggressive rather than gentle and pacific might be a threat for being excluded from peers in the social environment of the school. However, the assumption that children's capacity to engage with peers (i.e., emotional competence) is related to acceptance by others was not supported. Finally, considering the previous findings regarding the gender differences found in Aggressiveness, the strong association between Aggressiveness and Peer Exclusion, and the absence of a direct effect of gender on Peer Exclusion, it was of scientific merit to examine any potential indirect effect of gender on Peer Exclusion through Aggressiveness (see Figure 2). The analysis revealed that this indirect effect was statistically significant at the 0.05 level with the total indirect effect estimated at -0.08 (SE = 0.03). This finding indicates that, although gender was not directly associated with Peer Exclusion, higher levels of Aggressiveness among boys may have contributed in turn to an increased likelihood of experiencing peer exclusion.

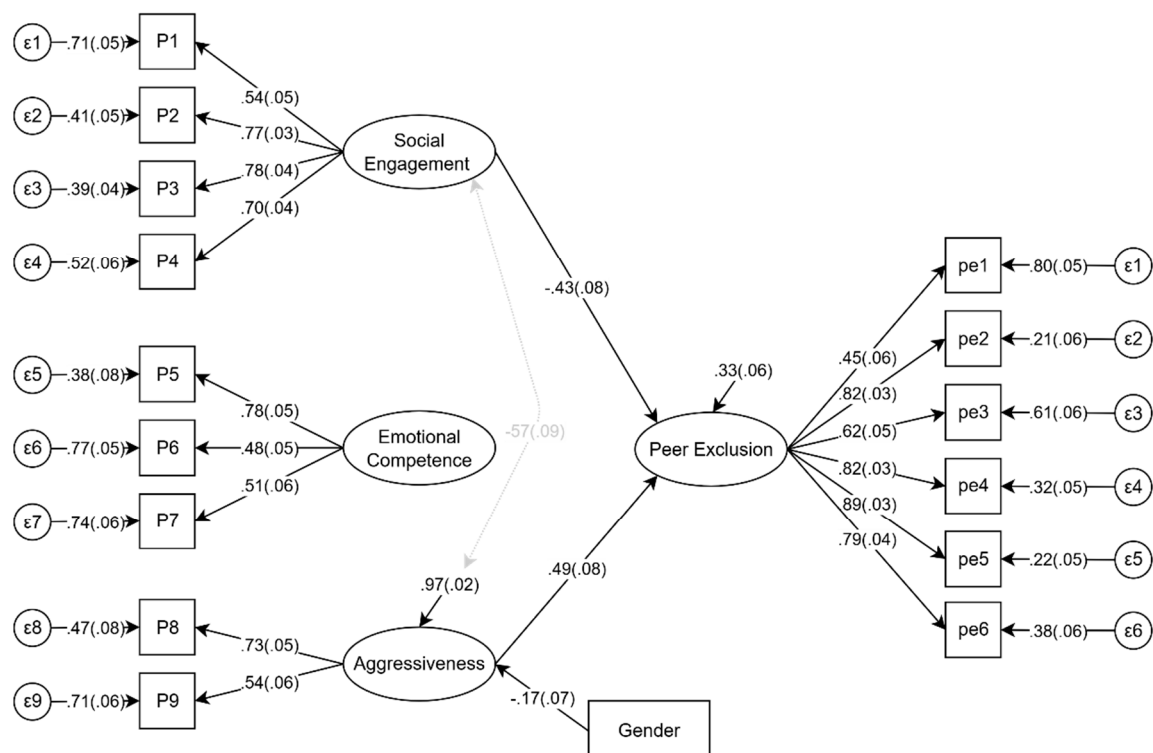


Figure 2. The Final Model Illustrating the Pathways Between Gender, Social Behavior, and Peer Exclusion. Note. Only statistically significant pathways at the 0.05 level are shown. Numbers represent standardized parameter estimates with standard errors in parentheses. The indirect effect of gender on Peer Exclusion through Aggressiveness was statistically significant and estimated at -0.08 (SE = 0.03). The negative estimate reflects the coding of gender (boys = 0, girls = 1).

7. Discussion

This study examined the association between young children's social competence and peer exclusion in Greek ECEC settings. The relationship of each dimension of social competence was tested separately to provide a more nuanced understanding and distinguish between proximal and distal predictors of peer exclusion. The study also examined the role of gender within this relationship. The findings may help practitioners develop greater awareness of the complex socio-behavioral processes underlying peer exclusion and support timely interventions to address risk behaviors. For example, educators may implement strategies to support the regulation of aggressive behaviors, particularly among boys, and create opportunities for positive social engagement through calm, cooperative play and guided activities.

7.1. Factor Structure of Social Behavior Scale

To address this aim, initially, the construct validity of an adapted version of the SBS (Lanciano et al., 2017) was examined within the Greek ECEC context. The results supported the proposed three-dimensional structure of social behavior, comprising Emotional Competence, Social Engagement, and Aggressiveness. The successful adaptation of the SBS underscores the robustness of the scale and supports its transferability beyond the Italian educational setting in which it was originally developed. It is worth noting though that the interrelations among the latent factors presented a somewhat different pattern in this study compared to the original study (Lanciano et al., 2017).

Specifically, our results indicated a relatively strong association between Social Engagement and Aggressiveness, but no significant interrelationships between the other latent constructs. In contrast, the original study (Lanciano et al., 2017) reported no relationship between Social Engagement and Aggressiveness, a moderate relationship between Emotional Competence and Social Engagement, and a small relationship between Emotional Competence and Aggressiveness. This different pattern could be explained through the lens of culture (e.g., Gregoriadis & Tsigilis, 2008). Most of the research on socio-emotional competence has been conducted in Western contexts, which tend to be characterized as individualistic cultures (e.g., Denham et al., 2022). However, the research from Eastern collectivistic countries is limited. Greece, for example, is a semi-collectivist country where close family bonds and a focus on emotional interdependence are emphasized, and where interconnectedness among individuals is prioritized (Vatou et al., 2025). For instance, while emotional expressiveness is valued within Greek ECEC context, there is also an expectation of self-regulation and respect (Gregoriadis et al., 2021). When it comes to measuring emotional competence based on teacher ratings, researchers should consider that a teacher's evaluation of "appropriate" emotional expression is significantly shaped by prevailing cultural norms (Chen et al., 2019). Therefore, this cultural dynamic can create a mismatch between a child's behavior and the expectations embedded in a standardized assessment tool which may be based on foreign, individualistic cultural assumptions.

7.2. Social Competence as a Multidimensional Predictor of Peer Exclusion

In relation to the association between young children's social competence and peer exclusion, which was the focus of this study, the results revealed distinct patterns across the dimensions of social competence. Of the dimensions examined, aggressiveness was the strongest predictor of peer exclusion, which is consistent with extensive research identifying aggressive and disruptive behaviors as primary antecedents of rejection across developmental stages (Clark et al., 2022; Navarro et al., 2024; van der Wilt et al., 2025). From a sociocultural perspective, aggressive behavior disrupts shared activities and undermines the cooperative norms that structure peer interactions in early childhood classrooms,

thereby increasing the likelihood of exclusion by peers (Kılıç & Aydın, 2025; van der Wilt et al., 2019). Contrary, social engagement was found to be associated with peer exclusion. This finding could suggest that children who participate more in peer activities are less likely to be excluded. Moreover, this finding supports Vygotsky's idea that shared activities are essential key for development (Vygotsky, 1978) and is consistent with recent research suggesting that social engagement supports children obtain acceptance and a sense of belonging in ECEC settings (Allen et al., 2021; Nakamichi et al., 2019). In this vein, children who develop and maintain positive peer interactions more frequently gain social networks, which in turn reduces their vulnerability to exclusion (Denham et al., 2014).

Regarding the role of emotional competence, the results of this study are more nuanced. Specifically, research suggests that emotional competence is conceptualized as a foundational factor for successful social interaction (Denham, 2006). However, the present study did not show a direct association with peer exclusion. This finding is consistent with recent research suggesting that emotional competence in early years may have indirect or developmental effects on peer outcomes, especially in the absence of observable prosocial or cooperative behaviors (Clark et al., 2022; Salerni & Messetti, 2025). During this developmental stage (ages 3 to 6). Children's emotional intelligence, including the ability to recognize and label emotions, develops rapidly (Denham et al., 2022; Diebold et al., 2025). Thus, this finding implies that emotional competence might not necessarily translate automatically into negative peer outcomes such as peer exclusion. Rather, emotional competence may function as a latent or enabling capacity that becomes behaviorally relevant primarily when children engage in social interactions with peers. In this sense, emotional competence may be indirectly related to peer exclusion through more proximal social-behavioral pathways, such as social engagement or cooperative interaction (van der Wilt et al., 2019). However, this emotional competence may not yet be directly associated with behavioral regulation or effective peer interactions. Research indicates that the capacity for emotional understanding in early childhood education is only modestly associated with externalizing problems and aggression (Clark et al., 2022). Furthermore, recent research suggests that teachers' emotion coaching and peer-group processes shape children's regulatory skills over time, thereby indicating that context can scaffold behavior in ways that can mask simple bivariate links between emotion knowledge and aggression (García-Bacete et al., 2019).

7.3. The Indirect Effect of Gender on Peer Rejection

The findings supported measurement invariance of the SBS across gender in this study's context, indicating that the scale consistently measures social behavior for both male and female children. This suggests that the SBS measures core aspects of children's social and emotional behavior, regardless of gender in the Greek ECEC context. This supports the SBS is a reliable tool for assessing social competence and enables meaningful analysis of gender differences. A clear understanding of children's social competence helps teachers, parents and educational stakeholders identify where additional support or intervention may be needed (Murano et al., 2020).

Another contribution of this study is the investigation of gender role within model of peer exclusion. Consistent with the conceptual framework, gender was not directly associated with peer exclusion; rather, its influence was mediated by aggressive behavior. The effect of gender was small, with boys appearing slightly more noncompliant, irritable, and uncooperative with peers than girls. This finding aligns and prior studies indicating that, from early childhood through adulthood, boys are more likely than girls to display direct and physical aggression, such as hitting, kicking, and overt verbal attacks (Gavin & Porter, 2014; Perhamus & Ostrov, 2023; Van Adrichem et al., 2019). This may be explained through the lens of gender-based socialization, a process that often fosters tolerance, or even

active encouragement, of overtly competitive and forceful behavior in boys. Conversely, girls may be more likely to engage in relational or indirect forms of aggression, such as social exclusion (Gavin & Porter, 2014; Grigoropoulos, 2022). Similar findings have been reported in previous research in Greece examining gender difference in interpersonal interactions (Gregoriadis & Tsigilis, 2008). The absence of significant gender differences in Emotional Competence and Social Engagement may be explained by the hypothesis that contextual scaffolding and socialization processes overshadow modest or inconsistent gender differences during early childhood education (Gavin & Porter, 2014). Therefore, researchers and practitioners are suggested to be aware of different gender-specific patterns in social competence dimension, especially within the ECEC context.

Finally, the findings indicated that there was no direct effect of gender on peer exclusion. However, mediation analyses revealed that gender exerted an indirect effect on peer exclusion through Aggressiveness. This suggests that, although male children were not necessarily excluded more than female children, their slightly higher tendency to display aggressive behaviors makes them somewhat more vulnerable to rejection. In other words, it is not gender per se but the behavioral expression of Aggressiveness, which is slightly more common among boys, increases the likelihood of peer exclusion. This mechanism may be explained by previous findings suggesting that while boys tend to manifest overt/physical forms of aggression, girls may exhibit relational/indirect forms of aggression such as social exclusion or verbal bullying (Grigoropoulos, 2022). Aggression in any form though is rejected by society and violates the norms of peer groups, resulting in the disruption of positive interactions and the subsequent social exclusion of the individual concerned (Coie & Dodge, 1998). Thus, gender differences in peer rejection seem to operate through specific behavioral pathways rather than reflecting broad, general tendencies.

8. Practical Implications for ECEC

The findings of this study carry important implications for early childhood education policy and practice. First, the association between aggressiveness and peer exclusion indicates that there is a major need for early identification and support for children showing challenging behaviors. Teachers could implement positive behavior support approaches, such as ProW, SWBPS intervention programs, to help children develop self-regulation, conflict resolution, and cooperative problem-solving (Piedade et al., 2026). Second, the social engagement plays a protective role, suggesting the need to encourage active participation in peer interaction to support inclusion. Teachers should design classroom activities that promote collaboration and shared goals, including small-group projects and cooperative games. Providing target support for children who are socially withdrawn or hesitant helps them access social networks with peers and lower risk of exclusion (Allen et al., 2021). In conclusion, the findings underscore the necessity of systematic assessment of social competence in ECEC settings. Teacher-rated instruments, such as the Social Behavior Scale, are effective for identifying children at risk of peer exclusion. When combined with professional reflection, and supplementary assessment methods, these tools facilitate data-driven decision-making and prompt intervention.

9. Limitations and Further Research

While this study offers valuable insights, several limitations should be considered when interpreting the findings and identifying areas for future research. First, the study relied on teacher-rated measures to assess children's social competence and peer exclusion. Although teacher reports provide ecologically valid perspectives on classroom behavior, they may reflect subjective perceptions and may not capture situational variability in peer interactions. One could argue that teacher-reported measures of children's social behavior

might involve bias (e.g., common rater effects or teachers' tendencies to overreport positive or negative impressions of the children in their classroom), potentially affecting the validity of the scores. While this is a common limitation of informant-reported measures, it is noted that in this study, the scores were not driven by a general response tendency among teachers in our sample. Specifically, the unidimensional structure of the SBS performed significantly worse than the proposed three-factor structure, which suggests against social desirability bias. Future studies involving data from diverse sources, such as observations or parent-reported data, could add a more comprehensive perspective to children's social competence.

Second, one more limitation of this study relies on its cross-sectional design, which restricts the ability to make firm claims about causal relationships. For instance, in modeling the effects of social competence on peer exclusion, it is plausible that the opposite direction of effects may exist. For example, a child who feels excluded from the social environment and rejected by peers may, in turn, develop more aggressive behaviors as a response to feelings of non-belonging. In this respect, longitudinal studies are needed to clarify the directionality of these relationships and investigate potential underlying mechanisms. Nevertheless, the effect of gender on social competence can be considered with greater confidence, given that gender is a stable characteristic and is not expected to change as a function of the development of social behavior.

Third, the study was conducted within Greek ECEC settings, which may restrict the generalizability of the findings to other cultural or educational environments. Variations in cultural norms regarding emotional expression, behavioral regulation, and peer interaction may affect both children's behavior and teachers' assessments. Therefore, cross-cultural research is necessary to evaluate the robustness of the conceptual framework in diverse sociocultural contexts. Addressing these areas in future research will not only deepen our understanding but also contribute to efforts aimed at promoting social, emotional, and academic outcomes for young children in ECEC.

10. Conclusions

This study contributes to the field of ECEC by providing context-specific evidence on the association between young children's social competence and peer exclusion, by showing that exclusion is best understood as a relational outcome shaped by specific social behaviors, rather than by overall social competence or gender alone. Moreover, the findings indicate that aggressiveness and social engagement have distinct roles in children's peer experiences. This study concludes that gender itself is not the primary determinant of peer exclusion, but is an indirect contextual factor. Rather, it is the tendency for boys to exhibit higher levels of aggressiveness that puts them at greater risk of exclusion. Methodologically, the study reveals the construct validity of the SBS and its measurement invariance across gender (Lanciano et al., 2017) and supports its transferability beyond the Italian educational setting. Finally, the study underscores the value of behavior-focused, developmentally appropriate strategies for promoting inclusion in ECEC settings.

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Abbreviations

The following abbreviations are used in this manuscript:

ECEC	Early Childhood Education and Care
SBS	Social Behavior Scale
CBS	Child Behavior Scale
CFA	Confirmatory Factor Analysis
SEM	Structural Equation Modeling

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