

Developmental Profiling of Social Play, Independence, and Social Skills among Preschool Children Aged 5–6 Years

Usman^{1*}, Tahmid Madjid², Gunawan³, Arfiani⁴

¹Early Childhood Islamic Education, STAI Al-Gazali Bulukumba, INDONESIA

²Madrasah Ibtidaiyah Teacher Education, STAI Al-Gazali Bulukumba, INDONESIA

³Biology Education Study, Universitas Muhammadiyah Papua Barat, INDONESIA

⁴Mathematics Education Study Program, Universitas Muhammadiyah Papua Barat,
INDONESIA

Abstract

This research aims to map the developmental profile of social play, independence and social skills of early childhood as a basis for preparing an evidence-based developmental profile. The research uses a descriptive quantitative approach with a cross-sectional design. Data was collected through structured observation sheets which include the dimensions of parallel play, associative play, cooperative play, independence and social skills. Data analysis was carried out using descriptive statistics to describe the development trends of each construct. The research results show that the development of social play, independence and social skills is in the positive category according to the characteristics of early childhood development. The dimensions of associative play, cooperative play, and social skills show higher development than parallel play and independence. These findings produce a multidimensional developmental profile that integrates social play, independence, and social skills as an empirical baseline to support evidence-based developmental assessments and play-based learning planning in early childhood education.

Keywords: developmental profiling, social play, independence, social skills, early childhood.

* Corresponding author. E-mail addresses: usmancamming@gmail.com

Usman, U., Madjid, T., Gunawan, G., Arfiani, A. (2026). Developmental Profiling of Social Play, Independence, and Social Skills among Preschool Children Aged 5–6 Years. *Ihya Ulum: Early Childhood Education Journal*. Vol. 4(1), 814-831. <https://doi.org/10.59638/ihyaulum.v4i1.1044>

Received January 17, 2026; Revised February 20, 2026; Accepted March 29, 2026; Available online March 30, 2026.

INTRODUCTION

Social development and independence are fundamental competencies that determine a child's readiness to face learning demands, build interpersonal relationships, and adapt to the social environment from an early age (Saral & Acar, 2021). As the 21st-century educational paradigm develops, early childhood education institutions are no longer oriented only toward developing early academic abilities, but also emphasize social competence, the ability to work together, communication, self-regulation, and independence as important indicators of child development (Zhou et al., 2025). This change in orientation is based on various findings which show that social and emotional development in childhood has a close relationship with school readiness, learning success, and the child's ability to participate actively in social life (Smits-van der Nat et al., 2024). Therefore, developing social competence and independence is one of the main focuses in providing quality early childhood education (Gunning & Holloway, 2022; Huang et al., 2025).

The development of social play has become a main focus in early childhood education research because it provides a natural context for children to build social interactions, develop communication skills, and learn social norms and rules through play experiences. Play is seen as a developmental mechanism that allows children to build knowledge through direct experience, interaction with the environment, and meaningful activities (Giddens, 1964; Morris, 2020; Piaget, 2013). In line with this perspective, various studies show that play-based learning contributes to social, emotional, and cognitive development, collaboration abilities, and learning engagement in early childhood (Ardoin & Bowers, 2020; Falloon, 2019; Karno & Hatcher, 2020).

Various studies show that the quality of play activities plays a more important role than just the frequency of play in supporting early childhood development (Howard et al., 2024). Meta-analysis of Smits-van der Nat et al. (2024) shows that pretend play is positively related to children's social competence, especially when play activities encourage quality social interactions. These findings are confirmed by Alotaibi (2024) who reports that play-based learning contributes to children's cognitive, social, and emotional development, motivation, and learning engagement. In line with this, other research shows that the quality of interaction during play, meaningful communication, and an inclusive play environment are important factors in supporting children's social development, executive function, and collaborative abilities (Garaigordobil et al., 2022; Thunder et al., 2023). Thus, the effectiveness of play activities is determined more by the quality of the learning experience obtained by children rather than just the intensity of play

In particular, the development of social play takes place gradually through parallel play, associative play, and cooperative play, which is characterized by increased communication, cooperation, role division, and the achievement of common goals (Barros Blanco et al., 2022; Garte, 2020; Vazquez et al., 2019). At the same time, a learning environment that provides opportunities for children to explore, make decisions (Fang et al., 2026), and interact actively also contributes to the development of independence, self-confidence, self-regulation abilities, and social skills (Hosokawa et al., 2024; Ozen-Uyar et al., 2025). A synthesis of these findings shows that social play, independence, and social skills are aspects of development that complement each other and develop through meaningful play experiences.

However, previous research is still dominated by studies regarding the effectiveness of play-based learning, the relationship between play activities and one particular aspect of development, or the development of play assessment instruments. Studies that map the developmental profile of social play through the dimensions of parallel play, associative play, and cooperative play, and integrate them with independence and social skills in one descriptive framework are still very limited (Guo et al., 2024; Jaggy et al., 2020; Thompson & Goldstein, 2019). These conditions indicate the need to develop a multidimensional profile as an empirical basis for assessing development and play-based learning in early childhood education.

Although empirical evidence consistently shows that play activities contribute to early childhood social development, existing research directions are still dominated by three main trends. First, most research focuses on evaluating the effectiveness of play-based learning on various aspects of children's development without describing the developmental characteristics of each form of social play (Fang et al., 2026; Hasmawaty et al., 2023; Usman et al., 2024). Second, research mostly examines the relationship between play activities and one particular construct, such as social competence, cognitive development, or self-regulation, so understanding of the relationship between social play, independence, and social skills remains partial (Stucke & Doebel, 2024). Third, several studies have focused on developing and validating social play assessment instruments, but have not produced developmental mapping that describes the multidimensional profile of early childhood (Jaggy et al., 2020; Thompson & Goldstein, 2019).

Thus, the issue that remains unanswered is no longer whether play activities are beneficial for children's development, because various studies have consistently supported this. On the other hand, the knowledge gap lies in the lack of an empirical picture that maps the development of social play across the dimensions of parallel play, associative play, and cooperative play, integrated with independence and social skills in an early childhood population. In fact, this

information is needed to understand variations in children's social development more comprehensively and to provide an empirical basis for carrying out developmental assessments.

In addition, much research on parallel play, associative play, cooperative play, independence, and social skills is still carried out separately, so it is not yet able to describe children's development profiles as a whole in one descriptive framework. This condition limits the use of research results as a basis for preparing learning programs, developmental assessments, and stimulation planning based on children's developmental needs. Therefore, research is needed that compiles a multidimensional development profile by integrating the three dimensions of social play, independence, and social skills as an empirical baseline to support evidence-based assessment and the development of play-based learning in early childhood education (Gunning & Holloway, 2022).

The development of social play, independence, and social skills are three aspects that complement each other in early childhood development. Based on Parten's Social Play Theory, the development of play takes place in stages, from parallel play and associative play to cooperative play, which shows the increasing complexity of children's abilities in building interactions with peers (Parten, 1933; Rubin et al., 1976). In line with Vygotsky's sociocultural perspective, play experiences are the main context for children to learn to communicate, collaborate, and build understanding through social interaction. Meanwhile, Erikson explained that the development of independence (autonomy) in early childhood is an important foundation for children's ability to adapt and participate in the social environment (Vygotsky, 1978). Therefore, these three constructs are seen as indicators that complement each other in describing the social development of early childhood.

Based on this conceptual foundation, the research presents a profile of the development of Social Play, operationalized into the three dimensions of parallel play, associative play, and cooperative play, and maps the independence and social skills of early childhood in one integrated descriptive framework. This profile provides an empirical basis for assessing the development and design of play-based learning in PAUD.

Although studies on play-based learning have developed rapidly and consistently show that play activities support children's cognitive, social, and emotional development and readiness to learn (Garaigordobil et al., 2022), most research still focuses on the effectiveness of play-based learning or examines social play, independence, and social skills as stand-alone constructs. As a result, empirical evidence that describes the developmental profile of these three aspects in an integrated manner in one early childhood population is still limited (Usman et al., 2026). Departing from these conditions, this research offers conceptual novelty by positioning social play as a multidimensional construct,

operationalized into parallel play, associative play, and cooperative play, thereby producing a more comprehensive developmental mapping compared to previous research that viewed play activities as a general construct.

This research aims to map the developmental profile of social play, independence, and social skills of early childhood as a basis for understanding the characteristics of children's social development more fully. The resulting development profile is expected to provide an empirical contribution by providing data on children's development based on three dimensions of social play, a conceptual contribution by broadening the perspective regarding the assessment of play development as a multidimensional construct, as well as a practical contribution as a basis for PAUD teachers in designing developmental assessments, compiling play-based learning, and determining stimulation priorities according to children's developmental characteristics. Thus, this research not only enriches the body of research on early childhood development, but also strengthens the application of evidence-based practice in the implementation of early childhood education.

METHOD

Research Design

This research uses a descriptive quantitative approach with a cross-sectional design, which aims to map the development profile of social play, independence, and social skills in early childhood. This approach was chosen because it allows researchers to obtain an empirical picture of the respondents' developmental condition at one point in time without providing treatment to the variables studied. A cross-sectional design is suitable for describing the characteristics of a population based on data collected in a certain period to provide an overview of the actual conditions of the phenomenon being observed (Creswell & Creswell, 2023; Fraenkel et al., 2018). The focus of this research is not to test the relationship between variables, but rather to describe the level of development of each construct so that an early childhood development profile is obtained based on the results of observations (Cohen et al., 2009)

Research Setting and Participants

The research was carried out at several Kindergartens (TK) in Makassar City, South Sulawesi, Indonesia. The research location was chosen because it has diverse characteristics of early childhood education institutions, enabling an overview of children's development in an urban education context. The research participants were 400 children aged 5-6 years who were registered as active students at the kindergarten, which was the research location. Children were selected based on the criteria of being 5-6 years old, participating in regular

learning activities, and obtaining approval from the school to take part in the research. All observations were carried out in learning and playing situations that took place naturally (natural settings) so that the behavior observed reflected the child's daily development conditions.

Research Variables and Operational Definitions

This research maps three main constructs: social play, independence, and social skills. The social play construct consists of three dimensions, namely parallel play, associative play, and cooperative play. Parallel play describes children's play activities near peers without intensive coordination; associative play shows interaction through communication, sharing, and the use of the same game tools without a common goal, while cooperative play reflects play activities that involve cooperation, division of roles, communication, and achieving common goals (Parten, 1933; Rubin et al., 1976). The construct of independence describes a child's ability to make decisions, complete tasks independently, control emotions, show self-confidence, and adapt to the environment (Bronson & Bronson, 2001; Erikson, 2013). Meanwhile, social skills include children's ability to communicate, cooperate, share, follow social rules, and resolve conflicts positively (Elliott & Gresham, 2013; Gresham & Elliott, 1990), and observation indicators were developed in this research by Usman et al. (2026).

Research Instrument

Data were collected using a structured observation sheet arranged based on development indicators for each research construct. The instrument consists of 25 indicators, which include 15 indicators of social play (five indicators each for parallel play, associative play, and cooperative play), 5 indicators of independence, and 5 indicators of social skills. Each indicator is assessed using a four-level scale with a score range of 1–4, where a higher score indicates a better level of development. The scores for each indicator are summed to obtain a score for each construct, then converted into an average score (mean) so it can be used to describe the development profile of each variable.

Instrument Validation

The instrument used was the result of research development that underwent a content validation process by experts and was tested for construct validity and reliability before being used in the main research (Usman et al., 2026). The instrument was developed based on theoretical studies regarding social play, independence, and social skills in early childhood. Before being used in the main research, the instrument went through a content validation process

by early childhood education experts to ensure the suitability of the indicators with the construct being measured. Next, improvements to the instrument were made based on input from experts and a common perception (observer briefing) for all observers so that the observation process was carried out consistently.

Data Collection Procedure

Data collection was carried out through direct observation of children's activities during the learning and playing process at school. Before the observation was carried out, the researcher coordinated with the school principal and class teachers regarding the research implementation schedule and observation procedures. The observer then observed the child's behavior based on the indicators on the observation sheet without disturbing the learning process. After all the data has been collected, a data completeness check is carried out before entering the analysis stage.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 23 with descriptive statistics to describe the profile of social play development, independence, and social skills in early childhood. The analysis included calculating frequencies, percentages, average values (mean), standard deviation, minimum values, and maximum values to obtain an overview of trends and variations in development in each research construct (Field, 2024). To interpret the level of development of each construct, the average (mean) value was classified into developmental categories based on the four-level scale score range (1–4). In the social play construct, which includes parallel play, associative play, and cooperative play, an average value of 1.00–2.00 is interpreted as quite optimal, 2.01–3.00 as optimal, and 3.01–4.00 as very optimal. In the independence construct, an average score of 1.00–2.00 is categorized as quite independent, 2.01–3.00 as independent, and 3.01–4.00 as very independent.

Meanwhile, in the social skills construct, an average score of 1.00–2.00 is interpreted as quite good, 2.01–3.00 as good, and 3.01–4.00 as very good. This classification is used as a basis for compiling a development profile for each construct studied (Usman et al., 2026). The results of the analysis are then presented in the form of descriptive statistics and frequency distributions to provide a comprehensive picture of the development profile of social play, independence, and social skills in early childhood.

RESEARCH RESULTS

Participant Characteristics

Before analyzing the profile of social play development, independence, and social skills, the demographic characteristics of the respondents are first presented to provide an overview of the research sample. These characteristics include gender, the child's age, the parent's occupation, and the parent's education level, as presented in Table 1.

Tabel 1. Demographic Characteristics of Participants

<i>Variable</i>	<i>Frequency (n)</i>	<i>Percentage (%)</i>
Gender		
Male	207	51.75
Female	193	48.25
Child's Age		
5 years	186	46.50
6 years	214	53.50
Parents' Occupation		
Civil Servant/Military/Police	138	34.50
Small Trader	10	2.50
Self-employed	19	4.80
Laborer	3	0.80
Contract Employee	113	28.30
Private Sector Employee	117	29.30
Parents' Educational Level		
Senior High School	126	31.50
Diploma (D3)	48	12.00
Bachelor's Degree	164	41.00
Master's Degree	59	14.80
Doctoral Degree	3	0.80

Table 1 shows that the research sample has relatively diverse demographic characteristics and reflects the composition of children aged 5-6 years who were research respondents. The distribution of respondents shows a good balance based on gender and age, thus providing adequate representation of the research target group. In addition, the family's socio-economic background, which is reflected in variations in employment and parental education levels, shows that respondents come from family environments with diverse characteristics. This diversity of characteristics provides an adequate context to describe the developmental profile of social play, independence, and social skills of early childhood in the population studied.

Developmental Profile of Social Play, Independence, and Social Skills

This section presents a general overview of the development profile of all the constructs studied, namely parallel play, associative play, cooperative play, independence, and social skills. Analysis was carried out using descriptive statistics, which included the average value (mean), standard deviation, minimum value, and maximum value. The analysis results are presented in Table 2.

Tabel 2. Descriptive Statistics of Research Variables

<i>Variabel</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Category</i>
Parallel Play	400	2.55	0.590	2.00	4.00	Optimal
Associative Play	400	3.12	0.516	2.00	4.00	Very Optimal
Cooperative Play	400	3.04	0.547	2.00	4.00	Very Optimal
Independence	400	2.91	0.541	2.00	4.00	Independent
Social Skills	400	3.31	0.536	2.00	4.00	Very Good

Based on Table 2, the development profile for all research variables shows a positive trend. The average value of each construct indicates that respondents have reached a level of development consistent with the categories determined in the research. The relatively low standard deviation value indicates that the variation in scores between respondents is not too large, so that the level of development in each construct tends to be homogeneous. In addition, the range of minimum and maximum values shows that all developmental categories are represented in the study sample, indicating variations in developmental levels among children aged 5–6 years. Overall, the descriptive statistics show that the development profile of social play, independence, and social skills among respondents is at a good level, with relatively consistent data distribution.

Distribution of Development Categories

To obtain a more detailed picture of the distribution of respondents' levels of development, a frequency distribution analysis was carried out for each research variable. The results of the distribution of development categories are presented in Table 3.

Tabel 3. Distribution of Development Categories

<i>Variabel</i>	<i>Kategori</i>	<i>f</i>	<i>%</i>
Parallel Play	Quite Optimal	200	50.0
	Optimal	180	45.0
	Very Optimal	20	5.0
Associative Play	Quite Optimal	32	8.0

<i>Variabel</i>	<i>Kategori</i>	<i>f</i>	<i>%</i>
Cooperative Play	Optimal	288	72.0
	Very Optimal	80	20.0
	Quite Optimal	52	13.0
	Optimal	280	70.0
	Very Optimal	68	17.0
Independence	Quite Independent	78	19.5
	Independent	280	70.0
	Very Independent	42	10.5
Social Skills	Good Enough	15	3.8
	Good	248	62.0
	Very Good	137	34.3

Based on Table 2, the frequency distribution shows that respondents' development profiles are concentrated in the medium-to-high development category across all constructs observed. This distribution pattern indicates that the majority of children have reached a level of development appropriate to their age characteristics. In contrast, the proportion of respondents in lower development categories is relatively small. The percentage distribution in each category also shows that the development of social play, independence, and social skills is not dominated by a single level of development, but reflects reasonable variation in abilities among respondents. Thus, the frequency and percentage distribution illustrate that the development profile of children aged 5–6 years in this study tends to lead to a positive level of development with a relatively proportional distribution of abilities.

Developmental Ranking

To determine the development trend between variables, a ranking is carried out based on the average value of each construct. The ranking results are presented in Table 3.

Tabel 4. Developmental Ranking of Research Variables

<i>Rating</i>	<i>Variable</i>	<i>Mean</i>	<i>Category</i>
1	Social Skills	3.31	Very Good
2	Associative Play	3.12	Very Optimal
3	Cooperative Play	3.04	Very Optimal
4	Independence	2.91	Independent
5	Parallel Play	2.55	Optimal

Based on Table 4, the ranking is arranged based on the average value (mean) of each variable to show the relative order of the level of development

obtained by respondents. A higher average value indicates a higher level of development, while the development category is used to classify each variable's position according to predetermined interpretation criteria. Thus, the ranking provides an overview of the order of development levels of all variables observed in this study.

DISCUSSION

This research mapped the development profiles of social play, independence, and social skills among children aged 5-6 years in several kindergartens in Makassar City. The findings show that all constructs are in the positive development category, although there are variations in the level of development between the aspects observed. In general, the developmental profile shows that respondents have demonstrated social play abilities, independence, and social skills that develop in accordance with the age characteristics of children's development.

The research results show that the development of social play does not occur uniformly in each dimension. The development profile obtained shows variations in achievement between parallel play, associative play, and cooperative play, which indicates that each form of play has different developmental characteristics. On the other hand, independence and social skills also show a positive level of development, so that overall they describe a child's comprehensive social development profile.

Scientifically, these findings provide empirical evidence that development mapping using a multidimensional approach can produce a more complete picture than measurements that focus on only one aspect of development. By integrating the three dimensions of social play, independence, and social skills, this research not only presents the level of development of each construct but also shows the pattern of social development in early childhood as a unified development profile. This profile enriches empirical evidence regarding early childhood development and provides baseline evidence for developmental assessment and the design of play-based learning in early childhood education.

The development profile obtained in this research can be understood through Parten's Social Play Theory, which explains that the development of social play takes place in stages, from parallel play and associative play to cooperative play (Parten, 1933). Each form of play represents increasing complexity of social interaction, ranging from side-by-side play without intensive coordination to collaborative play with shared goals (Neal et al., 2025). Thus, the variations in developmental profiles found in the three dimensions of social play reflect the stages of social development naturally experienced by young children, not as a form of developmental delay or mismatch.

This perspective is in line with Vygotsky's sociocultural theory, which views play activities as the main context for children to develop the ability to think, communicate, and interact through relationships with peers (Vygotsky, 1978). During the play process, children not only explore the environment, but also learn to understand social rules, develop negotiation skills, share roles, and solve problems together (Józefacka & Hamamcı, 2025). Therefore, play experiences that increasingly involve social interaction are thought to contribute to the development of children's cooperative abilities and social skills (Montoya-Fernández et al., 2024).

In addition, the development of independence obtained in this research can be explained through Erikson's psychosocial development theory, especially the autonomy versus shame and doubt stage (Erikson, 2013). At this stage, children begin to develop the ability to make simple decisions, carry out activities independently, and build self-confidence through daily experiences. Play activities provide opportunities for children to choose, try, and complete various activities according to their abilities, so that this process supports the development of independent behavior along with increased social interaction (Smits-van der Nat et al., 2024). Thus, social play, independence and social skills are aspects of development that complement each other and develop through active and meaningful learning experiences (Fletcher et al., 2024).

The findings of this research are in line with various previous studies which confirm that play activities are an important context in supporting the social development of early childhood. Smits-van der Nat et al. (2024) through meta-analysis shows that the quality of pretend play is positively related to children's social competence, especially when play activities provide opportunities for children to interact, communicate and build relationships with peers (Nesbitt et al., 2023). These findings support the development profile obtained in this research, which shows that aspects of social play, independence and social skills have developed in a positive category (Coelho et al., 2025).

The results of this research are also consistent with Alotaibi (2024) who reported that play-based learning contributes to children's social, emotional, motivational development and involvement in the learning process. These similarities indicate that the play experience not only functions as a recreational activity, but also becomes a medium that supports the development of children's social abilities and independent behavior (Larsen et al., 2025; Montoya-Fernández et al., 2024). Thus, the developmental profile obtained in this study strengthens empirical evidence that play activities are a relevant learning context to support the social development of early childhood.

However, this research has a different focus compared to previous research. Most previous research has studied the influence of play-based learning on one aspect of development or analyzed the relationship between play

activities and social competence separately. In contrast, this research maps a developmental profile that integrates the three dimensions of social play, parallel play, associative play, and cooperative play along with independence and social skills in one integrated descriptive framework. This approach provides a more comprehensive picture of the characteristics of early childhood social development in the population studied.

Thus, the results of this study not only confirm previous findings regarding the importance of play activities in children's development, but also expand empirical evidence by presenting a multidimensional development profile which can be used as a basis for understanding variations in the development of social play, independence and social skills in early childhood (Fyffe et al., 2024)

The findings of this research indicate that mapping the development of social play (Neal et al., 2025), independence, and social skills provides a more comprehensive perspective in understanding the social development of early childhood compared to measurements that only focus on one aspect of development (Garaigordobil et al., 2022). By integrating parallel play, associative play, and cooperative play as dimensions that form social play, this research illustrates that the development of social play is a multidimensional construct that reflects variations in the characteristics of children's social interactions at the age of 5-6 years. This approach broadens the perspective on play development assessment, which has previously looked at play activities as a general construct.

Conceptually, the results of this study strengthen the view that social play, independence, and social skills are developmental aspects that complement each other in describing the social competence of early childhood. Even though each construct has different developmental characteristics, integrated mapping is able to provide a more complete picture of a child's developmental condition compared to measurements carried out separately. Thus, this research shows that the developmental profiling approach can be used as a descriptive framework to identify variations in children's social development more systematically.

This research contributes by compiling a multidimensional development profile that integrates social play, independence, and social skills into a single descriptive analysis framework. These findings produce a baseline developmental profile as a basis for developing evidence-based developmental assessments and show that combining descriptive statistics, category distribution, and construct ranking provides a more comprehensive picture of development. Teachers can use the resulting developmental profile as a basis for assessment and design of play-based learning that suits children's developmental needs. In addition, schools can use this profile as baseline data to support evidence-based planning, monitoring, and evaluation of child development programs.

This study uses a cross-sectional design, so it does not describe developmental changes over time. In addition, respondents came only from a few kindergartens in Makassar City, and data were obtained through structured observation, so generalization of the findings needs to be done carefully. Future research is recommended to use a longitudinal design and involve a more diverse sample. In addition, the relationship between social play, independence, and social skills can be tested using Structural Equation Modeling (SEM) to explain the mechanisms of early childhood development in more depth.

CONCLUSION

Research shows that the developmental profiling approach can be used to map the development of social play, independence, and social skills in early childhood in an integrated manner. This approach produces a more comprehensive picture of development by integrating the dimensions of parallel play, associative play, and cooperative play, enabling more systematic identification of children's social development characteristics than measurements that focus on only one aspect of development. The main contribution of this research lies in compiling a multidimensional developmental profile that integrates social play, independence, and social skills in one descriptive framework. This profile provides an empirical baseline that can be used as a reference in carrying out developmental assessments, preparing play-based learning programs, as well as planning stimulation that is more appropriate to the developmental characteristics of early childhood. Thus, this research expands the descriptive approach in early childhood education by presenting a developmental profile that not only describes children's developmental conditions, but also supports the application of evidence-based assessment and evidence-based practice in PAUD units.

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