



The Interplay of Emotional Regulation and Social Communication in Children with Intellectual Disabilities

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Abstract

This study explores the emotional and social communication patterns of children with intellectual disabilities (IDD) through a qualitative case study approach. Two participants a 13-year-old boy and a 7-year-old girl underwent psychological assessment, in-depth interviews, and behavioral observation at RSD K.R.M.T. Wongsonegoro Hospital in Semarang. Data were analyzed thematically to identify patterns of emotional regulation, verbal and nonverbal communication, and social adaptability. The findings reveal that both children exhibited deficits in expressive and receptive language, limited emotional regulation, and restricted social engagement. Emotional dysregulation manifested as impulsive behavior, tantrums, and difficulty expressing feelings verbally, while communicative patterns were marked by low initiation, echolalia, and reliance on nonverbal cues. Parental interaction styles and environmental factors, such as inconsistent caregiving and limited stimulation, further shaped these communication dynamics. The study highlights that emotional and social communication challenges in IDD are not solely rooted in cognitive impairment but are also influenced by relational and environmental contexts. These insights emphasize the need for integrative interventions combining emotional coaching, family engagement, and inclusive social experiences to enhance adaptive emotional and communicative functioning among children with intellectual disabilities.

Keywords : *Intellectual disabilities, emotional regulation, social communication, qualitative study, developmental psychology.*



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INTRODUCTION

Intellectual functioning below the average range compared to peers of the same age often represents an early indicator of intellectual disability, a neurodevelopmental condition that limits reasoning, learning, and adaptive behavior within social contexts (Leonard et al., 2022; Bertelli et al., 2022; Burack et al., 2021). The condition, formally classified as *Intellectual and Developmental Disabilities* (IDD), is characterized by substantial impairments in cognitive performance, emotional regulation, and adaptive functioning that emerge during the developmental period (American Association on Intellectual and Developmental Disabilities, 2013). Children with IDD frequently exhibit difficulties in acquiring new knowledge, organizing thought processes, and adjusting to shifting environmental demands (Cronin, 2024). Such impairments extend beyond cognitive deficits to include disruptions in socio-emotional responsiveness and empathy. This multidimensional complexity underscores the necessity of examining emotional and social communication among children with intellectual disabilities from a comprehensive psychological perspective.

The prevalence of intellectual disabilities remains a major concern in the broader discourse on child development and public mental health. The *Indonesian Basic Health Research (Riskesdas, 2018)* reported that approximately 3.3% of children aged 5–17 years exhibit disabilities, including intellectual disabilities, with the majority belonging to socioeconomically disadvantaged households (Ministry of Health of the Republic of Indonesia, 2018). Economic instability and limited parental literacy regarding developmental milestones contribute to the lack of early intervention and therapeutic engagement. Consequently, many children with IDD experience delayed social and emotional stimulation, exacerbating communication difficulties and impairing adaptive emotional expression. These national

data highlight the urgency of exploring emotional and social communication patterns in children with IDD within the Indonesian socio-cultural context:

Table 1. Statistical Overview of Intellectual Disabilities among Children

Indicator	Value
Children aged 5–17 with disabilities in Indonesia	3.3%
Share of intellectual disabilities among total child disabilities	22%
Children with IDD lacking consistent therapeutic support	>60%

Source: Compiled from *Riskesdas* (2018), *World Health Organization* (2021), and *UNICEF Indonesia* (2022)

Social-emotional communication represents a critical developmental domain through which children learn to express feelings, interpret others' emotions, and construct meaningful interpersonal relationships. Emotional and communicative competence serves as the foundation of psychological well-being, allowing children to navigate complex social environments with empathy and understanding (Agustina, 2022). For children with intellectual disabilities, these processes are often disrupted by cognitive limitations, language deficits, and impaired emotional regulation. The resulting misalignment between cognitive capacity and social expectations frequently leads to communication breakdowns and emotional frustration. Such constraints underline the importance of understanding how emotional and social communication patterns are structured in children with IDD.

Communication barriers in IDD may manifest as delayed speech, limited vocabulary, restricted facial expressions, or repetitive nonverbal gestures that fail to convey intended meanings (Aggarwal, 2022). Many children rely on partial or fragmented nonverbal cues to express needs, which are often misinterpreted by others, resulting in emotional distress and behavioral outbursts (Weiner & Lucas, 2021). This miscommunication can reinforce cycles of social withdrawal and emotional dysregulation, as children experience frustration in their attempts to connect with peers and caregivers. From a psychological standpoint, these difficulties highlight the intrinsic relationship between emotional regulation and social competence. The inability to externalize emotions through clear communication often intensifies internal tension, further complicating adaptive interaction.

Extant research underscores the central role of family and environmental support in facilitating the development of social-emotional communication among children with IDD. Parental sensitivity, consistent emotional engagement, and structured routines contribute to a child's ability to regulate emotions and respond empathetically to others (Novitasari, 2018). Conversely, inconsistent caregiving and lack of psychological attunement can amplify emotional instability and hinder communication progress (Ramadan & Aulia, 2025). Educational environments that fail to integrate inclusive approaches often deprive children of opportunities for meaningful peer interaction (Nurita et al., 2025). These findings affirm that social-emotional communication is not solely a product of cognitive capacity but also of relational, contextual, and affective factors that shape psychological growth.

Children with IDD often exhibit difficulties in *self-regulation*, defined as the capacity to monitor and modulate affective states, attention, and behavior from a regulatory perspective. Such impairments lead to emotional impulsivity, difficulty differentiating between emotional valences, and challenges in delaying gratification. In social contexts, these regulatory limitations can be misperceived as defiance or disengagement, when in fact they reflect developmental barriers in emotional processing. Riahta et al. (2015) emphasize that children with disabilities frequently encounter psychological distress stemming from social rejection and miscommunication, which in turn undermine their self-concept and social motivation. Understanding these emotional mechanisms is therefore essential to designing interventions that foster adaptive regulation and interpersonal growth.

The socio-cultural landscape of Indonesia further shapes the experiences of children with IDD, particularly through prevailing social stigma and limited public awareness. Cultural perceptions of disability as a family burden or moral deficiency often lead to exclusion and neglect. Consequently, children are deprived of naturalistic opportunities for social learning that typically occur through spontaneous play and peer interaction. However, emerging therapeutic and educational initiatives have begun adopting empathic, relationship-centered frameworks that recognize emotional communication as a primary vehicle for psychological development. This paradigm shift from instructing behavior to understanding emotion marks a crucial transition in how intellectual disability is addressed within psychological practice in Indonesia.

The present study seeks to explore in depth the emotional and social communication patterns of two children with intellectual disabilities who exhibit differing cognitive and behavioral profiles. Employing a qualitative case study design, the research integrates behavioral observation, parental interviews, and psychological assessment to capture both verbal and nonverbal dimensions of interaction. By situating these findings within the broader psychological framework of emotional regulation and adaptive functioning, the study aims to contribute to a richer understanding of the lived experiences of children with IDD. The outcomes are expected to inform the development of more personalized and empathetic therapeutic interventions that enhance emotional expression and social connectedness. Through this exploration, the research aspires to promote a more humane and psychologically informed approach to supporting children with intellectual disabilities.

RESEARCH METHODS

This study employed a qualitative research design using a case study approach to explore the emotional and social communication patterns of children with intellectual disabilities. A qualitative framework was selected to capture the complexity of children's lived experiences and the psychological meanings embedded in their emotional expressions and interactions. Data collection was conducted through in-depth semi-structured interviews, behavioral observation, and psychological assessment to triangulate information from multiple perspectives. Two participants were selected using purposive sampling, both of whom had been referred for psychological evaluation at RSD K.R.M.T. Wongsonegoro Hospital in Semarang. The first participant, referred to as *R*, was a 13-year-old boy with an IQ score of 35, exhibiting symptoms of hyperactivity, impulsivity, and limited verbal expression. The second participant, *S*, was a 7-year-old girl with an IQ score of 39, who displayed marked speech delay, frequent tantrums, and difficulty managing social interaction. Ethical considerations were observed throughout the study, ensuring confidentiality, informed consent from parents, and sensitivity in handling participants with developmental vulnerabilities.

Data were analyzed through a thematic qualitative analysis that focused on identifying recurring emotional and social communication patterns emerging from the observational and interview data. The process involved coding, categorizing, and interpreting themes related to emotional regulation, verbal and nonverbal expression, and the role of environmental factors in shaping communicative behavior. Observational notes were examined alongside parental narratives to understand how each child expressed emotions and responded to social cues in everyday interactions. The integration of psychological assessments, including the Stanford–Binet Intelligence Scale, provided additional context for interpreting communicative limitations within the framework of cognitive functioning. Through this analytical process, the study sought to construct a holistic understanding of how emotional regulation, family dynamics, and environmental stimulation interact to influence the social-emotional communication of children with intellectual disabilities.

RESULT AND DISCUSSION

The analysis revealed that both participants demonstrated distinct emotional and social communication profiles that reflected their cognitive limitations and environmental influences. Observation and interview data were organized into core categories including emotional regulation, verbal and nonverbal communication, and social adaptability. Despite sharing similar intellectual ranges, the participants exhibited unique behavioral characteristics and differing levels of responsiveness to emotional and social stimuli. Table 2 presents the comparative summary of these findings.

Table 2. Comparative Overview of Emotional and Social Communication Patterns

Aspects	Participant R (13 years, IQ 35)	Participant S (7 years, IQ 39)	Interpretation
Verbal Communication	Limited vocabulary, frequently responds “I don’t know,” low speech clarity, requires prompting to initiate conversation.	Severe speech delay, frequent echolalia, repeats simple phrases, often uses gestures rather than words.	Both display expressive language deficits; R’s verbal limitation aligns with low initiation skills, S shows stronger dependency on nonverbal channels.
Nonverbal Expression	Minimal facial expression, flat affect, inconsistent eye contact, gestures rarely used.	Frequent facial tension during frustration, uses hand movements to emphasize emotion, moderate eye contact when calm.	S compensates with gestures under emotional pressure; R shows overall blunted affect, indicating restricted emotional expression.
Emotional Regulation	Reacts impulsively to peers, difficulty delaying gratification, occasionally shouts or withdraws.	Displays tantrums when tasks become complex, throws objects, cries loudly when frustrated.	Both struggle with self-regulation; R exhibits externalized impulsivity, S demonstrates affective overload during distress.
Social Interaction	Limited peer relationships, easily frustrated in group tasks, prefers solitary play.	Approaches peers inconsistently, seeks approval from adults, tends to mimic rather than initiate interaction.	R exhibits social avoidance, while S displays dependent and imitative interaction style.
Parental Dynamics	Close to mother, father rarely present, inconsistent daily routines.	Overprotected by mother, disrupted caregiving continuity due to frequent relocations.	Family stability and parental engagement influence emotional security and social readiness.
Environmental Stimulation	Exposed to gadgets from early age, limited outdoor activity.	Restricted social exposure, therapy attendance irregular due to financial constraints.	Environmental deprivation and limited stimulation impede social learning and emotional adaptability.

Source: Field data from observation, interview, and psychological assessment (2025)

Emotional Regulation and Expression

Emotional regulation emerged as a central psychological challenge in both participants, deeply intertwined with their limited cognitive processing capacities. The difficulty in managing affective states and maintaining behavioral control is consistent with prior studies indicating that intellectual impairment often coexists with deficits in executive functioning and emotional awareness (Gagne et al., 2021). Emotional arousal frequently exceeded each child's ability to translate internal states into comprehensible communication, resulting in behavioral outbursts. Such expressions have been recognized as common emotional manifestations in children with limited cognitive flexibility and delayed self-regulation development (Anning, 2023). These findings highlight that the ability to manage emotional intensity depends not only on neurological maturation but also on consistent emotional guidance from caregivers.

R's verbal rigidity and emotional flatness suggested reduced emotional granularity, where feelings are experienced but not effectively labeled or differentiated. Research has shown that restricted language development limits emotion labeling and consequently impairs self-regulation (Champ et al., 2023). S's repetitive speech and echoic expressions functioned as self-soothing behaviors rather than communicative exchanges, a pattern observed among children with developmental language disorders attempting to regulate overwhelming affect. These manifestations reveal that emotion regulation deficits in children with intellectual disabilities can be both neurologically rooted and behaviorally adaptive. Such adaptive mechanisms, while protective in the short term, often reinforce long-term dependence on nonverbal expression.

Observation revealed that inconsistent emotional modeling from caregivers contributed to both children's regulatory difficulties. The quality of parental emotional responsiveness plays a key role in the formation of internal regulatory frameworks during early development (Tammilehto et al., 2021). When emotional feedback is inconsistent or absent, children internalize confusion about emotional cues, resulting in erratic regulation patterns. Emotional learning depends heavily on repeated interpersonal synchronization; without stable affective attunement, regulation strategies remain fragmented and immature (McLeod, 2024). These conditions can produce heightened reactivity and diminished self-control across contexts.

Neither child demonstrated the ability to use verbal mediation as a strategy for emotional management. The reliance on physical or reactive expressions rather than language aligns with developmental psychopathology models that emphasize behavioral over symbolic regulation in children with cognitive impairments (Kaushar et al., 2025). Previous psychological studies such as (Paley & Hajal, 2022) and (Skowron & Funderburk, 2022) have found that when caregivers emphasize behavioral compliance instead of emotional coaching, children's frustration tolerance remains low and maladaptive regulation persists. The absence of structured emotional dialogue thus perpetuates miscommunication and reinforces the cycle of reactive behavior.

Emotional regulation directly affects the child's capacity for social competence and peer engagement. Studies on social-emotional development indicate that poor regulation contributes to rejection sensitivity and withdrawal behaviors in children with intellectual disabilities (Elballah & Alsayed, 2025). This pattern was visible in both participants, whose difficulties managing emotion interfered with forming stable peer relationships. Limited emotional awareness restricts social reciprocity, reducing opportunities to learn prosocial communication behaviors. Emotional dysregulation thus acts as both antecedent and outcome of social exclusion among children with developmental delays.

Neurodevelopmental frameworks, particularly those based on executive function theory, explain these difficulties as outcomes of deficits in working memory and inhibitory control. The inability to integrate emotion and cognition weakens reflective awareness and adaptive responses. Emotional confusion becomes internalized when caregivers fail to provide consistent mirroring of affective states. Over time, these relational mismatches reinforce maladaptive emotional schemas and heighten vulnerability to frustration or aggression. Such evidence suggests that interventions must target both neurocognitive and relational aspects of regulation.

Regular therapeutic exposure and emotional coaching have been demonstrated to improve emotional literacy among children with developmental disorders. Structured interventions that emphasize modeling, reflection, and labeling of emotions can expand expressive vocabulary and coping strategies. Without consistent reinforcement, however, regulatory improvement tends to remain

situational and transient. The observations from this study align with prior evidence emphasizing continuity in therapy and caregiver involvement as key determinants of emotional growth.

Social Interaction and Communication Patterns

Social communication competence among children with intellectual disabilities depends on the integration of linguistic, cognitive, and emotional systems. R and S both exhibited social interaction challenges that mirrored their expressive and receptive language delays. R's low verbal initiative and minimal eye contact indicated social detachment and reduced motivation to engage, while S's imitative communication reflected an alternative adaptation to maintain connection without mastery of symbolic language. These findings correspond with theories of *social cognition impairment* in IDD, which highlight the difficulty of processing social cues and interpreting others' intentions.

In social settings, both children demonstrated patterns of reactive rather than proactive engagement. R responded to peers only when directly addressed, often with monosyllabic answers, while S relied on mimicry and repetitive play behaviors to join activities. These patterns reveal an underlying deficit in joint attention and pragmatic communication the ability to use language in socially appropriate ways. Such limitations impede peer bonding and restrict opportunities for reciprocal emotional exchange (Lampinen, 2021). Observations confirmed that communication was often functional but lacked mutuality, leading to social misalignment.

Environmental and familial influences significantly contributed to these communication patterns. R's early and unsupervised exposure to digital media replaced direct verbal exchanges, limiting his practice in conversational turn-taking. S's restricted exposure to peer environments due to medical fragility curtailed her social learning opportunities. Both contexts deprived the children of natural feedback loops essential for developing communication competence. Interactional deprivation during formative years has been associated with delayed social-emotional calibration, manifesting as shallow conversational patterns and overreliance on caregivers for interpretation (Palance, 2024).

The data also suggested that differences in caregiver responsiveness shaped the texture of each child's social behavior. R's mother employed directive communication styles with limited affective elaboration, while S's mother tended toward overprotection and immediate emotional rescue. Such divergent parental communication climates produced parallel social effects: R developed avoidance of verbal negotiation, and S adopted dependency-driven strategies. Parental discourse quality, rather than frequency, plays a pivotal role in nurturing children's social-emotional expressiveness.

Psychological observation further indicated that nonverbal communication served as a compensatory medium for both participants. S used gestures, facial movements, and proximity seeking to substitute for verbal deficiency, while R exhibited restricted nonverbal responsiveness, reducing his accessibility to others. These contrasting expressions illustrate varying degrees of *social motivation* the internal drive to seek and maintain interpersonal connection. Children with stronger social motivation, even with linguistic deficits, are more likely to persist in communication attempts, as seen in S's behavior.

Social participation within school settings remained limited for both children, yet for different reasons. R's impulsive and inconsistent behavior often alienated peers who misinterpreted his silence as disinterest or defiance. S's delayed speech and emotional volatility, on the other hand, evoked both sympathy and avoidance among classmates. These dynamics underline the dual burden faced by children with IDD: cognitive barriers intersecting with social misperception. Such interactions can shape self-concept and reinforce social withdrawal, emphasizing the need for inclusive social frameworks that promote understanding and accommodation.

Structured social training and consistent environmental support are vital in transforming these communicative patterns. Repeated modeling of dialogue, emotional validation, and collaborative play can gradually enhance pragmatic skills and social reciprocity. Interventions emphasizing shared attention and perspective-taking have been shown to strengthen emotional understanding and cooperative behavior in similar populations. The sustainability of these gains depends on the consistency of engagement across home and school environments.

The social and communicative limitations observed in R and S demonstrate the intricate relationship between cognitive capacity, emotional understanding, and social context. Communication in children with IDD is not merely delayed speech but an intertwined psychological process shaped by neurological, familial, and societal dimensions. Targeted interventions that integrate emotional

attunement, linguistic scaffolding, and social inclusion are essential for promoting holistic development. The findings from this study reaffirm the necessity of cross-system collaboration between families, educators, and clinicians to cultivate adaptive emotional and social communication pathways for children with intellectual disabilities.

CONCLUSION

The findings of this study illuminate the complex interplay between cognitive limitation, emotional regulation, and social communication among children with intellectual disabilities. Both participants demonstrated that restricted intellectual functioning profoundly influences the ability to perceive, express, and manage emotions, as well as to form reciprocal social connections. Emotional dysregulation was not only a behavioral symptom but a reflection of deeper neurocognitive and relational constraints. The study underscores that effective emotional development in children with IDD requires consistent modeling, emotional scaffolding, and supportive interactional contexts that nurture self-regulation and expressive clarity. Emotional growth is therefore inseparable from both the stability of caregiving environments and the continuity of therapeutic engagement.

The results highlight that social communication difficulties in children with IDD stem from intertwined linguistic, emotional, and environmental factors rather than from intellectual limitations alone. The contrast between the two participants revealed that variations in parental responsiveness, exposure to social interaction, and access to structured intervention significantly shape communicative competence and emotional resilience. These insights affirm the necessity of integrative approaches that combine emotional coaching, language development, and social inclusion strategies. Future research and practice should focus on strengthening family-centered interventions, ensuring that educational and clinical systems work collaboratively to promote adaptive emotional and social functioning in children with intellectual disabilities.

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