

Fostering Assertive Communication through Story-Based Activities in Early Childhood Education: A Preventive Framework for Substance Abuse

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ABSTRACT

Objective: Substance abuse remains a major challenge to individual well-being and societal development, underscoring the need for preventive interventions beginning in early childhood. This study aimed to examine the effectiveness of story-based activities in improving assertive communication skills among children aged 5–6 years as an early preventive framework for reducing vulnerability to future substance abuse and other risky behaviors. **Method:** A quantitative quasi-experimental study using a pretest–posttest design was conducted with 90 children aged 5–6 years from five early childhood education institutions in Surabaya, Indonesia. Data were collected through structured observations measuring four dimensions of assertive communication: self-expression, opinion sharing, emotional communication, and respectful refusal. The data were analyzed using normalized gain (N-Gain) scores and paired-sample *t*-tests. **Results:** The findings demonstrated that story-based activities improved children's assertive communication. Positive improvements were consistently observed across participating institutions and among both boys and girls. **Novelty:** This study introduces story-based learning as an early childhood preventive framework that connects the development of assertive communication with long-term protection against substance abuse risk. The findings extend prevention efforts beyond adolescent-focused interventions by positioning early childhood education as a strategic foundation for strengthening children's protective social competencies before risk behaviors emerge.

INTRODUCTION

Substance abuse remains a serious issue affecting the quality of human development in Indonesia. Data from the National Narcotics Agency in 2023 show that the prevalence of substance abuse reached 1.73%, or approximately 3.33 million people. This figure indicates that substance abuse not only occurs among adults but is increasingly affecting younger age groups. This phenomenon suggests that risky behavior develops through gradual social and psychological processes rather than emerging suddenly at a particular developmental stage. Research on the prevention of risky behavior emphasizes that early developmental experiences strongly influence individual decision-making patterns during adolescence and early adulthood (Griffin & Botvin, 2010; Luk et al., 2017; Das et al., 2016). From this developmental perspective, early intervention should not be interpreted as directly preventing substance abuse among young children. Rather, it involves strengthening foundational psychosocial competencies that may contribute to adaptive decision-making and resilience when individuals encounter increasingly complex social influences in later developmental periods.

Findings indicating that approximately 312,000 young people aged 15–25 have been exposed to drugs suggest the existence of vulnerability processes that may develop before individuals enter adulthood. Analysis of social developmental dynamics shows that risky behavior is often influenced by individuals' ability to deal with social pressure. Individuals who lack adequate social skills tend to struggle to make personal decisions

under peer pressure. Previous research shows that self-regulation and communication skills are closely related to individuals' ability to resist negative peer influences (Aslan & Cheung-Blunden, 2012; Keenan et al., 2010; Semple et al., 2011). These findings provide a developmental rationale for strengthening social-emotional competencies from childhood, not because preschool children are assumed to be directly at risk of substance abuse, but because competencies established during early development may become part of the psychological resources used in later social situations. This developmental process often begins during childhood through social interactions within families and educational environments. Early childhood education, therefore, has significant potential to strengthen social competencies that help children navigate increasingly complex social situations and may contribute, over time, to self-regulation, responsible decision-making, and resistance to inappropriate social pressure (Britto et al., 2017; Jeong et al., 2021).

The ecological perspective on development provides an analytical framework for understanding the relationship between social environments and children's behavioral development. Bronfenbrenner's theory explains that individual development is influenced by interactions among various interconnected environmental systems (Bronfenbrenner & Morris, 2006). Family, school, and community environments form networks of social experiences that shape values, attitudes, and patterns of interpersonal behavior. This perspective indicates that adaptive or risky behavior does not emerge in isolation from the social environment. Social interactions experienced by children from an early age contribute to the formation of behavioral patterns that continue into later stages of development. Early childhood education therefore represents an important microsystem in which repeated interactions with teachers, peers, learning materials, and structured activities can provide developmental experiences that strengthen social skills (Coolahan et al., 2000; Downer et al., 2010; Burchinal et al., 2008). Within this ecological framework, storytelling can be understood as a structured classroom experience situated in the child's immediate educational environment, through which social situations, interpersonal boundaries, choices, and consequences can be represented, discussed, and practiced.

Social skills are an important protective developmental resource associated with adaptive behavior. Children who possess positive communication and interaction abilities tend to build healthy social relationships with peers. Previous studies show that social competence is closely related to children's ability to manage conflict and make personal decisions in social situations (Brock & Curby, 2014; Broekhuizen et al., 2016; Bohlmann et al., 2019). These findings suggest that social skills help children understand the consequences of their actions in social interactions. Children with strong social skills tend to consider the outcomes of their behavior more carefully and develop more adaptive ways of responding to interpersonal challenges. Strengthening such competencies from an early age therefore represents one component of a broader developmental foundation for later adaptive behavior rather than a direct preventive intervention against a specific form of adolescent or adult risky behavior.

Assertiveness is an important dimension of social skills, reflecting an individual's ability to express thoughts and maintain personal boundaries. The concept of assertiveness emphasizes the ability to communicate needs and opinions clearly while respecting others' rights (Deluty, 1979; Deluty, 1984; Kidder et al., 1983). Assertiveness is developmentally relevant because it involves the ability to express preferences,

communicate disagreement appropriately, make personal choices, and maintain interpersonal boundaries without resorting to passive or aggressive responses. Individuals with assertive tendencies tend to demonstrate stronger self-control under social pressure. Previous research shows that assertiveness is positively associated with resistance to negative peer influence during adolescence (Keenan et al., 2010; Blocker et al., 2021). However, this relationship should be understood developmentally rather than causally extrapolated to preschool children. Developing assertiveness during early childhood does not directly prevent later substance abuse; instead, assertive communication may constitute one component of a broader set of psychosocial competencies that, together with self-regulation, decision-making, and social awareness, may support greater resistance to negative social influence during later developmental stages.

The development of assertiveness in children requires social experiences that enable them to practice expressing their opinions and making personal choices. Educational environments that provide opportunities for dialogue and active participation strengthen children's confidence. Social interaction during learning activities allows children to understand others' perspectives while learning how to communicate their own needs and preferences appropriately. Studies of classroom practices indicate that collaborative activities strengthen children's interpersonal communication skills (Acar et al., 2017; Downer et al., 2010; Taylor et al., 2023). Children who frequently engage in discussion and interaction within learning environments tend to demonstrate stronger social competence. These experiences highlight the importance of social interaction in developing assertive competencies because assertiveness is not acquired merely through conceptual understanding; children also require opportunities to observe, rehearse, receive responses to, and reflect on interpersonal behavior.

Social-emotional learning approaches represent effective strategies for strengthening children's psychosocial competencies. Social-emotional learning programs help children understand emotions and develop empathy toward others. Previous studies indicate that social-emotional interventions can improve self-regulation abilities and reduce aggressive behavior in children (Alamos et al., 2022; Britto et al., 2017). Analysis of this approach shows that integrating emotional and cognitive aspects in learning provides positive developmental outcomes. Learning processes that consider emotional dimensions help children understand the relationship between emotions and behavior. This framework suggests that holistic education strengthens children's psychosocial development. Within such an approach, assertiveness can be conceptualized not simply as speaking confidently, but as an integrated social-emotional competence involving emotional awareness, communication, consideration of others, decision-making, and regulation of interpersonal responses.

The storytelling approach is a pedagogical strategy that integrates cognitive, emotional, and social aspects into learning. Stories provide symbolic representations of social situations that children can easily understand. Research on storytelling practices shows that narrative experiences help children understand social values and norms. Characters in stories illustrate various responses to social situations, including situations involving disagreement, interpersonal pressure, choice, conflict, and boundary setting. Narrative experiences help children understand the relationship between actions and consequences in social interactions (Pérez-Escamilla et al., 2017; Britto et al., 2017).

Consequently, storytelling provides more than exposure to narrative content; it creates an instructional context in which children can observe behavioral alternatives, evaluate their consequences, and relate the represented situations to their own social experiences.

Storytelling also relates to social learning theory, which emphasizes the importance of observation and imitation in learning processes. Social learning theory explains that individuals acquire new behaviors by observing models (Bandura, 1977). Characters in stories can therefore serve as symbolic models that illustrate different forms of social behavior, including how individuals express needs, refuse inappropriate requests, communicate disagreement, make decisions, and maintain interpersonal boundaries. However, symbolic modeling alone may not be sufficient to produce observable behavioral change. In storytelling-based learning, the expected mechanism involves a sequence in which children first observe modeled behavior through story characters, discuss the characters' actions and consequences with teachers and peers, reproduce alternative responses through dramatization or role-play, receive feedback and reinforcement, and subsequently reflect on the appropriateness of their responses. Through these processes, observational learning is progressively transformed into behavioral rehearsal and practice. Successful participation may also strengthen children's confidence in their capacity to communicate appropriately in comparable social situations. Thus, modeling, guided interaction, reinforcement, behavioral practice, and developing self-efficacy constitute interconnected mechanisms through which narrative experiences may contribute to observable assertive communication.

This mechanism becomes more explicit when storytelling is accompanied by active participation. Activities such as dramatization and role-play allow children to explore various social situations and transform symbolic examples into behavioral responses. Children can practice communication and decision-making skills in simulated contexts, such as expressing preferences, saying no appropriately, communicating discomfort, negotiating with peers, and defending personal choices while respecting others. Research indicates that participatory activities increase children's emotional engagement in learning processes (Bohlmann et al., 2019; Coolahan et al., 2000). The interactions that emerge during these activities help children understand social relationship dynamics more deeply. Within the proposed conceptual framework, role-play functions as behavioral rehearsal, while responses from teachers and peers provide opportunities for reinforcement and corrective feedback. Repeated opportunities to practice appropriate responses can therefore help bridge the gap between observing assertive behavior in narrative models and demonstrating assertive behavior in actual interpersonal situations.

Storytelling activities also contribute to children's cognitive development. Listening to stories stimulates imagination and reflective thinking. Children learn to understand relationships between actions and consequences within narrative structures. This process helps children develop problem-solving abilities. Previous research indicates that narrative experiences improve children's critical thinking skills (Ardoin & Bowers, 2020). In the context of assertiveness development, reflection on narrative situations may enable children to compare possible responses, anticipate interpersonal consequences, and determine which responses appropriately represent their own needs while respecting others. Cognitive reflection therefore complements observational learning and behavioral practice by helping children understand why particular assertive responses may be appropriate in specific social situations.

Story-based learning environments create opportunities for dialogue that enrich children's social experiences. Discussions about stories help children develop the ability to express opinions and listen to others' perspectives. These interactions strengthen interpersonal communication skills within social relationships. Children learn that individuals may hold different perspectives regarding the same situation. Such experiences help children develop tolerance and negotiation skills. Social interaction within story-based learning strengthens children's social competence development (Acar et al., 2017; Downer et al., 2010). Taken together, Bronfenbrenner's ecological perspective and Bandura's social learning theory provide complementary levels of explanation for this process. The ecological perspective explains why the classroom environment and repeated interactions within it are developmentally important, whereas social learning theory explains the proximal learning mechanism through which children observe, interpret, rehearse, receive feedback on, and gradually internalize social behavior. In this conceptual framework, storytelling provides symbolic models; guided discussion facilitates interpretation; dramatization and role-play enable behavioral rehearsal; feedback and reinforcement strengthen appropriate responses; and reflection supports children's understanding and confidence in applying assertive communication in subsequent social interactions.

The literature indicates that most storytelling research in early childhood education primarily focuses on language development, literacy skills, narrative comprehension, cognitive engagement, and children's participation in classroom learning. Existing research has established that storytelling can facilitate narrative understanding and broader cognitive-linguistic development, while another body of research has demonstrated the importance of social-emotional competence, communication, self-regulation, and interpersonal interaction in children's development. These findings collectively demonstrate the educational value of storytelling and the developmental importance of social competence. However, these two lines of inquiry have largely been examined separately. Relatively limited attention has been given to whether storytelling can be intentionally structured as a pedagogical intervention to develop a specific social competence, particularly assertiveness. Assertiveness is an essential component of social competence, enabling children to express opinions, communicate needs, make personal choices, communicate disagreement appropriately, and maintain personal boundaries in social interactions.

Despite the growing recognition of social-emotional learning in early childhood education, research examining storytelling as a pedagogical strategy specifically designed to develop assertiveness remains scarce. Existing studies have more commonly examined broader developmental outcomes, including communication, social-emotional competence, self-regulation, classroom participation, literacy, and narrative comprehension, rather than directly examining changes in children's observable assertive behavior. Consequently, there remains insufficient understanding of whether narrative-based learning experiences that combine symbolic modeling, guided discussion, dramatization, behavioral rehearsal, feedback, and reflection can systematically strengthen young children's ability to express preferences, communicate needs, maintain personal boundaries, and respond appropriately to interpersonal pressure. Furthermore, limited attention has been given to positioning assertiveness during early childhood within a broader developmental and preventive framework. The

relevant gap, therefore, is not simply that few studies have examined assertiveness. More specifically, previous research has not sufficiently integrated storytelling-based pedagogy, the behavioral development of assertive communication in young children, and the developmental significance of this competence for later resistance to negative social influence.

Understanding this relationship is particularly important because assertiveness should not be interpreted as a direct preventive mechanism against substance abuse in preschool children. Rather, assertiveness may represent one element within a longer developmental pathway through which early social-emotional competencies support later self-regulation, interpersonal decision-making, resistance to negative peer pressure, and adaptive social behavior. This distinction extends the role of early childhood education from addressing immediate behavioral outcomes to establishing foundational psychosocial resources that may remain relevant across subsequent developmental stages. Accordingly, preventive education in early childhood is conceptualized in this study as the strengthening of foundational competencies rather than the direct prevention of specific risky behaviors that typically emerge at later ages.

Therefore, this study aims to address this research gap by examining the effectiveness of storytelling-based learning in enhancing children's assertiveness skills in early childhood education. Storytelling-based learning integrates narrative experiences with social interaction and reflective discussion, allowing children to explore social situations, express opinions, communicate feelings, make choices, and understand appropriate responses in interpersonal relationships. Through narrative activities, children are encouraged to interpret characters' actions, consider alternative responses to social situations, and practice communicating their ideas and decisions. The intervention therefore moves beyond passive story exposure by incorporating a developmental sequence of symbolic modeling, guided discussion, role-play, behavioral rehearsal, feedback, and reflection. In this context, storytelling may function not only as a literacy-supporting activity but also as an instructional strategy that facilitates the development of observable social competencies.

The novelty of the present study lies in positioning storytelling-based learning as a structured pedagogical approach for strengthening assertive communication among young children and examining this competence within a broader developmental preventive framework. Rather than examining storytelling primarily in relation to literacy, narrative comprehension, or general social-emotional outcomes, this study specifically focuses on children's ability to express needs and opinions, communicate personal choices, respond appropriately in interpersonal situations, and maintain personal boundaries. The study further connects these immediate developmental outcomes to the theoretical proposition that assertiveness may contribute, together with other social-emotional competencies, to later adaptive responses to social influence. Thus, the novelty emerges from the integration of storytelling-based intervention, assertiveness in early childhood, observable behavioral development, and preventive education within a coherent developmental framework rather than from claiming that preschool assertiveness directly prevents substance abuse.

The practical implications of this study relate to the development of learning strategies in early childhood education. Teachers can use storytelling to introduce social values and strengthen children's communication skills. Stories that present social

situations help children learn to respond constructively to interpersonal challenges and social pressure. Activities such as dramatization and discussion help children practice assertive behavior in safe learning environments. However, these educational experiences should be understood as contributing to the development of foundational psychosocial competencies rather than as directly preventing substance abuse. Within a broader long-term preventive perspective, early social-emotional competencies such as assertive communication, self-regulation, and decision-making may provide developmental resources relevant to later resistance to negative social influences (Griffin & Botvin, 2010; Das et al., 2016). Integrating story-based learning with social skill development therefore strengthens the role of early childhood education in building psychosocial resilience across subsequent stages of development.

RESEARCH METHOD

This study employed a quantitative one-group pretest-posttest design to examine changes in young children's assertiveness following participation in storytelling-based learning. The same participants were assessed before and after the intervention, without a control or comparison group and without random allocation. Accordingly, the design was intended to identify changes occurring over the intervention period rather than to establish definitive causal effects attributable exclusively to storytelling. Educational intervention studies conducted in natural classroom settings frequently involve practical constraints related to random assignment and experimental control (Burchinal et al., 2008; Downer & Pianta, 2006). The study was conducted in five early childhood education institutions in Surabaya, Indonesia: Al Azhar 15 Islamic Kindergarten Surabaya, Benih Kasih Kindergarten, Little Star Integrated Islamic Kindergarten, Middleton Pre-School Surabaya (EtonHouse Group), and State Kindergarten Pembina Surabaya. The participants consisted of 90 children aged 5–6 years, including 40 boys and 50 girls, selected through purposive sampling. The sample comprised 20 children from Al Azhar 15 Islamic Kindergarten Surabaya, 17 from Benih Kasih Kindergarten, 15 from Little Star Integrated Islamic Kindergarten, 18 from Middleton Pre-School Surabaya, and 20 from State Kindergarten Pembina Surabaya. All participants followed the learning activities within their existing classroom environments.

The storytelling intervention was implemented as a structured classroom-based learning activity designed to strengthen children's assertive communication through developmentally appropriate social situations. The learning content addressed the expression of opinions and feelings, communication of personal needs, maintenance of personal choices, refusal of inappropriate invitations or requests, asking for help, confident communication, decision-making, and constructive responses to interpersonal conflict. Teachers presented social situations through stories and guided children to examine how the characters communicated, made choices, responded to others, and managed social pressure. Classroom experiences involving interaction, discussion, and guided participation have been shown to support the development of children's social competence (Acar et al., 2017; Downer et al., 2010). Each storytelling activity followed four interconnected stages: story presentation, guided discussion, dramatization or role-play, and reflection. During story presentation, children observed the characters' actions, verbal expressions, choices, and consequences. Guided discussion encouraged children to interpret the characters' behavior and consider alternative responses. Dramatization

and role-play then provided opportunities to rehearse assertive responses, such as expressing opinions, communicating needs, maintaining choices, refusing inappropriate requests, and resolving interpersonal situations. Such interactive learning experiences enable children to practice communication and interpersonal skills within social learning contexts (Coolahan et al., 2000). Reflection was subsequently used to help children reconsider the social situations presented in the stories and relate appropriate responses to everyday peer interactions. Thus, the intervention combined symbolic modeling, discussion, behavioral rehearsal, and reflection rather than treating storytelling solely as passive narrative exposure. Although the instructional sequence was implemented consistently, detailed session-level information concerning the precise number, duration, and frequency of activities was not uniformly documented across implementation sites; this procedural limitation is therefore acknowledged in relation to future replication and intervention-fidelity studies.

Data were collected using a structured observation instrument designed to measure observable dimensions of children's assertiveness. Behavioral observation is widely used to assess children's social engagement and interpersonal behavior in educational environments (Bohlmann et al., 2019; Downer et al., 2010), while the indicators employed in the present study were adapted from theoretical frameworks of assertive behavior developed in child behavioral research (Deluty, 1979; Deluty, 1984). The instrument consisted of eight indicators: expressing opinions, expressing feelings, refusing inappropriate invitations or requests, maintaining personal choices, communicating confidently, requesting help, expressing personal needs, and resolving conflicts through communication. Each indicator was assessed using a four-point behavioral rating scale ranging from 1 to 4. A score of 1 represented the absence of the targeted behavior; a score of 2 indicated that the behavior was demonstrated with teacher guidance, assistance, encouragement, or prompting; a score of 3 indicated that the child demonstrated the behavior independently; and a score of 4 represented the highest level of performance, characterized by clear, confident, firm, polite, or effective communication according to the behavioral indicator being assessed. For example, expressing opinions ranged from not expressing an opinion to expressing an opinion clearly and confidently; refusing inappropriate invitations ranged from not refusing to refusing firmly and politely; and resolving conflicts ranged from not responding to conflict to resolving conflict through effective communication. Higher total scores therefore reflected stronger observable assertive communication.

Content validity of the observation instrument was established through expert judgment involving specialists in early childhood education, with the validation process focusing on the relevance, developmental appropriateness, and conceptual alignment of the indicators with assertive behavior among children aged 5–6 years. Internal consistency analysis using Cronbach's Alpha yielded a coefficient of 0.87, indicating strong consistency among the eight observational indicators. The available validation documentation, however, did not provide sufficiently detailed records of the number and professional characteristics of the experts or quantitative item-level and scale-level content validity indices; therefore, I-CVI and S-CVI values are not retrospectively reported. Children's assertiveness was observed in their classroom environments using the same operational indicators and four-point scoring criteria during both pretest and posttest assessments to maintain measurement consistency. Because the observations were embedded in natural classroom activities, formal observer blinding to pretest or posttest status was not implemented, and a separate quantitative inter-rater reliability coefficient was not reported. These conditions are acknowledged as methodological

limitations, particularly because observational assessment with young children may be influenced by observer judgment. Future studies should therefore document expert qualifications and quantitative content-validity indices more systematically, employ independently trained observers, assess inter-rater agreement using an appropriate statistic such as an intraclass correlation coefficient or weighted kappa, and implement observer blinding where feasible.

The research procedure consisted of three sequential phases: pretest assessment, implementation of storytelling-based learning, and posttest assessment. During the pretest phase, children's initial assertiveness was assessed using the eight-indicator observational instrument. Participants subsequently engaged in storytelling-based classroom activities incorporating story presentation, guided discussion, communication practice, dramatization, role-play, and reflection. Following completion of the intervention, the same behavioral indicators and scoring procedures were used during the posttest to assess changes in assertiveness. Data were analyzed using descriptive and inferential statistical procedures. Normalized Gain analysis was used to describe the magnitude of improvement between pretest and posttest scores, while a paired-samples t-test was conducted to determine whether the change between the two measurements was statistically significant. Statistical comparisons between repeated measurements are commonly used in educational intervention research to examine changes in developmental outcomes over time (Curby et al., 2009; Burchinal et al., 2008). Descriptive analyses were additionally conducted according to gender and participating school; however, because no inferential between-group tests were performed for these subgroup comparisons, differences by gender and school were interpreted only as descriptive patterns rather than evidence of statistically significant group or school-level effects. Furthermore, given the one-group pretest-posttest design, alternative explanations such as maturation, repeated measurement, teacher effects, ordinary classroom experiences, and other concurrent developmental influences cannot be completely excluded. The findings are therefore interpreted as evidence that children's assertiveness improved following participation in storytelling-based learning rather than as definitive evidence that storytelling alone caused the observed improvement. Future research should employ randomized, matched, or equivalent comparison-group designs and strengthen documentation of intervention dosage, implementation fidelity, observer agreement, and consistency across educational settings.

Table 1. Observation Rubric for Assessing Early Childhood Assertiveness Skills

Indicator	Behavioral Description	1	2	3	4
Expressing opinions	Child's ability to express ideas or opinions during classroom activities	Does not express opinions	Expresses opinions with teacher guidance	Expresses opinions independently	Expresses opinions clearly and confidently
Expressing feelings	Child's ability to express feelings verbally	Unable to express feelings	Expresses feelings with teacher assistance	Expresses feelings independently	Expresses feelings clearly and confidently

Indicator	Behavioral Description	1	2	3	4
Refusing inappropriate invitations	Child's ability to refuse inappropriate invitations or requests	Does not refuse invitations	Refuses invitations with teacher assistance	Refuses invitations independently	Refuses invitations firmly and politely
Maintaining personal choices	Child's ability to maintain personal decisions when interacting with peers	Does not maintain personal choice	Maintains choice with teacher assistance	Maintains choice independently	Maintains choice confidently
Communicating confidently	Child's ability to speak clearly during social interaction	Does not speak during classroom interaction	Speaks with teacher encouragement	Speaks independently during classroom interaction	Speaks clearly and confidently
Requesting help	Child's ability to ask for help when facing difficulties	Does not ask for help	Asks for help after teacher prompts	Asks for help independently	Asks for help clearly and politely
Expressing needs	Child's ability to express personal needs appropriately	Does not express needs	Expresses needs with teacher assistance	Expresses needs independently	Expresses needs clearly and confidently
Resolving conflicts	Child's ability to respond to conflict through communication	Does not respond to conflict	Responds with teacher guidance	Resolves conflict independently	Resolves conflict through effective communication

The observation rubric consisted of eight indicators of assertive behavior, including expressing opinions, expressing feelings, refusing inappropriate invitations, maintaining personal choices, communicating confidently, requesting help, expressing needs, and resolving conflicts.

RESULTS AND DISCUSSION

Results

To examine the effectiveness of storytelling-based learning in improving children's assertiveness skills, a paired-samples t-test and a normalized gain analysis were conducted to identify the level of improvement in children's assertiveness skills after the learning intervention. The results were further analyzed by gender to determine whether improvement patterns varied between male and female participants. Table X presents the results of the normalized gain analysis of children's assertiveness skills based on gender.

Table 2. Results of research data analysis

School	Gender	N	Min	Max	Mean	Std. Deviation
Al Azhar 15 Islamic Kindergarten, Surabaya	Male	9	0.67	0.86	0.76	0.06
	Female	11	0.69	0.87	0.79	0.05
Benih Kasih Kindergarten, Surabaya	Male	8	0.67	0.84	0.74	0.05
	Female	9	0.70	0.86	0.77	0.05
Little Star Integrated Islamic Kindergarten, Surabaya	Male	7	0.68	0.85	0.75	0.05
	Female	8	0.71	0.87	0.78	0.04
Middleton Pre-School Surabaya (EtonHouse Group)	Male	8	0.69	0.86	0.77	0.06
	Female	10	0.72	0.87	0.80	0.05
State Kindergarten Pembina Surabaya	Male	8	0.67	0.84	0.74	0.05
	Female	12	0.70	0.86	0.77	0.05
Total / Mean	Male	40	0.67	0.86	0.75	0.05
	Female	50	0.69	0.87	0.78	0.05

The results of the descriptive statistical analysis indicate that children's ability improved after participating in the learning process implemented in this study. The N-Gain values ranged from a minimum of 0.67 to a maximum of 0.87. This range suggests that most participants experienced a substantial improvement in their abilities after engaging in the learning activities. The mean N-Gain score for male students was 0.75, while the mean score for female students reached 0.78. This difference indicates that female students tended to show slightly higher improvement compared to male students. However, the difference between the two groups was relatively small, suggesting that the learning improvement occurred relatively evenly across both genders.

When the results are examined across individual schools, a consistent pattern of improvement is evident. Middleton Pre-School Surabaya demonstrated the highest average N-Gain scores, with 0.77 for male students and 0.80 for female students. These results indicate that the implementation of learning at this institution contributed significantly to the improvement of children's abilities. Other schools, including Al Azhar 15 Islamic Kindergarten Surabaya, Benih Kasih Kindergarten Surabaya, Little Star Integrated Islamic Kindergarten Surabaya, and State Kindergarten Pembina Surabaya, also demonstrated improvement with mean N-Gain values ranging from approximately 0.74 to 0.79. This consistency suggests that the learning approach applied in this study can effectively support children's development across different educational settings.

In addition, the relatively small standard deviation values, ranging from 0.04 to 0.06, indicate that the variation in improvement among participants was limited. This pattern suggests that most children experienced relatively similar levels of improvement following the learning activities. In other words, the learning strategy applied in this study generated a positive impact that was distributed fairly evenly among participants. This finding also indicates that the learning process provided equitable opportunities for children to develop their abilities and actively engage in learning activities.

Overall, these findings demonstrate that the learning approach implemented in this study effectively enhanced children's learning outcomes. The N-Gain values in the moderate-to-high range indicate that the learning process not only improved measurable learning outcomes but also enhanced the quality of children's learning experiences. These

results suggest that the instructional approach used in this research has the potential to be implemented in various early childhood education institutions with different contexts and characteristics. Therefore, the findings provide an important contribution to strengthening innovative learning practices that improve the quality of children's learning.

Discussion

The findings of this study indicate that children demonstrated improvement in assertive communication after participating in storytelling-based learning. The observed changes should be understood specifically in relation to the behavioral dimensions assessed in this study rather than as general learning outcomes or academic achievement. These dimensions included expressing opinions, expressing feelings, refusing inappropriate invitations or requests, maintaining personal choices, communicating confidently, requesting help, expressing personal needs, and resolving conflicts through communication. The positive pretest-posttest pattern therefore reflects changes in children's ability to communicate their thoughts, feelings, needs, and decisions more appropriately within interpersonal situations. Such development is consistent with the broader understanding that meaningful early childhood experiences are supported by interaction, exploration, communication, and socially responsive learning environments (Britto et al., 2017; Richter et al., 2017; Jeong et al., 2021). Rather than suggesting improvement in broad educational attainment, the findings indicate that structured storytelling activities may provide opportunities for children to strengthen specific forms of assertive behavior and social competence.

The observed improvement may be explained by the interactive mechanisms embedded within the storytelling intervention. From Bandura's social learning perspective, children can acquire behavioral responses through observing models, interpreting the consequences of those behaviors, rehearsing responses, and receiving social reinforcement (Bandura, 1977). In the present intervention, story characters provided symbolic models of how individuals could respond to interpersonal situations. Guided discussion subsequently enabled children to distinguish between appropriate and inappropriate responses, consider alternative ways of communicating, and understand the consequences of different choices. Dramatization and role-play transformed these symbolic examples into behavioral rehearsal by allowing children to practice expressing opinions and feelings, communicating needs, refusing inappropriate requests, maintaining choices, requesting assistance, and resolving interpersonal disagreements. Reflection then reinforced the meaning of these responses by encouraging children to connect the narrative situations with their own social experiences. The effects observed in the eight assertiveness indicators can therefore be interpreted as potentially emerging from a sequence of observational learning, guided interpretation, behavioral rehearsal, social feedback, and reflection rather than from narrative exposure alone.

This mechanism is particularly relevant to the communication-oriented dimensions of assertiveness. Expressing opinions, expressing feelings, expressing personal needs, and communicating confidently require children not only to possess ideas or emotions but also to communicate them clearly within interpersonal exchanges. Story-based discussion creates opportunities for children to verbalize perspectives, listen to alternative viewpoints, and respond to questions about characters' actions. Similarly, requesting help, refusing inappropriate invitations, and maintaining personal choices require children to communicate personal boundaries while remaining responsive to

others. Role-play provides a relatively safe environment in which these behaviors can be rehearsed before children encounter comparable situations in everyday peer interactions. Conflict resolution further requires children to integrate communication, emotional regulation, and interpersonal negotiation. The interactive character of the intervention may therefore be particularly relevant because early social interaction experiences contribute to the development of social competence and broader personality-related processes over time (Blatný et al., 2015; Roberts et al., 2005). These interpretations are also consistent with evidence that supportive and developmentally responsive environments can promote opportunities for children with different initial abilities to participate in social learning (Pérez-Escamilla et al., 2017; Patel et al., 2018).

The gender-based findings should be interpreted cautiously. Girls demonstrated a mean N-Gain of 0.78, compared with 0.75 among boys. Although this descriptive pattern indicates slightly higher average improvement among girls, the difference was small, and no inferential between-group analysis was conducted to determine whether the difference was statistically significant. Consequently, the present findings do not provide sufficient evidence to conclude that girls benefited more strongly from the storytelling intervention than boys. Previous research has reported that girls may show relatively high engagement in communication-oriented classroom activities (Ansari & Winsler, 2014), which offers one possible contextual explanation for the observed descriptive pattern. However, such evidence should not be used to infer a gender effect in the present study. More importantly, both boys and girls showed positive patterns of change in assertive communication, suggesting that the activities provided opportunities for children of both genders to practice expressing ideas, communicating feelings and needs, and interacting with peers. Future studies should employ appropriate between-group inferential analyses before drawing conclusions regarding gender-related differences in responsiveness to storytelling-based interventions.

A similarly cautious interpretation is required for the findings across participating schools. Positive changes were observed in all five institutions, with Middleton Pre-School Surabaya showing the highest descriptive mean, while the other schools demonstrated somewhat lower but broadly positive patterns. The participating institutions differed in educational context, classroom composition, institutional characteristics, and potentially in teacher practices. Because school-level effects were not statistically tested, these descriptive patterns cannot be interpreted as evidence that the intervention was equally effective, universally adaptable, or scalable across different educational settings. Rather, the results indicate that improvement in assertive communication was observed in children from each of the participating institutions within the conditions of the present study. Previous research has shown that supportive educational environments can contribute to positive developmental experiences across different settings (Biersteker et al., 2016; Barnett et al., 2019). However, determining whether storytelling-based learning operates similarly across institutional contexts would require analyses that explicitly account for school-level variation, implementation conditions, and potentially nested data structures.

The relatively small standard deviations observed across the descriptive subgroups suggest limited dispersion in the magnitude of change among participants, but this pattern should also be interpreted within the boundaries of the study design. It does not establish that the intervention was uniformly effective or equally inclusive for all children. Instead, it indicates that the observed changes in assertive communication were relatively clustered within the participating groups. From a pedagogical perspective, the

structured sequence of storytelling, guided discussion, role-play, and reflection may have provided multiple entry points for children with different communication styles to participate in social interaction. Flexible instructional approaches can allow teachers to adapt learning activities to classroom conditions while retaining core instructional objectives (Bond et al., 2013; Koob & Love, 2010). Nevertheless, the present study did not formally evaluate intervention fidelity or statistically compare implementation effects between schools. Claims regarding consistency, inclusiveness, adaptability, or scalability should therefore remain tentative until supported by studies specifically designed to test these characteristics.

Overall, the findings suggest that storytelling-based learning was associated with positive changes in children's assertive communication and observable assertive behavior rather than with general learning outcomes. The contribution of the intervention appears to lie in creating structured opportunities for children to observe social behavior, discuss interpersonal responses, rehearse communication strategies, and reflect on appropriate ways of expressing themselves. These processes are directly relevant to the eight dimensions measured in this study: expressing opinions, expressing feelings, refusing inappropriate requests, maintaining personal choices, communicating confidently, requesting help, expressing needs, and resolving conflicts through communication. Learning environments that encourage active participation, communication, and collaborative interaction are important for children's social and communicative development (Helson et al., 2002; Blatný et al., 2019). Accordingly, storytelling should be viewed not simply as a narrative or literacy activity but as a potentially useful pedagogical context for supporting the development of assertive communication and social competence. At the same time, the findings should be interpreted within the methodological boundaries of the study, particularly the absence of a comparison group and inferential analyses of gender and school-level differences. Further research using controlled designs, inferential subgroup analyses, and systematic assessment of implementation across schools is needed to determine the extent to which these observed changes can be attributed to the intervention and generalized across educational contexts.

CONCLUSION

Fundamental Finding: The findings demonstrate that the storytelling-based learning approach contributed to meaningful improvement in children's assertive communication skills. The intervention provided opportunities for children to express opinions and feelings, communicate personal needs, maintain choices, refuse inappropriate requests, and respond constructively in social interactions. The findings also suggest that structured storytelling activities can support children's social competence through active participation, interaction, behavioral practice, and reflection. **Implication:** The results highlight the importance of implementing structured, interactive, and learner-centered learning experiences in early childhood education. Teachers should provide opportunities for children to actively explore, communicate, interact, and construct understanding through meaningful learning activities. The relatively limited variation in learning gains also suggests that well-designed instructional support can facilitate more consistent learning progress among children with different backgrounds and characteristics. **Limitation:** This study was conducted within a limited number of participating schools and focused on learning outcomes measured during a specific intervention period. Therefore, the findings should be interpreted cautiously when

generalized to broader early childhood populations, different educational contexts, or long-term developmental outcomes. **Future Research:** Future studies should involve larger and more diverse samples across different geographical and sociocultural contexts and employ longitudinal or randomized experimental designs. Further research is also recommended to examine the sustainability of learning gains, explore additional developmental outcomes, and investigate the specific instructional mechanisms that contribute most strongly to children's learning progress.

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