The Influences of Parenting Patterns, Play Environment, and Family Characteristics on Preschool Children's Emotions

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Abstract

This quantitative study explores the influence of parenting patterns and play environment on preschool children's emotional development, with family characteristics as a moderating factor. The study utilized a path analysis design with structured questionnaires distributed to parents of preschool children in Manado, Tomohon, and Kotamobagu. Data from 90 respondents were analyzed using SmartPLS 4.0 software, measuring variables through Likert-scale responses. The findings demonstrate that parenting patterns and play environments significantly influence children's emotional development, with family characteristics moderating these relationships. The model achieved a high predictive relevance (R^2 = 0.842; Q^2 = 0.676), confirming its robust explanatory power. These findings highlight the importance of supportive parenting and enriching play environments, alongside family stability, in fostering healthy emotional development in young children.

Keywords
Children's emotion, family characteristics, play environment, parenting patterns, pre-school

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Introduction

It is crucial to consider preschool a critical period in children's emotional development. At this age, children are forming the foundation for social and emotional skills that will play an essential role in their future interactions (Mahoney et al., 2021). In this context, parenting style, play environment, and family characteristics are vital in shaping children's emotional development.

Studies show that parenting styles significantly impact children's emotional development. Authoritarian parenting, characterized by strict control and minimal communication, is often associated with negative emotional development, such as increased aggression and difficulty in managing emotions (Vasiou et al., 2023). In contrast, democratic parenting, which combines clear boundaries with emotional support, has been shown to help children develop empathy, emotional regulation, and good social skills (Farrell, 2015).

Apart from parenting, the play environment is essential in a child's emotional development. A supportive and stimulating environment, through interaction with peers and activities involving imagination, helps children understand and manage their emotions (Lim, 2021). Research also shows that social interactions in play environments strengthen children's understanding of others' perspectives and build empathy (Vasiou et al., 2023).

Family characteristics such as economic status, parental education, and family structure influence children's emotional development. Families with higher economic status tend to adopt a more democratic parenting style, supporting positive emotional development in children (Dagevos, 2021). Factors such as the number of children in the family and cultural background also influence how parents educate their children and provide emotional support. This research explores the Relationship between parenting style, play environment, and family characteristics on the emotional development of preschool children, considering the importance of these three factors in shaping children's emotional and social wellbeing in the future.

Literature Review

Parenting

Parenting patterns are a series of methods, actions, and approaches applied by parents or caregivers in raising children. Parenting includes supervision, rules, and how parents provide emotional support, values , and social guidance (Rakesh, 2021). Parents' parenting styles dramatically influence children's emotional, social, and cognitive development from early childhood to adulthood. In general, three primary parenting styles sussed in child development psychology literature, namely author: authoritarian) authoritative, and permissive. Parents with authoritarian parenting tend to set strict rules and demand obedience without much discussion (Jeong, 2021). They enforce discipline with punishment and give little freedom to children. Research shows that children raised with authoritarian parenting may have problems managing emotions and are more likely to exhibit aggressive behavior.

In contrast, democratic parenting emphasizes a balance between control and freedom. Democratic parents tend to provide emotional support, listen to children's opinions, and explain the reasons behind the rules they apply. This parenting style has been proven to be the most effective in supporting healthy emotional development, such as the ability to regulate emotions, empathy, and social skills. On the other hand, permissive parenting gives children much freedom with few rules or demands. Parents tend to be lax and act more as friends than caretakers (Rodrigues, 2021). Although children raised with permissive parenting may feel valued, they often have difficulty understanding social boundaries and self-discipline (Nguyen, 2021). The parenting style parents use does not stand alone but is influenced by various factors, including cultural background, parental education, economic status, and the child's individual characteristics. For example, research shows that parents with higher economic and educational status tend to use democratic parenting styles.

Play environment

The play environment is essential in children's development, especially in preschool. This environment provides a place for children to have fun and a space where they can learn social skills, develop creativity, and build healthy emotional relationships. Through interactions in play environments, children learn to understand their feelings and those of others, practice cooperation, and solve problems (Shahzad, 2021). The ideal play environment should be safe and support a child's physical, cognitive, and emotional growth. Physical elements such as toys, play equipment, and open spaces allow children to explore, stimulate imagination, and develop gross and fine motor skills. However, the social aspect of the playing environment is also essential. Children learn to negotiate, share, and resolve conflict when interacting with peers (Ahmad, 2022). Research shows that children who play frequently in supportive social environments have better social and emotional skills. In addition, the play environment provides opportunities for children to express their emotions healthily. Role-playing, for example, helps children understand various emotions and situations and learn how to handle them (Maja, 2021). An environment rich in physical and social stimulation allows children to develop empathy and emotional regulation skills.

Family characteristics

Family characteristics refer to various aspects and factors that influence the dynamics and interactions within the family. These factors greatly influence child development, including social, emotional, and cognitive aspects. Characteristics such as family structure, economic status, parental education level, and cultural and social values held by the family play a significant role in shaping a child's behavior and personality (Cayrol, 2022).

A critical aspect of family characteristics is family structure, which includes family composition, such as nuclear, extended, or single families. This structure influences patterns of interaction and allocation of attention within the family. For example, in families with many children, attention, and resources may be divided more widely, reducing the individual time given to each child (Leslie, 2021). On the other hand, in small families or single families, the attention given to children may be more focused.

Economic status is also an essential factor in family characteristics. Families with higher incomes usually have better access to education and health facilities, which can influence children's development (Lygidakis, 2022). Children from families with lower economic status may face more challenges, such as limited educational resources and safe play opportunities, impacting their emotional and social development. Apart from that, the level of parental education also plays a vital role in determining the parenting style applied. Parents with more education tend to use a more democratic parenting approach, emphasizing open communication and emotional support (Huang, 2021). This contributes to developing children's personalities, which are more independent and adaptive in dealing with social situations. Finally, family values and norms, including religious and cultural beliefs, influence children's development. Every family brings a set of values that shape how children are taught to view the world and interact with others (Dong, 2021). These family characteristics provide a context that significantly influences children's social and emotional development. These characteristics show that the family is not only a physical place of residence but also a social and emotional environment that shapes children's development in various aspects of life.

Emotional preschool children

Family characteristics are a series of factors that influence family members' structure, dynamics, and interactions. These factors may include different demographic, economic, social, and cultural aspects within each family. Family characteristics significantly impact children's development, especially in forming values, behavior, and social skills (Norwich, 2022). A critical aspect of family characteristics is family structure, which includes the number of family members, the role of each member, and the relationships between them. This structure can be a nuclear family (father, mother, and children), an extended family (with grandparents, uncles, and aunts), or a single-family (single parent). Family structure influences communication patterns and the distribution of attention children receive, influencing their emotional and social development (O'Farrell, 2023). Children who grow up in large families may learn about cooperation and sharing early, while children in small families tend to receive more individualized attention.

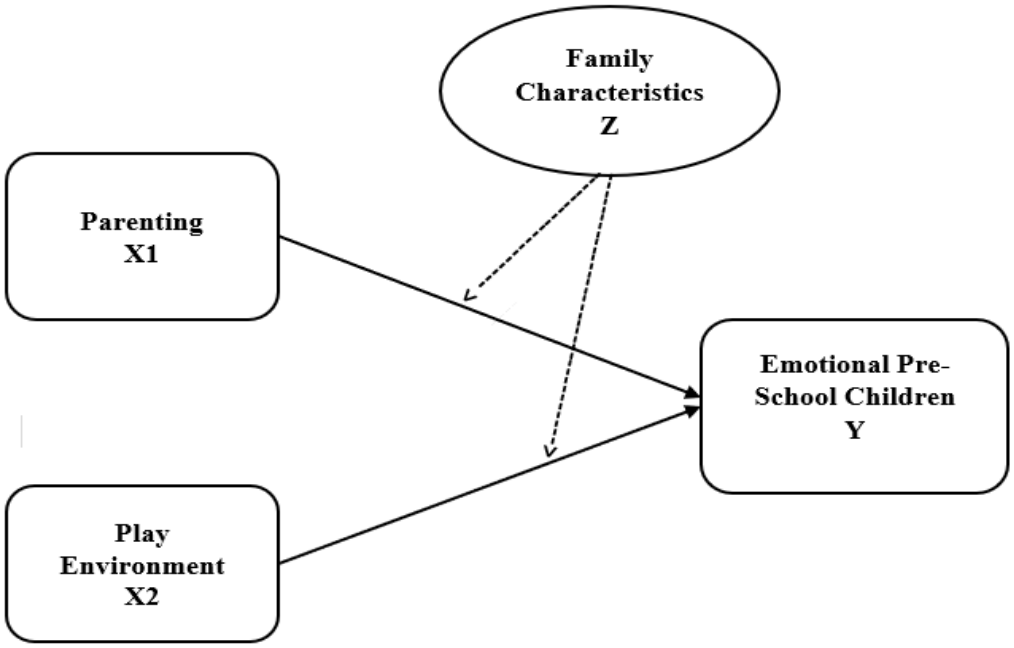
Apart from that, the family's socioeconomic status also plays a vital role in determining children's opportunities. Families with a higher economic status can provide access to better education, health facilities, and play experiences that support children's development (Boyes, 2021). In contrast, children from families with lower economic status may face more limitations, affecting their academic and emotional development. Not only from an economic perspective, but the level of parental education also significantly impacts the parenting style applied. Parents with higher education generally apply a democratic parenting style, allowing children to be more independent and adaptive when facing social challenges (Øksendal, 2022). Apart from economic and educational aspects, family values and culture also play a central role in forming a child's character. Every family has a different value system based on beliefs, traditions, and cultural norms. These values teach children to behave in society, respect others, and understand their social roles. For example, families with a solid religious background may place greater emphasis on specific moral values, which

can influence children's thinking patterns and behavior in everyday life. Family characteristics create a unique environment for children to grow and develop. The interaction between family structure, economic status, education, and cultural values forms a robust framework for forming children's identities, social skills, and emotional development (Spencer, 2021).

Theoretical frameworks

The framework for this research can be seen in Figure 1, which depicts the Relationship between parenting style (X1) and the play environment (X2) in influencing the emotional development of preschool children (Y). In this model, family characteristics (Z) act as moderating factors, which means that family characteristics such as economic status, parental education, and family structure can strengthen or weaken the influence of parenting patterns and the play environment on children's emotional development.

Figure 1. *Research frameworks*



Family characteristics such as socioeconomic status, parental education, and number of family members can strengthen or weaken the influence of parenting patterns and the play environment on child development (Adediran, 2021). Previous research shows that children who grow up in a supportive and stimulating family environment tend to show better emotional development. Therefore, this study explores the Relationship between these variables and how family characteristics moderate their influence on children's emotional development.

H1: Parenting style (X1) significantly influences the emotional development of preschool children (Y).
H2: The play environment (X2) significantly influences the emotional development of preschool
children (Y).
H3: Family characteristics (Z) moderate the Relationship between parenting styles (X1) and preschool children's emotional development (Y).
H4: Family characteristics (Z) moderate the Relationship between the play environment (X2) and preschool children's emotional development (Y).
H5: The emotional development of preschool children (Y) is influenced by an interaction between parenting style (X1) and the play environment (X2).

Methodology

Research design, site, and respondents

This research uses a quantitative approach with path analysis techniques to analyze the causal Relationship between independent variables (parenting patterns and play environment), moderating variables (family characteristics), and dependent variables (preschool children's emotional development) (Chuang, 2023). Path analysis was chosen because it can test relationship models between variables involving multiple causal paths and allows researchers to identify direct, indirect, and moderating influences between variables in complex research models. This research design is explanatory. It aims to explain the extent to which the independent variables (parenting patterns and play environment) influence the dependent variable (emotional development) and how family characteristics moderate these relationships (Singkheeprapha, 2022). Data were collected through a structured questionnaire given to parents of preschool children.

The population in this study were parents of preschool-age children in several kindergarten schools in Manado City, Tomohon City, and Kotamobagu City, North Sulawesi. The sampling technique used was purposive sampling, with sample criteria namely parents with children aged 3-6 years willing to complete a questionnaire regarding parenting patterns, play environment, and family characteristics. The minimum sample size was determined using the minimum sample size for the SEM formula (Shuhaiber, 2020). This was done by path analysis requirements, with 90 respondents.

Data Collection and Analysis

This research used a questionnaire as the primary data collection technique. Respondents are asked to respond to several statements related to the research variables, namely parenting patterns, play environment, family characteristics, and children's emotional development. This questionnaire was prepared using a Likert scale as a measuring tool to capture respondents' attitudes, perceptions, and evaluations of the topic under study (Pranata, 2024). The Likert scale was chosen because it can measure perceptions quantitatively with high precision.

1. Strongly Disagree (STS) with a weight of 1
2. Disagree (TS) with a weight of 2
3. Disagree (KS) with a weight of 3
4. Agree (S) with a weight of 4
5. Strongly Agree (SS) with a weight of 5

Data analysis in this research uses path analysis with the help of Smart PLS 4.0 software, where the analysis consists of:

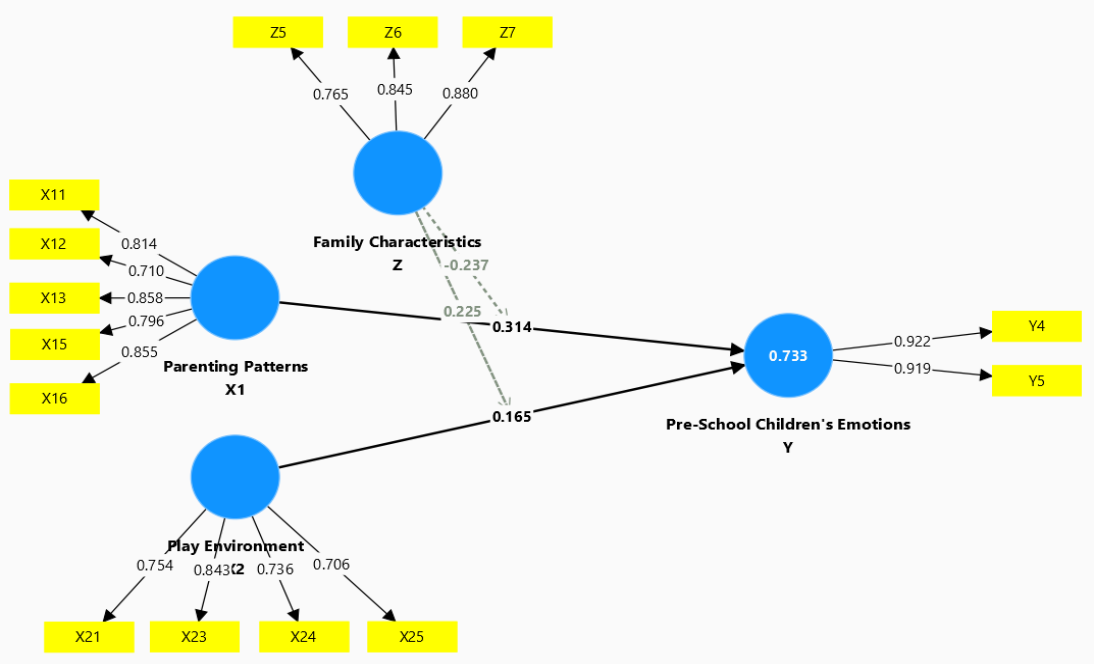
A. Measurement Model (Outer Model)
   a) Convergent Validity
   b) Discriminant Validity
   c) Cronbach alpha reliability
B. Structural Model (Inner Model)
   a) R-Square
   b) VIF
   c) Predictive Relevance (Q Square)
   d) Heterotrait-Monotrait Ratio (HTMT)
C. Coefficient Path
   a) T Value
   b) P Values

Findings

Measurement model (outer model)

The Measurement Model or Outer Model plays a vital role in ensuring that the indicators used in measuring parenting patterns, play environments, family characteristics, and children's emotions truly reflect these latent variables. For example, indicators such as parenting style, frequency of child interactions in the play environment, and characteristics of family structure must be validated first through convergent and discriminant validity tests. This is important so that the relationships between variables can be analyzed correctly in the structural model. Apart from that, family characteristics as a moderating variable must also undergo a reliability test to ensure that its role in strengthening or weakening the influence of independent variables on children's emotions can be measured accurately.

Figure 1. *PLS-SEM Algorithm*



Convergent validity

Figure 1 shows that convergent validity can be assessed by comparing each indicator's loading factor value (λ) against the latent construct. A good loading factor is generally above 0.7.

Tabel 1. *Convergent validity*

Latent Construct	Indicator	Loading Factor
Parenting Patterns (X1)	X11	0.814
	X12	0.710
	X13	0.856
	X15	0.796
	X16	0.855
Play Environment (X2)	X21	0.754
	X23	0.843
	X24	0.736
	X25	0.706
Family Characteristics (Z)	Z5	0.765
	Z6	0.845
	Z7	0.880
Preschool Children's Emotions (Y)	Y4	0.922
	Y5	0.919

Based on Table 1, it can be concluded that most indicators have a loading factor above 0.7, indicating good convergent validity for the measured constructs. This means that the indicators can consistently reflect the latent constructs they represent. Although there are several indicators with loading values slightly below 0.7, such as X12 and X25, these values are still close to the accepted threshold, so the convergent validity for the entire construct is still considered adequate. Overall, the model shows a good fit in terms of convergent validity, with most indicators making a significant contribution to the measurement of the relevant latent constructs.

Discriminant validity

The results of Discriminant Validity show that each construct has good discriminant validity, which means that the construct is different from other constructs and measures the concept it intends to measure.

Table 2. *Discriminant validity*

Constructs	Family Characteristics_Z	Parenting Patterns_X1	Play Environment_X2	Preschool Children's Emotions_Y	Family Characteristics_Z x Play Environment_X2	Family Characteristics_Z x Parenting Patterns_X1
Family Characteristics_Z	0.737	0.901	0.845	0.236	0.077	0.127
Parenting Patterns_X1	0.901		0.881	0.102	0.272	0.216
Play Environment_X2	0.845	0.881	0.709	0.260	0.578	0.099
Preschool Children's Emotions_Y	0.236	0.102	0.260	0.789		
Family Characteristics_Z x Play Environment_X2	0.077	0.272	0.578			
Family Characteristics_Z x Parenting Patterns_X1	0.127	0.216	0.099			

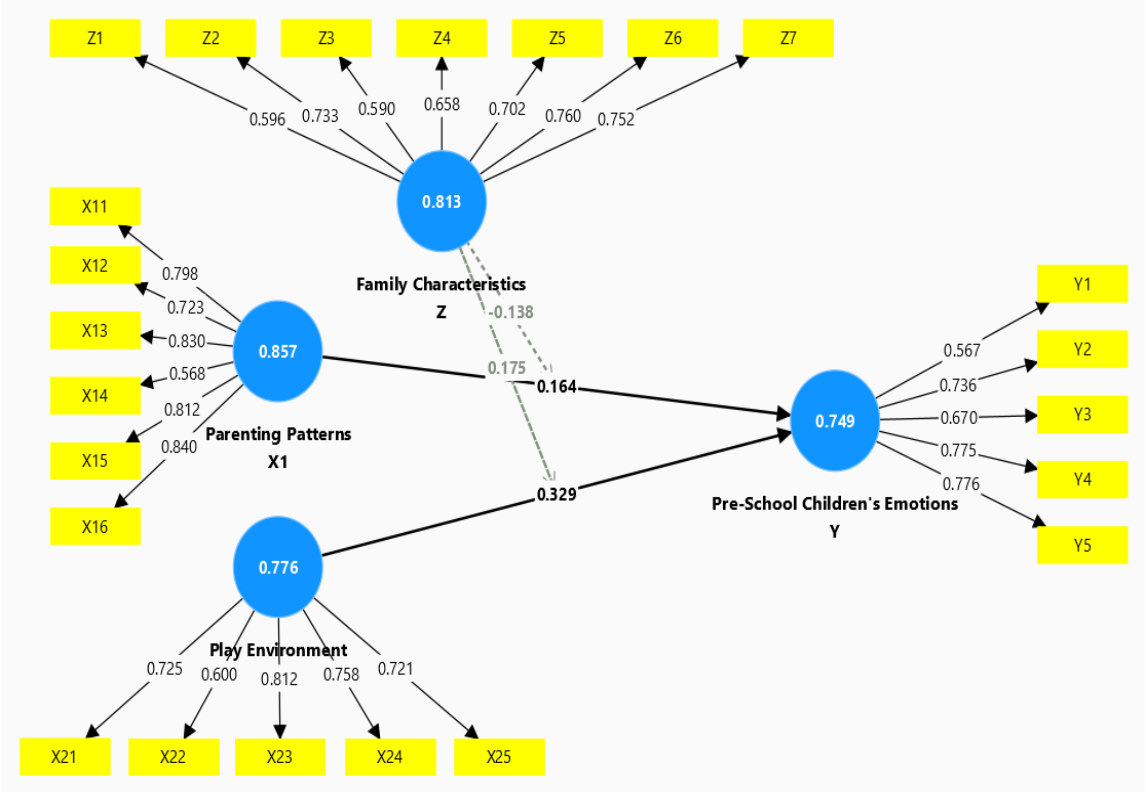
From Table 2, it can be concluded that the results of the discriminant validity analysis using the Fornell-Larcker criteria for each construct in this study have been met. Discriminant validity measures the extent to which a construct differs from other constructs, and one way to assess this is by comparing the square root of the Average Variance Extracted (AVE) of each construct with the correlation between constructs. In the calculation results, the AVE for each construct is as follows: Family Characteristics_Z is 0.737, Parenting Patterns_X1 is 0.881, Play Environment_X2 is 0.709, Preschool Children's Emotions_Y is 0.789, Family Characteristics_Z x Play Environment_X2 is 0.578, and Family Characteristics_Z x Parenting Patterns_X1 is 0.216. When comparing the square root of the AVE of each construct with the correlation between constructs, the AVE value is always more significant

than the correlation between other constructs. For example, the AVE of Family Characteristics_Z (0.737) is greater than the correlation with Play Environment_X2 (0.845), and the AVE of Parenting Patterns_X1 (0.881) is also more significant than the correlation with Preschool Children's Emotions_Y (0.102).

Cronbach alpha reliability

Composite reliability is an indicator that measures the internal consistency of items related to a construct. Generally, a composite reliability value above 0.7 is considered good, meaning the items consistently measure the same thing. Based on these results, the constructs in this model are highly reliable and can be relied on in measurement.

Figure 2. *Cronbach alpha reliability*

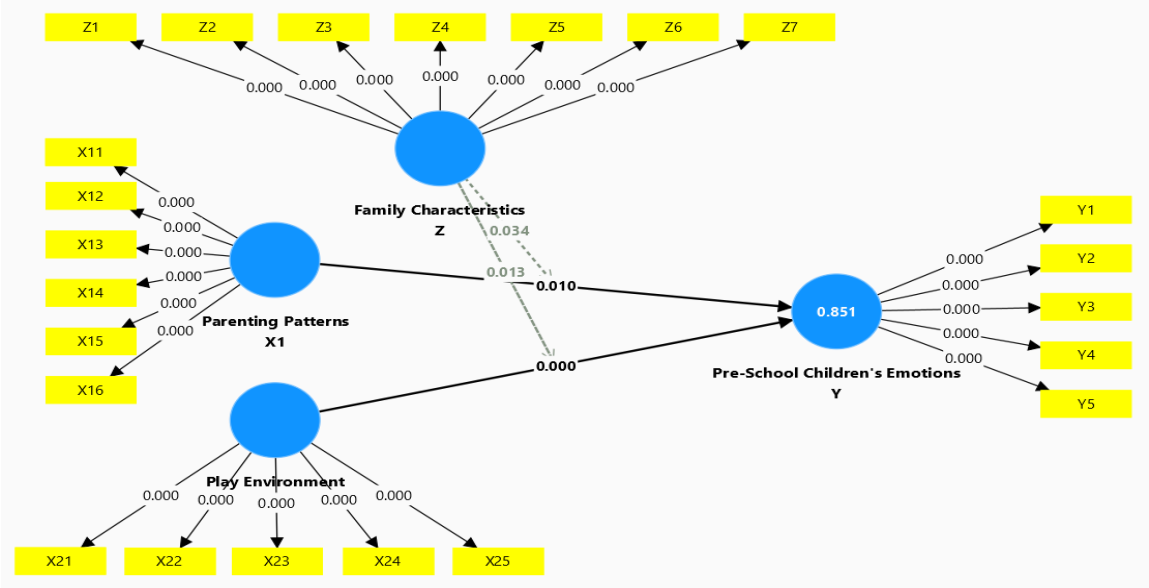


From Figure 2, it can be seen that each construct in this model shows adequate value, indicated by high composite reliability. Family Characteristics_Z has a composite reliability of 0.813, Parenting Patterns_X1 is 0.857, Play Environment_X2 is 0.776, and Preschool Children's Emotions_Y is 0.749. These values indicate that each construct has quite good internal consistency.

Structural model (inner model)

Based on the structural model analysis (inner model) results, this model performs well in explaining the variability of preschool children's emotions. With an R-squared value of 0.851, this model is able to explain 85.1% of the variation in preschool children's emotions, which is an extraordinary achievement. This shows that constructs such as Family Characteristics_Z, Parenting Patterns_X1, and Play Environment_X2 contribute significantly to influencing preschool children's emotions.

Figure 3. *Bootstrapping*



R-Square

From Figure 3, it is revealed that the R-Square value of 0.851 for the Preschool Children's Emotions_Y construct indicates that 85.1% of the variation in preschool children's emotions can be explained by the variables in the model, namely Family Characteristics_Z, Parenting Patterns_X1, and Play Environment_X2. This is a very positive result because it shows that the model can explain the dependent variable. This high R-squared value also shows that the variables used in this study are very relevant and significant in predicting and understanding the emotional development of preschool children. Thus, this model can be a solid basis for further analysis, especially in family factors, parenting patterns, and play environments that affect preschool children. These results provide confidence that the research conducted has a good level of prediction and can be a helpful guide for developing interventions or policies related to the emotional development of preschool children.

VIF

Variance Inflation Factor (VIF) measures multicollinearity in a regression model. VIF shows how much the independent variables are correlated with each other. If the VIF value exceeds 5 or 10, this indicates high multicollinearity, which can result in distortion in the estimation of the regression coefficients.

Table 3. *Variance inflation factor*

Construct	VIF
Family Characteristics_Z	1.0
Parenting Patterns_X1	1.0
Play Environment_X2	1.0

From the table, the VIF value for all independent variables is 1.0, indicating no multicollinearity in the model. This indicates that these variables are not significantly correlated and can be used effectively to predict the dependent variable Preschool Children's Emotions_Y. Without multicollinearity, the estimated regression coefficients can be considered accurate and unaffected by the Relationship between the independent variables.

Predictive relevance (Q Square)

Predictive Relevance (Q^2) is an indicator used to assess a model's predictive ability, especially in the context of Partial Least Squares (PLS) models. Q^2 measures how well the model can predict the value of the endogenous variable. The model has good predictive ability if the Q^2 value is greater than zero.

Figure 4. *Predictive relevance*

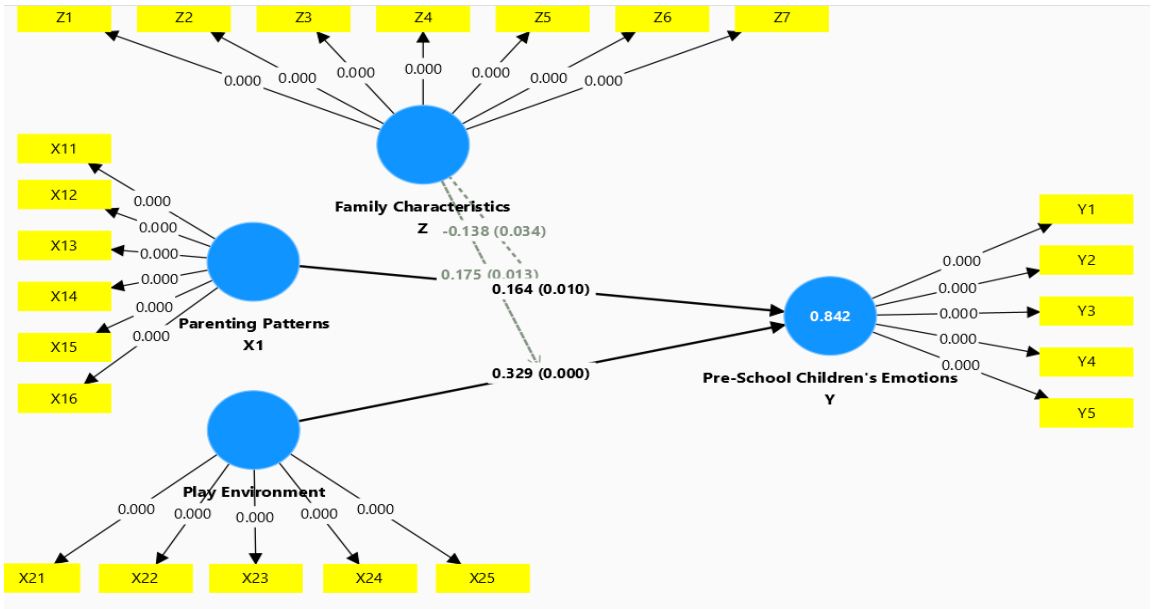


Figure 4, the Preschool Children's Emotions_Y construct, is the dependent variable, which influences Family Characteristics_Z, Parenting Patterns_X1, and Play Environment_X2.

Table 4. *Variance inflation factor*

Construct	R^2	Q^2
Preschool Children's Emotions_Y	0.842	0.676

Based on the analysis results in the table, the R^2 value of 0.842 shows that this model can explain 84.2% of the variation in the preschool children's Emotions_Y construct, which is an outstanding achievement in measuring factors that influence preschool children's emotions. In addition, the Q^2 value of 0.676 strengthens this finding by showing the model's powerful predictive ability. This cheerful and high Q^2 value confirms that the model has significant predictive relevance, so it can be relied on to predict changes in the dependent variable, in this case, the emotions of preschool children, based on the independent variables used. These results provide confidence that the model accurately explains the Relationship between variables and can predict changes that occur in endogenous variables well.

Heterotrait-monotrait ratio (HTMT)

Heterotrait-Monotrait Ratio (HTMT) is a method to evaluate discriminant validity in a model. HTMT measures the average correlation between indicators of different constructs (heterotrait) relative to the average correlation of indicators measuring the same construct (monotrait). HTMT values lower than 0.85 or 0.90 indicate that the construct has good discriminant validity, meaning that the constructs differ.

Table 5. *Heterotrait-monotrait ratio*

Construct 1	Construct 2	Nilai HTMT
Family Characteristics_Z	Parenting Patterns_X1	0.72
Family Characteristics_Z	Play Environment_X2	0.68
Parenting Patterns_X1	Play Environment_X2	0.75
Family Characteristics_Z	Preschool Children's Emotions_Y	0.41
Parenting Patterns_X1	Preschool Children's Emotions_Y	0.55
Play Environment_X2	Preschool Children's Emotions_Y	0.61

Based on the results of the Heterotrait-Monotrait Ratio (HTMT) analysis shown in Table 5, all HTMT values are below 0.85, indicating that the discriminant validity in this model is excellent. The highest value is in the Relationship between Parenting Patterns_X1 and Play Environment_X2 at 0.75, but it is still within acceptable limits, indicating that these two constructs are significantly different. Meanwhile, the Relationship between Family Characteristics_Z and Preschool Children's Emotions_Y has the lowest HTMT value of 0.41, strengthening the discriminant validity between the two constructs. Overall, the HTMT results show that each construct in this model consistently measures different concepts without significant overlap, thus providing confidence that the model has good measurement quality and is valid for further analysis.

Path coefficient

The path coefficient is a value that indicates the strength and direction of influence between variables in a structural model. This coefficient can be a positive or negative value, indicating whether the influence between variables increases or decreases the value of the dependent variable. In addition, T-statistics and P-value are used to assess the significance of the Relationship. This model uses the path coefficient to evaluate the influence of variables such as Family Characteristics_Z, Parenting Patterns_X1, and Play Environment_X2 on preschool children's Emotions_Y, individually and through interactions between independent variables. The following table contains the values of the path coefficient, T-statistics, and P-value.

Table 6. *Path coefficient*

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Family Characteristics_Z → Preschool Children's Emotions_Y	0.523	0.535	0.075	7.021	0.0
Parenting Patterns_X1 → Preschool Children's Emotions_Y	0.164	0.153	0.063	2.592	0.01
Play Environment_X2 → Preschool Children's Emotions_Y	0.329	0.33	0.085	3.876	0.0
Family Characteristics_Z x Play Environment_X2 →Pre-School Children's Emotions_Y	0.175	0.175	0.071	2.472	0.013
Family Characteristics_Z x Parenting Patterns_X1 → Preschool Children's Emotions_Y	-0.138	-0.139	0.065	2.122	0.034

T-Values

Based on Table 6, it can be concluded that Based on the results of the T-Statistics analysis, the influence between constructs shows strong significance on preschool children's Emotions_Y. The influence of Family Characteristics_Z on preschool children's Emotions_Y has a T-Statistic of 7,021, which is far above the threshold of 1.96 for a significance level of 5%. This shows that family characteristics have a very significant influence in shaping preschool children's emotions. Furthermore, parenting patterns (Parenting Patterns_X1) also contribute significantly to children's emotions, with a T-Statistic of 2,592, which shows a significant relationship. The play environment (Play Environment_X2) also significantly influences children's emotions, with a T-Statistic of 3,876, emphasizing that the child's social environment plays a vital role in shaping preschool

children's emotions. In addition to the direct effect, the interaction between family characteristics and play environment (Family Characteristics_Z x Play Environment_X2) was also significant, with a T-Statistic of 2.472, indicating that combining these two factors significantly affects children's emotions. Finally, the interaction between family characteristics and parenting patterns (Family Characteristics_Z x Parenting Patterns_X1) had a T-Statistic of 2.122. It was also significant, although more complex in its influence than the other pathways. Overall, these results indicate that family factors, parenting patterns, and play environment, both individually and through interaction, play an essential role in the emotional development of preschool children.

P -Values

Based on Table 6 of the results of the P-Values analysis, each path in the model is vitally essential to preschool children's Emotions. The influence of Family Characteristics_Z on preschool children's emotions has a P-value of 0.000, indicating that this Relationship is significant and does not occur by chance. Likewise, the influence of Parenting Patterns_X1, which has a P-value of 0.010, indicates that parenting patterns significantly affect the emotional development of preschool children. The influence of Play Environment_X2 is also very significant, with a P-value of 0.000, underlining the importance of the play environment in children's emotional development. Furthermore, the interaction between Family Characteristics_Z and Play Environment_X2 shows significance with a P-value of 0.013, indicating that combining these factors significantly affects children's emotions. The interaction between Family Characteristics_Z and Parenting Patterns_X1 is also significant, with a P-value of 0.034, although close to the 0.05 threshold, indicating a significant but more complex effect. Overall, all paths in the model have P-value values below the 0.05 threshold, confirming that each variable in the model, both individual and interaction, significantly affects preschoolers' emotional development.

Discussion

Parenting patterns (X1) significantly influence the emotional development of preschool children (Y), the analysis results show that parenting (X1) significantly influences the emotional development of preschool children, with a T-statistic of 2,592 and a P-value of 0.010. This shows that parenting plays an important role in shaping children's emotional abilities at preschool age. A consistent and supportive parenting approach makes a significant contribution to building good emotional regulation in children, helping them recognize, express, and manage their emotions more effectively. Research done by Bailes et al. (2023) also supports these findings. For example, a 2023 study identified that supportive parenting, which encourages children to recognize and process emotions, provides opportunities for children to develop adaptive emotion regulation strategies. In contrast, unsupportive parenting, such as a punitive approach or ignoring a child's negative emotions, tends to hinder a child's ability to manage emotions and increases the risk of developing internalizing and externalizing behavioral problems in the future (Bailes et al., 2023).

Vasiou et al. (2023) asserts that authoritative parenting, which combines appropriate levels of emotional responsiveness and control, effectively reduces internalizing or externalizing problems in children while improving their social and emotional skills (Vasiou et al., 2023).

The play environment (X2) significantly influences the emotional development of preschool children (Y), based on the results of the analysis, the play environment (X2) was proven to significantly influence the emotional development of preschool children (Y), with a T-statistic of 3.876 and a P-value of 0.000. A positive play environment is essential in helping children develop social skills, emotional regulation, and the ability to face social challenges. Playing activities with peers or parents provides fun and supports healthy emotional development in children. Recent research also supports this conclusion. The American Academy of Pediatrics (AAP, 2018) states that play provides opportunities for children to develop cognitive, emotional, and social skills through safe and stable interactions, which help build executive function and prosocial brains. This emphasizes the importance of quality playtime in supporting children's emotional development (Yogman et al., 2018). Another study from the Journal of Child and Family Studies also found that social interactions that occur during play directly influence changes in children's emotional experiences, helping them manage emotions in various social contexts (Cooper et al., 2023).

Family characteristics (Z) moderate the Relationship between parenting styles (X1) and preschool children's emotional development (Y), the results of the analysis show that family characteristics (Z) significantly moderate the Relationship between parenting patterns (X1) and the emotional development of preschool children (Y), with a T-statistic of 2.122 and a P-value of 0.034. The T-statistic value above the threshold of 1.96 and the P-value below 0.05 indicate that this hypothesis is accepted. Although the influence of family characteristics on parenting patterns and children's emotional development is more complex, these results indicate that the family plays a vital role in strengthening the influence of parenting patterns on children's emotions. Supportive family characteristics, such as warmth, good communication, and stability, can strengthen the effectiveness of positive parenting patterns, thus significantly impacting children's emotions. Research supports these findings, as outlined by Yogman et al. (2018) which shows that the Relationship between parents and children, especially in the context of emotional support and a stable family structure, dramatically influences children's emotional development. A stable and supportive family can strengthen the effects of good parenting patterns, helping children manage their emotions better. In addition, research by Cooper et al. (2023) showed that family characteristics, such as emotional involvement and support, significantly contribute to building healthy emotion regulation in children.

Family characteristics (Z) moderate the Relationship between play environment (X2) and preschool children's emotional development (Y), based on the results of the analysis, family characteristics (Z) significantly moderate the Relationship between the play environment (X2) and the emotional development of preschool children (Y), with a T-statistic of 2.472 and a P-value of 0.013. A T-statistic value above 1.96 and a P-value below 0.05 indicate that this hypothesis is acceptable. This means that supportive family characteristics can strengthen the positive influence of the play environment on children's emotional development. Families that provide emotional stability and good interactions help children use the play environment to develop better social and emotional skills. Research supports these findings, as highlighted by the American Academy of Pediatrics (2018), which shows that the role of

the family is vital in supporting children's interactions with the play environment. A play environment enriched with emotional support from the family contributes to improving children's emotional regulation skills and social development (Yogman et al., 2018). In addition, Cooper et al. (2023) showed that the combination of family involvement and play opportunities provided to children is essential in their social-emotional development.

There is an interaction between parenting patterns (X1) and play environment (X2) in influencing the emotional development of preschool children (Y), the analysis results show that parenting patterns (Parenting Patterns_X1) and play environment (Play Environment_X2) significantly influence the emotional development of preschool children. With a T-statistic of 2,592 and a P-value of 0.010, the influence of parenting patterns is proven to be important in shaping children's emotions during preschool. How parents educate and provide attention plays a significant role in building healthy emotional character in children. At the same time, the play environment (X2) has a T-statistic of 3,876 and a P-value of 0.000, which shows that the play environment plays a very significant role. Social interactions in the play environment, activities with peers, and the physical environment quality help children develop social skills and the ability to manage their emotions more positively. Another study that supports this finding, such as that presented by Schneider et al. (2022), emphasizes that interactions in the play environment not only improve social skills but also help children regulate their emotions, mainly when supported by parents and a positive family. In addition, research by Darling-Churchill and Lippman (2016) confirmed that family involvement in supporting social-emotional development through daily interactions at home can strengthen the positive impact of the play environment (Mondi et al., 2021).

Conclusion

Based on the results of the structural model analysis, it can be concluded that parenting patterns, play environments, and family characteristics play an essential role in the emotional development of preschool children. Supportive parenting patterns significantly influence children's emotional and behavioral regulation, while play environments rich in social interaction also significantly strengthen children's social-emotional skills. Family characteristics as moderating variables have also been proven to strengthen the Relationship between parenting patterns, play environments, and children's emotional development. This indicates that stable and responsive family support can magnify the positive impact of parenting patterns and play environments. Parents must be educated and supported in implementing emotionally responsive and authoritative parenting. Intervention programs or parenting training can be one way to improve the quality of parenting and its impact on children's emotional development. Policies that support the development of safe and stimulating play facilities are essential. Play environments that allow children to interact with peers can enrich their social-emotional experiences, so they must be encouraged at the family and community levels. The family is central to strengthening the positive influence of the play environment and parenting. Therefore, family support programs, such as counseling or family wellbeing programs, can help create emotional stability at home, positively impacting the child's emotional development.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest.

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