

FREE PLAY AND EMOTION REGULATION OF CHILDREN IN LEVEL ONE PRIMARY SCHOOL CLASSROOMS IN DOUALA IV OF THE LITTORAL REGION OF CAMEROON

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Abstract

Emotion regulation is a fundamental developmental competency that enables children to recognise, manage, and appropriately express emotions while adapting successfully to social and academic environments. During the first years of primary education, children encounter new interpersonal relationships, classroom expectations, and learning demands that require effective emotional control. Free play provides a naturally occurring context in which children can practise emotional, cognitive, and social skills, yet opportunities for child-directed play remain constrained in many academically oriented school settings. This study investigated the influence of free play on the emotion regulation of children, aged 6–7 years in level one primary school classrooms in Douala IV Sub-Division of the Littoral Region of Cameroon. A sequential explanatory mixed-methods design was employed. Quantitative data were generated through a structured observation of 64 children's free-play behaviours and emotion regulation, while qualitative data were obtained through semi-structured interviews with four level one teachers. Quantitative data were analysed using frequencies, percentages, means, standard deviations, a multiple-response summary and logistic regression analysis to test the predictive power of free play over emotion regulation. Qualitative data were analysed thematically and integrated. Descriptively, emotion-regulation behaviours were often observed in 298 responses (77.6%; $M = 2.84$, $SD = 0.467$), while free-play behaviours were often observed in 240 responses (62.5%; $M = 2.63$, $SD = 0.552$). The logistic regression model showed a likelihood-ratio statistic of $\chi^2 = 32.217$, $df = 54$, $p = .000$ and Nagelkerke $R^2 = .408$. Qualitative findings indicated that teachers perceived free play as supporting emotional expression, autonomous conflict resolution, empathy, and emotional independence, while also identifying risks of exclusion, impulsivity, rough play,



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and injury. The findings extend school-based evidence on free play and emotion regulation in Cameroon by documenting children's observed regulatory behaviours alongside teachers' accounts of autonomy, empathy and exclusion. In practice, they support regular child-directed play with proportionate supervision to protect participation and safety. The study recommends protected opportunities for free play within level one primary education, accompanied by light-touch teacher facilitation that preserves children's autonomy while promoting safety and inclusion.

Keywords:

Free play, emotion regulation, emotional competence, primary school children, play-based learning.

RÉSUMÉ

La régulation émotionnelle constitue une compétence développementale fondamentale qui permet aux enfants de reconnaître, de gérer et d'exprimer leurs émotions de manière appropriée, tout en s'adaptant efficacement aux environnements sociaux et scolaires. Au cours des premières années de l'enseignement primaire, les enfants sont confrontés à de nouvelles relations interpersonnelles, aux exigences de la vie en classe et aux apprentissages scolaires, qui nécessitent une maîtrise adéquate des émotions. Le jeu libre offre un contexte naturel dans lequel les enfants peuvent développer et exercer leurs compétences émotionnelles, cognitives et sociales. Cependant, les possibilités de jeux initiés et dirigés par les enfants demeurent limitées dans de nombreux établissements scolaires privilégiant les apprentissages académiques. Cette étude a examiné l'influence du jeu libre sur la régulation émotionnelle des enfants âgés de 6 à 7 ans, inscrits au niveau I de l'enseignement primaire dans l'arrondissement de Douala IV, région du Littoral, au Cameroun. L'étude a adopté une approche méthodologique mixte de type séquentiel explicatif. Les données quantitatives ont été recueillies à travers une observation structurée des comportements de jeu libre et de régulation émotionnelle de 64 enfants, tandis que les données qualitatives ont été obtenues au moyen d'entretiens semi-directifs réalisés auprès de quatre enseignants du niveau I de l'enseignement primaire. Les données quantitatives ont été analysées à l'aide des fréquences, des pourcentages, des moyennes, des écarts-types, d'une analyse des réponses multiples et d'une régression logistique visant à déterminer le pouvoir prédictif du jeu libre sur la régulation émotionnelle. Les données qualitatives ont fait l'objet d'une analyse thématique, suivie d'une intégration des résultats issus des deux approches. Sur le plan descriptif, les comportements de régulation émotionnelle ont été fréquemment observés dans 298 réponses (77,6 % ; $M = 2,84$; $ET = 0,467$), tandis que les comportements associés au jeu libre ont été fréquemment relevés dans 240 réponses (62,5 % ; $M = 2,63$; $ET = 0,552$). Le modèle de régression logistique a révélé une statistique du rapport de vraisemblance de $\chi^2 = 32,217$, avec 54 degrés de liberté et une valeur de $p = 0,000$, ainsi qu'un coefficient R^2 de Nagelkerke de 0,408. Les résultats qualitatifs ont montré que, selon les enseignants, le jeu libre favorise l'expression des émotions, la résolution autonome des conflits, l'empathie et l'autonomie émotionnelle. Toutefois, les enseignants ont également relevé certains risques, notamment l'exclusion de certains enfants, l'impulsivité, les jeux brutaux et les blessures. Ces résultats enrichissent les connaissances scientifiques sur les relations entre le jeu libre et la régulation émotionnelle en milieu scolaire camerounais, en mettant en évidence les comportements de régulation émotionnelle observés chez les enfants ainsi que les perceptions des enseignants concernant l'autonomie, l'empathie et l'exclusion. Sur le plan pratique, ils soulignent l'importance d'intégrer régulièrement des activités de jeu libre dirigées par les enfants, accompagnées d'une supervision proportionnée garantissant leur participation et leur sécurité. L'étude recommande ainsi l'aménagement de périodes régulières et protégées consacrées au jeu libre dans les classes du niveau I de l'enseignement primaire,

avec un accompagnement pédagogique discret de la part des enseignants, afin de préserver l'autonomie des enfants tout en favorisant leur sécurité et leur inclusion.

Mots-clés : *Jeu libre, régulation émotionnelle, compétences émotionnelles, enfants du primaire, apprentissage par le jeu.*

Introduction

Emotion regulation constitutes one of the most significant developmental achievements during early childhood because it determines children's capacity to understand, monitor, evaluate, and modify emotional responses in ways that facilitate successful interaction with others and effective adaptation to environmental demands. Gross (2015) conceptualizes emotion regulation as the processes through which individuals influence the emotions they experience, when they occur, and how they are expressed. During the transition into formal schooling, emotion regulation becomes increasingly important because children must adapt to new experiences, including classroom routines, cooperation with peers, complying with rules, experiencing and solving interpersonal conflicts, and coping with academic expectations. Children who successfully regulate emotions generally demonstrate stronger social competence, improved classroom behaviour, greater academic engagement, and healthier peer relationships than children who experience difficulties controlling emotional responses (Denham et al., 2012).

Level one primary school represents a particularly sensitive developmental and educational period because children aged six to seven years move from relatively informal home environments into structured educational settings characterized by increasing academic expectations and more complex social interactions. This transition requires children to develop greater emotional awareness, behavioural flexibility, impulse control, and interpersonal competence. Emotional regulation, therefore, serves as a foundation upon which subsequent academic success, psychological adjustment, and social competence are built. Children who fail to acquire these competencies often experience behavioural problems, peer rejection, poor classroom adjustment, emotional distress, and reduced academic achievement (Cole et al., 2004).

In developmental psychology, play has consistently been recognized as one of the most natural mechanisms through which children acquire emotional competence. Unlike formal instructional activities, play provides intrinsically motivating experiences that encourage children to explore emotions, negotiate social relationships, solve interpersonal conflicts, and experiment with behavioural responses in psychologically safe environments. Bodrova and Leong (2007) observed that play enables children to internalize social rules while simultaneously developing self-regulation and executive functioning. Similarly, Pellegrini (2009) argued that play represents an essential developmental activity through which children learn cooperation, empathy, emotional expression, and behavioural adaptation.

Among the different forms of play in developmental literature, free play occupies a unique position because it is entirely initiated, directed and controlled by children themselves. Whitebread et al. (2012) define free play as voluntary, intrinsically motivated, child-directed activity characterized by imagination, creativity, exploration, and minimal adult intervention. During free play, children independently determine objectives, negotiate rules, assign roles, resolve disagreements, and regulate emotional responses without direct external control. Consequently, free play creates authentic opportunities for children to practice emotional regulation in naturally occurring social situations. The emotional experiences encountered during free play are particularly valuable because they emerge spontaneously rather than through teacher-directed activities. Children experience excitement when games begin successfully, frustration when disagreements occur, disappointment when they lose games, empathy when peers become distressed, and satisfaction when collaborative goals are achieved. Successfully navigating these emotional experiences requires children to monitor emotional reactions, delay impulsive responses, negotiate conflicts, consider others'

perspectives, and develop adaptive coping strategies. Repeated engagement in such emotionally meaningful interactions gradually strengthens children's emotional competence and self-regulatory abilities (Goldstein, 2012).

Developmental neuroscience further supports the relationship between free play and emotional regulation. For example, Diamond and Lee (2011) demonstrated that emotionally rich play experiences stimulate brain regions responsible for executive functioning, particularly the prefrontal cortex, which governs inhibitory control, working memory, cognitive flexibility, and behavioural self-regulation. Diamond (2013) further explained that repeated opportunities to practice executive functions during play strengthen neural pathways involved in emotional control, resilience, perspective-taking and adaptive decision-making. Consequently, children who regularly participate in meaningful free play develop stronger capacities for controlling impulses, managing frustration, delaying gratification, and adapting behaviour appropriately across different social contexts.

Globally, play-based learning has gained recognition as an approach to early childhood education. UNICEF (2018) recommends learning through play as a means of supporting children's cognitive, social and emotional development. This directly supports the argument for protecting opportunities for child-directed play in early schooling. However, recognition of play-based learning does not necessarily translate into regular opportunities for free play, particularly where curriculum coverage and academic attainment dominate school priorities.

In Cameroon, prioritizing examination performance and cognitive achievement has become particularly evident in urban centres such as Douala, where expanding school enrolments, examination pressures, overcrowded classrooms and teacher-centred instructional approaches have substantially reduced opportunities for meaningful play during school hours (Nsamenang, 2006). Urbanization has further transformed children's opportunities for free play. Traditionally, children participated extensively in communal games, storytelling, outdoor exploration, singing, dancing and imaginative social activities within extended family and community environments. These culturally embedded forms of free play naturally promoted emotional regulation through cooperation, conflict resolution, empathy, responsibility and shared social experiences. However, increasing urbanization, changing parenting practices, limited recreational spaces, and intensified academic expectations have significantly reduced children's participation in these traditional forms of play (Wiysahnyuy & Ngalim, 2023).

Research conducted across Europe, North America, and Asia consistently demonstrates positive associations between free play and emotional competence. For example, Ginsburg (2007) emphasized that play provides developmentally appropriate opportunities for children to explore emotions safely while acquiring coping strategies necessary for healthy psychological adjustment. Whitebread et al. (2012) further reported that free play enables children to develop self-confidence, emotional flexibility, persistence, creativity, and independent problem-solving. Meanwhile, Lindsey & Colwell (2013) concluded that child-directed play significantly strengthens empathy, cooperation, emotional awareness, and social competence among young learners. In African contexts, Nsamenang (2006) argued that African children's emotional development is deeply rooted in communal participation, social interaction, storytelling, and cooperative play. Nsamenang and Tchombe (2011) situated learning and development within African cultural and educational practices, providing a broader context for understanding communal play. These culturally grounded perspectives suggest that preserving opportunities for free play within formal educational settings may strengthen children's emotional development while respecting indigenous approaches to learning.

Douala IV Sub-Division presents a particularly relevant setting for investigating relationships between free play and emotional regulation among children in level one primary school classrooms. This is because children experience increasing academic pressures alongside rapidly changing social environments associated with urbanization and cosmopolitanism. Many schools operate under conditions characterized by overcrowded classrooms, limited

recreational facilities, teacher-centred instructional approaches, and restricted opportunities for spontaneous child-directed play. Simultaneously, teachers increasingly report behavioural challenges, emotional outbursts, attention difficulties, and poor peer interactions among young learners. These challenges raise important questions regarding whether expanding opportunities for free play could strengthen children's emotional regulation and improve overall educational adjustment. The present study therefore examined the influence of free play on the emotion regulation of level one primary school children, aged six to seven years in Douala IV Sub-Division in the Littoral Region of Cameroon. Specifically, the study sought to determine whether participation in child-directed free play contributes significantly to emotional expression, emotional control, empathy, frustration tolerance, peer cooperation, conflict resolution, and adaptive social behaviour.

LITERATURE REVIEW

Free play represents one of the most natural expressions of childhood and has long been recognized as an indispensable component of healthy human development. Although play assumes numerous forms throughout childhood, free play occupies a distinctive position because it is initiated, organized, and controlled entirely by children without predetermined objectives imposed by adults. Unlike structured educational activities, free play is intrinsically motivated, voluntary, imaginative, flexible, and driven by children's interests rather than external expectations. Smith & Pellegrini (2013) broadly define play as an enjoyable, intrinsically motivated activity characterized by exploration, imagination, and active engagement without immediate concern for externally imposed outcomes. This conceptualization emphasizes children's autonomy in directing learning experiences while simultaneously acquiring cognitive, emotional, social, and physical competencies. Within this broader understanding, free play represents the purest expression of children's natural curiosity because activities emerge spontaneously from their interests rather than teacher instructions or curriculum objectives.

Whitebread et al. (2012) specifically define free play as unstructured, voluntary activity initiated and directed by children themselves with minimal adult intervention. During free play, children independently establish goals, negotiate rules, assign roles, explore imaginative scenarios, solve emerging problems, and regulate interactions with peers. Adult involvement remains limited to ensuring children's safety while allowing developmental learning processes to unfold naturally. This autonomy distinguishes free play from teacher-directed instructional activities and provides unique opportunities for developing independence, creativity, emotional competence, and self-regulation. In line with this, Bruce (1991) emphasizes that genuine play occurs when activities remain free-flowing and unrestricted by adult control. From this perspective, adult direction may unintentionally reduce children's opportunities to make independent decisions, solve interpersonal conflicts, and regulate emotions. Conversely, Elkind (2009) argues that structured adult-guided activities may also contain playful elements when appropriately designed. These contrasting viewpoints illustrate ongoing scholarly debate concerning the boundaries between free play and guided learning while highlighting the unique developmental significance of activities controlled entirely by children themselves.

Sutton-Smith (1997) further argues that play cannot be adequately understood through a single definition because its meaning varies across developmental, cultural, psychological and educational contexts. Rather than representing merely entertainment or leisure, play encompasses multiple developmental functions including emotional regulation, identity formation, cognitive development, social learning, creativity, resilience and cultural participation. This multidimensional perspective explains why free play contributes simultaneously to numerous developmental outcomes, particularly emotional competence. Cultural perspectives further enrich the understanding of free play. In this direction, Lancy (2007) observed that within many non-industrialized societies, children's play naturally merges with productive community activities rather than existing separately as leisure. Nsamenang (2006) adds that African children frequently participate in playful activities

embedded within everyday family responsibilities including farming, cooking, caregiving, storytelling and community celebrations. These culturally meaningful forms of free play simultaneously promote emotional maturity, moral development, social responsibility and community integration. Rather than separating work from play, African communities often regard playful participation in communal life as preparation for responsible adulthood.

Rogoff (2003) also proposed that children in many traditional societies learn through intentional participation whereby observation, imitation, exploration, and playful engagement gradually facilitate mastery of culturally valued knowledge and emotional behaviours. Consequently, free play functions not only as recreation but also as an essential mechanism through which children internalize community values, social expectations, interpersonal responsibilities, and culturally appropriate emotional expression. In contemporary educational psychology, free play is increasingly recognized as a powerful pedagogical resource. That is why Hirsh-Pasek & Golinkoff (2003) argued that playful learning environments naturally stimulate language development, executive functioning, creativity, and problem-solving because children actively construct knowledge through exploration rather than passive reception. In their work, Diamond (2013) further demonstrated that child-directed play strengthens executive functions including inhibitory control, working memory, cognitive flexibility, planning and self-monitoring, all foundational processes underlying effective emotion regulation.

From an educational perspective, free play also supports intrinsic motivation because activities arise from children's own interests rather than external rewards. Self-determination enhances persistence, creativity, emotional engagement, and resilience when challenges arise during play. Consequently, children willingly invest greater effort in resolving conflicts, managing frustration, negotiating disagreements, and maintaining positive peer relationships than they might during externally directed instructional activities. Within the context of level one primary education, free play provides developmentally appropriate opportunities for children to experiment safely with emotional expression while gradually acquiring self-control, empathy, cooperation, emotional flexibility and adaptive social behaviours. These developmental experiences become particularly important during children's transition into formal schooling because successful classroom adjustment depends heavily upon children's ability to independently regulate emotions.

Empirical evidence linking free play with emotion regulation and related self-regulatory capacities is promising but not uniformly causal. For example, Lindsey and Colwell (2013), studying preschool children, found that pretend and physical play were associated with affective social competence, supporting the proposition that play provides contexts for practising emotional expression and interpersonal adjustment. Using teacher ratings of 127 preschool children, Hamamcı and Balaban Dağal (2022) similarly reported meaningful associations among play behaviours, emotion regulation, and executive functioning. More robust longitudinal evidence emerges from Colliver et al. (2022), who analysed 2,213 Australian children and found that time spent in unstructured quiet play at ages 2–3 and 4–5 predicted better self-regulation two years later even after controlling for earlier self-regulation and other known predictors. They also found that active free play at ages 4–5 also predicted later self-regulation within a moderate range of daily play time. These findings strengthen the temporal argument that free play may contribute to later regulatory competence, although the observational design still prevents a definitive causal conclusion.

Physiological and classroom evidence further qualifies this relationship. For example, Gleason et al. (2021) examined 78 five-year-old children and found that more frequent opportunities for social free play predicted higher respiratory sinus arrhythmia across baseline and stress conditions, suggesting a possible association between play opportunities and autonomic regulation; however, free play did not predict the rate of physiological change between conditions. Also, drawing from observations and interviews in 11 Canadian kindergarten classrooms, Pyle et al. (2022) found that teachers used both child-led and teacher-guided play to support different aspects of self-regulation, indicating that the developmental value of play may depend partly on the type of regulation targeted and the nature of adult support. Earlier

syntheses also cautioned against assuming that all forms of pretend or free play automatically produce regulatory gains. Thus, existing evidence supports an association between play and emotional/self-regulatory development, but variations in play type, measurement, age, culture, and research design limit direct generalisation to Level One children in Cameroon. The present study addressed this contextual gap by combining direct observation of children's free-play and emotion-regulation behaviours with teachers' accounts, especially in an urban primary-school setting in Cameroon.

This study was anchored on four complementary theories that collectively explain how free play contributes to children's emotion regulation. These include Vygotsky's (1978) sociocultural theory, Piaget's (1962) cognitive development theory, Baumeister & Heatherton's (1996) self-regulation theory and Gross's (1998, 2015) process model of emotion regulation. Together, these theories provide an explanation of the cognitive, social, behavioural and emotional mechanisms through which free play promotes emotional competence among young learners.

Lev Vygotsky's sociocultural theory remains one of the most influential theoretical perspectives explaining children's development and learning through social interaction. Vygotsky (1978) argued that higher psychological functions originate through interpersonal relationships before becoming internalized within the individual. According to the theory, children develop thinking, language, self-control, and emotional competence primarily through interactions with more knowledgeable peers and adults within socially meaningful contexts. One of Vygotsky's most important contributions is the idea of the zone of proximal development (ZPD), referring to the developmental space between what children can accomplish independently and what they can achieve with guidance (Vygotsky, 1978). Free play creates ideal opportunities for children to operate within this developmental zone because children continuously negotiate roles, cooperate with peers, solve interpersonal disagreements, and practice emotional self-control while participating in imaginative social situations.

Vygotsky further proposed that pretend and imaginative play provide children with opportunities to practice behavioural regulation before these abilities become fully internalized. During play, children voluntarily follow self-created rules, delay immediate gratification, consider others' perspectives, regulate impulses, and coordinate behaviours with peers. Although these regulatory behaviours initially emerge because of external social expectations within the game, repeated participation gradually transforms them into internal mechanisms of self-regulation. In free play, emotional regulation develops naturally because children frequently encounter emotionally meaningful situations requiring adaptive responses. Children may experience disappointment after losing a game, excitement during successful collaboration, frustration when peers disagree, or anxiety while negotiating unfamiliar social roles. Rather than receiving immediate adult solutions, children learn to regulate these emotions through negotiation, cooperation, compromise, and shared problem-solving. Whitebread et al. (2012) also argued that social play enables children to internalize emotional control through repeated interaction with peers.

Jean Piaget's theory of cognitive development provides another important explanation for the relationship between free play and emotion regulation. Piaget (1962) regarded play as an essential mechanism through which children actively construct knowledge while interacting with their physical and social environments. According to Piaget, children aged six to seven years occupy the latter stages of the preoperational period and gradually transition toward concrete operational thinking. During this developmental stage, symbolic thought, imagination, role-playing and perspective-taking become increasingly sophisticated. Piaget (1962) argued that symbolic play enables children to represent experiences mentally, rehearse emotional situations and gradually distinguish between imagined experiences and reality. Through imaginative play, children repeatedly encounter situations requiring emotional understanding, empathy, behavioural flexibility, and social adaptation. In line with this, Harris (2000) suggested that pretend play allows children to understand emotional responses in themselves and others while developing greater emotional awareness. In free

play environments, children actively assimilate new emotional experiences into existing cognitive structures while simultaneously accommodating those structures to incorporate new understanding. For example, a child who experiences conflict during play initially responds impulsively but gradually learns more adaptive behavioural strategies after repeated interactions with peers. These experiences contribute simultaneously to cognitive growth and emotional development.

Piaget also emphasized children's active role in constructing developmental knowledge rather than passively receiving information from adults. Free play reflects this principle because children independently create games, solve problems, establish rules, negotiate disagreements, and evaluate emotional consequences arising from their own decisions. Such experiences strengthen children's capacity for independent emotional regulation because behavioural control emerges from internally constructed understanding rather than externally imposed discipline. In Cameroon primary schools, especially in more traditional (and rural) contexts, children frequently engage in culturally meaningful imaginative games, storytelling, dramatic role-playing, and traditional community activities. These experiences provide opportunities for them to practice emotional understanding within familiar cultural contexts. Piaget's theory therefore supports integrating free play into early childhood education as an effective strategy for promoting both cognitive and emotional development.

Roy F. Baumeister and Todd F. Heatherton's (1996) self-regulation theory conceptualizes emotional regulation as one component of broader behavioural self-regulation. According to the theory, successful self-regulation requires individuals to monitor behaviour continuously, evaluate current responses against desired standards, and modify actions whenever discrepancies occur. Emotional control therefore depends upon children's capacity to inhibit impulsive reactions while maintaining behaviour consistent with personal goals and social expectations. The theory argues that self-regulation develops through repeated opportunities to practice impulse control within meaningful everyday situations. Free play naturally provides these opportunities because children must frequently delay gratification, follow voluntarily accepted rules, negotiate competing interests, resolve conflicts peacefully, and cooperate toward shared objectives. Unlike externally imposed discipline, behavioural regulation during free play arises because children personally value successful continuation of the activity. Baumeister and Heatherton (1996) further proposed that repeated practice strengthens children's capacity for behavioural regulation across increasingly complex situations. Each successful experience controlling frustration, managing disappointment, delaying impulses, or resolving interpersonal conflict strengthens children's overall self-regulatory capacity. Consequently, emotional regulation gradually becomes more automatic and transferable to classroom learning, peer relationships, and family interactions.

James Gross's (1998, 2015) process model of emotion regulation provides, perhaps, the most comprehensive theoretical explanation of how free play facilitates emotional regulation. Gross conceptualizes emotions as dynamic processes unfolding across four sequential stages: situation, attention, appraisal and response. According to this framework, emotional regulation may occur before emotional responses fully develop or after emotions have already been generated. Gross distinguishes between antecedent-focused strategies, which modify emotions before behavioural responses occur, and response-focused strategies, which regulate emotions after they have emerged. Antecedent-focused strategies include situation selection, situation modification, attentional deployment, and cognitive reappraisal. Response-focused regulation primarily involves suppressing emotional expression after emotions have already developed.

Free play naturally engages children in each of these regulatory processes. Children often choose preferred play situations, modify activities when difficulties arise, shift attention toward enjoyable aspects of games, reinterpret disappointing events positively, and regulate behavioural expressions following emotionally significant experiences. These repeated experiences gradually strengthen children's capacity to regulate emotions across increasingly diverse situations. Gross's (2015) extended process model further emphasizes that effective emotion regulation requires flexibility rather than rigid application of specific strategies.

Children must learn when particular emotional responses are appropriate and when alternative responses produce more adaptive outcomes. Free play provides repeated opportunities for developing this flexibility because every play episode presents unique emotional challenges requiring individualized responses. Among level one primary school children, Gross's (1998, 2015) model explains how their emotional competence develops through repeated participation in self-directed play experiences. Each emotionally significant interaction contributes to children's growing capacity for emotional awareness, behavioural flexibility, empathy, frustration tolerance and adaptive coping. Consequently, this model provides a particularly powerful theoretical framework for understanding why free play significantly enhances children's emotion regulation within educational settings.

Although each of these theories approach emotional development from a different perspective, all four converge on a common conclusion, that, free play provides an indispensable developmental context for children's emotional regulation. Lev Vygotsky emphasizes social interaction, Jean Piaget highlights active cognitive construction, Roy F. Baumeister and Todd F. Heatherton focus on behavioural self-control, while James Gross explains the psychological processes through which emotions are regulated. Together, these theories demonstrate that free play simultaneously strengthens children's social competence, cognitive flexibility, executive functioning, behavioural regulation and emotional adaptability. The convergence of these theoretical perspectives provides a strong conceptual foundation for expecting a significant positive relationship between free play and emotion regulation among level one primary school children.

Statement of the problem

Emotion regulation is a fundamental developmental competence acquired during early childhood. It influences children's behavioural adjustment, academic engagement, social relationships, and psychological well-being. Children with effective emotion regulation abilities demonstrate greater resilience, social competence, and academic success. Despite increasing recognition of socio-emotional development as an essential component of early elementary education, many primary schools continue to prioritize cognitive achievement over emotional development. Many children enter school without adequate opportunities to develop emotional competencies. In urban areas such as Douala, teaching remains largely teacher-centred and examination-oriented, with educational success primarily measured by literacy and numeracy outcomes. Consequently, opportunities for meaningful play have declined because of increased academic demands, overcrowded classrooms, limited recreational facilities, and parental expectations. This limits children's opportunities to develop emotional self-regulation, empathy, cooperation, conflict resolution, and problem-solving skills. Against this background, this study investigated the influence of free play on the emotion regulation of level one primary school children aged six to seven years in Douala IV Sub-Division. Specifically, it examined whether child-directed free play enhances children's ability to recognize, manage, and appropriately express emotions, thereby providing context-specific evidence to inform educational policy, curriculum development, teacher preparation and classroom practices in level one primary schools in Cameroon.

Methods

The study employed a sequential explanatory mixed-methods research design, integrating quantitative and qualitative approaches to examine the influence of free play on the emotion regulation of Level One primary school children aged 6–7 years in Douala IV Sub-Division, Wouri Division, Littoral Region of Cameroon. The accessible population comprised 319 level one pupils from Government Bilingual Practising School Sodiko Group 1, from whom 64 pupils were selected for structured observation; four level one teachers participated in the qualitative phase. Quantitative data were collected with structured observation checklists covering free-play behaviours and emotion-regulation behaviours. The quantitative instruments were the Free Play Observation Checklist and the Emotion Regulation Observation Checklist, while the qualitative instrument was a semi-structured Teacher

Interview Guide. Children were observed during naturally occurring free-play sessions, and teachers subsequently participated in face-to-face interviews. Meanwhile, qualitative data were obtained through a semi-structured teacher interview guide designed to explain and elaborate patterns emerging from the observational phase. The sequential structure therefore placed quantitative observation first and qualitative interviews second, with integration occurring during interpretation.

Quantitative data were analysed using frequencies and percentages to describe response distributions, means and standard deviations to summarise the level and variability of observed behaviours, and multiple-response summaries to show the overall distribution across checklist indicators. Logistic regression was used to verify the predictive power of free play over emotion regulation. The hypothesis was tested at $\alpha = .05$, with model fit assessed using the likelihood-ratio chi-square statistic and explanatory/predictive power summarised with Nagelkerke R^2 . Teacher interviews were transcribed, coded and analysed thematically by identifying recurrent themes and sub-themes concerning opportunities for free play, emotional independence, perceived benefits, and challenges. Quantitative and qualitative findings were then integrated in the discussion to determine areas of convergence, qualification and contextual explanation.

Findings

Table 1
Emotion regulation among level one primary school children during free play

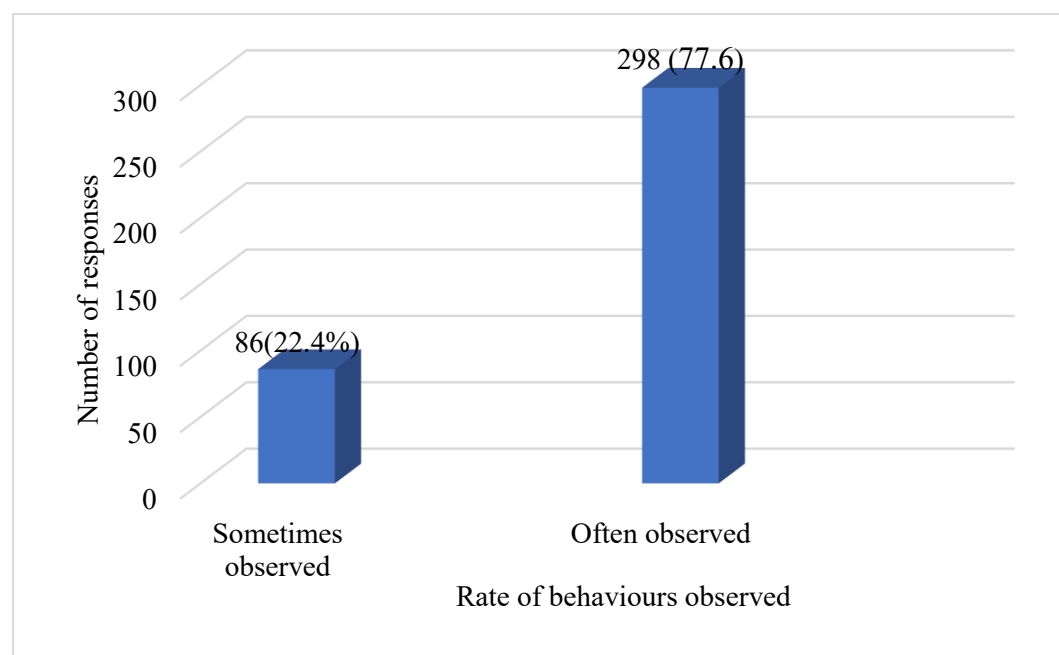
Items	Sometimes observed		Often observed		Mean	Std Dev
	n	%	n	%		
Child resolves minor conflicts without aggressive behaviours	21	32.8	43	67.2	2.73	.570
Child is able to continue playing after experiencing minor disappointment or frustration	22	34.4	42	65.6	2.69	.588
The child appropriately expresses emotions (e.g., happiness, anger, sadness) during play	5	7.8	59	92.2	3.16	.541
Child remains calm when corrected by teacher or facilitator	21	32.8	43	67.2	2.69	.500
Child shows empathy toward peers who are upset	15	23.4	49	76.6	2.77	.427
Child follows safety rules during active play activities	2	3.1	62	96.9	2.97	.175
Multiple response set (MRS)	86	22.4	298	77.6	2.84	0.467

The data show that 43 children (67.2%) were often observed resolving minor conflicts without displaying aggressive behaviours, while 21 children (32.8%) were only sometimes observed demonstrating this behaviour. This item recorded a mean score of 2.73 with a standard deviation of 0.570, indicating that conflict resolution through non-aggressive means was frequently observed among majority of the children during play activities. Regarding ability to continue playing after experiencing minor disappointment or frustration, 42 children (65.6%) were often observed displaying this behaviour, whereas 22 children (34.4%) were sometimes observed doing so. The item obtained a mean score of 2.69 and a standard deviation of 0.588, indicating that most children were frequently able to recover from minor setbacks encountered during play and continue participating in activities. Data further revealed that 59 children (92.2%) were often observed appropriately expressing emotions such as happiness, anger, and sadness during play, while only 5 children (7.8%) were sometimes observed demonstrating this behaviour. This recorded the highest mean score of 3.16 with a standard deviation of 0.541, suggesting that emotional expression was one of the most frequently observed emotion regulation behaviours among the children during play sessions.

Concerning children’s ability to remain calm when corrected by a teacher or facilitator, 43 children (67.2%) were often observed remaining calm, whereas 21 children (32.8%) were sometimes observed displaying this behaviour. This generated a mean score of 2.69 with a standard deviation of 0.500, showing that majority of the children frequently maintained emotional composure when receiving corrections during play activities. With respect to empathy towards peers, 49 children (76.6%) were often observed showing empathy to classmates who were upset, while 15 children (23.4%) were sometimes observed demonstrating empathy. This item yielded a mean score of 2.77 and a standard deviation of 0.427, indicating that empathetic responses towards peers were commonly observed during the play sessions.

The data also indicate that 62 children (96.9%) were often observed following safety rules during active play activities, while only 2 children (3.1%) were sometimes observed doing so. This recorded a mean score of 2.97 and the lowest standard deviation of 0.175, suggesting a high level of consistency among the children in adhering to safety instructions during physical play activities. Against these emotion regulation behaviours, the multiple response set (MRS) shows that, across all six measures of emotion regulation, 298 responses (77.6%) were classified as often observed, while 86 responses (22.4%) were classified as sometimes observed. The average mean score was 2.84 with a standard deviation of 0.467, indicating that emotion regulation behaviours were frequently observed among the children during free play activities, with more than three-quarters of all observations falling within the “often observed” category. The average mean score of 2.84 further suggests that children consistently demonstrated positive emotion regulation behaviours across the various play situations observed.

Figure 1
Observed Behaviours Showing Emotion Regulation



This figure summarizes the frequency with which emotion regulation behaviours were observed across all indicators included in the observation checklist. The findings show that majority of the observed behaviours fell within the “Often Observed” category. Specifically, 298 responses, representing 77.6%, were classified as often observed. This category constituted more than three-quarters of all recorded observations, indicating that behaviours associated with emotion regulation were frequently demonstrated by children during the play sessions. In contrast, 86 responses, representing 22.4%, were classified under the “Sometimes Observed” category. Although these behaviours were evident among the children, they occurred less frequently compared to those recorded in the often-observed category. The

difference between the two categories is substantial, with the frequency of “often observed” behaviours exceeding that of “sometimes observed” behaviours by 212 responses and by 55.2 percentage points.

Findings from interviews with teachers revealed that participants conceptualized play as a critical developmental mechanism through which children acquire social-emotional competencies and emotional regulation skills. Across all interviews, teachers consistently associated play with emotional growth, social interaction, cooperation, and emotional expression. This suggests that participants perceived play as an indispensable component of children’s psychosocial development rather than merely a recreational activity.

Table 2
Free Play Activities Observed

Items	Sometimes observed		Often observed		Mean	Std Dev
	n	%	N	%		
Child independently chooses toys or materials to play with	23	35.9	41	64.1	2.67	.592
Child invents or creates their own play activities	23	35.9	41	64.1	2.61	.553
Child plays alone with toys or materials for some time	20	31.3	44	68.7	2.67	.506
Child explores different play materials available	28	43.8	36	56.2	2.61	.581
Child changes play activities according to personal interest	25	39.1	39	60.9	2.61	.553
Child uses imagination to create pretend scenarios during play	25	39.1	39	60.9	2.59	.526
Multiple response set (MRS)	144	37.5	240	62.5	2.63	0.552

The data indicate that 41 children (64.1%) were often observed independently choosing toys or materials to play with, while 23 children (35.9%) were sometimes observed displaying this behaviour. This behaviour recorded a mean score of 2.67 with a standard deviation of 0.592, suggesting that a larger proportion of the children frequently exercised autonomy in selecting play materials during free play sessions. Regarding the ability to invent or create their own play activities, 41 children (64.1%) were often observed engaging in self-created play activities, whereas 23 children (35.9%) were sometimes observed doing so. This yielded a mean score of 2.61 and a standard deviation of 0.553, showing that many children frequently demonstrated creativity by initiating and developing their own play experiences.

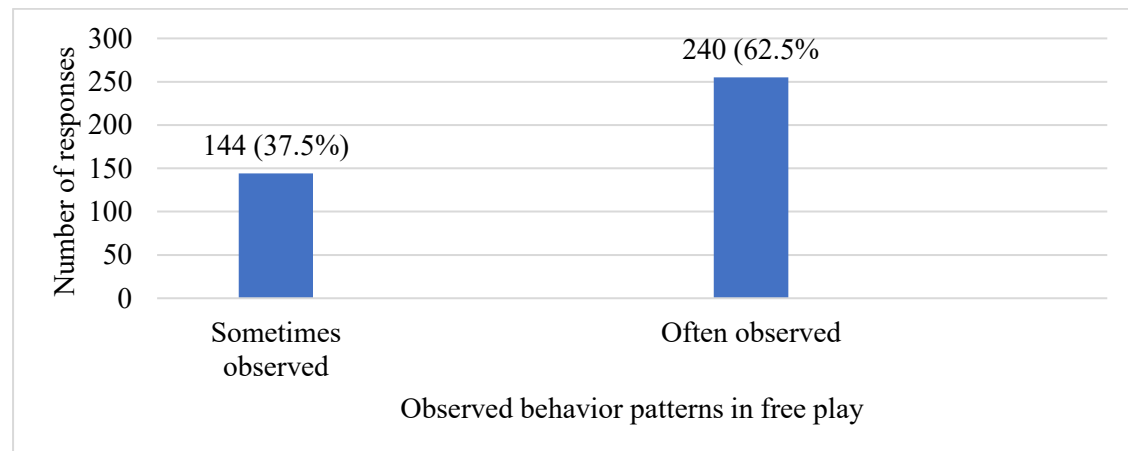
The data further reveal that 44 children (68.7%) were often observed playing alone with toys or materials for some time, while 20 children (31.3%) were sometimes observed exhibiting this behaviour. This recorded a mean score of 2.67 with a standard deviation of 0.506. Among the activities assessed, this behaviour recorded one of the highest proportions of children being often observed, indicating that solitary engagement with play materials occurred frequently during the observation period. With respect to exploring different play materials available, 36 children (56.2%) were often observed exploring various materials, whereas 28 children (43.8%) were sometimes observed doing so. The mean score was 2.61 with a standard deviation of 0.581, indicating that more than half of the children frequently interacted with different play resources, although a substantial proportion did so only occasionally.

Concerning children’s tendency to change play activities according to personal interest, 39 children (60.9%) were often observed changing activities, while 25 children (39.1%) were sometimes observed displaying this behaviour. This recorded a mean score of 2.61 and a standard deviation of 0.553, suggesting that many children frequently shifted between activities based on their interests and preferences during free play. Similarly, 39 children (60.9%) were often observed using imagination to create pretend scenarios during play,

whereas 25 children (39.1%) were sometimes observed demonstrating imaginative play, with a mean score of 2.59 and a standard deviation of 0.526, representing the lowest mean score among the free play indicators. Nevertheless, the majority of children were still frequently observed engaging in imaginative and pretend play activities.

The multiple response set (MRS) for free-play activities shows that 240 responses (62.5%) were classified as often observed, while 144 responses (37.5%) were classified as sometimes observed across the six free-play indicators. The MRS yielded a mean score of 2.63 and a standard deviation of 0.552, indicating that free-play behaviours were more frequently observed than occasionally observed during the play sessions. The mean score further indicates regular demonstration of behaviours associated with independent choice, creativity, exploration, flexibility, and imaginative engagement during free play.

Figure 2
Observed behaviour patterns during free play



Across the six indicators, 240 responses (62.5%) were categorised as often observed, indicating that behaviours associated with independent choice, self-created activities, exploration, flexibility, and imaginative engagement occurred frequently during the observation sessions. In comparison, 144 responses (37.5%) were categorised as sometimes observed. The difference between the two categories was 96 responses, equivalent to 25 percentage points. The graphical pattern therefore shows a clear predominance of frequently observed free-play behaviours over those observed only sometimes.

Table 3
Thematic Analysis of Free Play and Emotion Regulation

Major Themes	Sub-Themes	Verbatim Extracts	Participants
Provision of opportunities for free play	Break periods as opportunities for free play	“During long break periods 5 extra minutes are given to the children.”	Interviewee 1
	Minimal adult supervision	“They are allowed to play on their own with minimal control.”	Interviewee 2
	Flexible free play sessions	“When they just come in the afternoon sessions and during long breaks.”	Interviewee 3
Free play promotes emotional independence	Independent emotional management	“Children are less pressured... they learn appropriately to respond to feelings and emotions.”	Interviewee 1
	Autonomous conflict resolution	“They manage their differences and disagreements very well.”	Interviewee 2

	Self-directed problem solving	“They encounter their challenges and resolve them by themselves.”	Interviewee 4
Benefits associated with free play	Natural emotional expression	“They express their emotions freely and naturally.”	Interviewee 4
	Inclusion of introverted children	“Some of the introverted children express their interest in joining...”	Interviewee 3
	Empathy development	“Children understand the feelings of their peers and show empathy.”	Interviewee 4
Challenges associated with free play	Emotional impulsivity and aggression	“Some children react quickly to emotions like anger...”	Interviewee 1
	Exclusion of weaker children	“The slow or weaker children are left behind.”	Interviewee 2
	Rough play and injuries	“They are too rough, and it can lead to injuries.”	Interviewee 3
	Low self-esteem and fear of participation	“Some of the children are not motivated to join others...”	Interviewee 4

Interview data show that teachers perceived free play as a highly significant context for emotional independence, emotional expression, and autonomous emotional regulation among children. Participants consistently described free play as child-centred, minimally supervised, and characterized by spontaneous interactions among peers. One major theme emerging from the findings concerns the provision of opportunities for free play. Teachers explained that free play commonly occurs during break periods, afternoon sessions, and other less structured school periods. Interviewee 2 noted that children are “allowed to play on their own with minimal control,” suggesting that participants intentionally create opportunities for child autonomy within school environments.

The data further reveal that teachers strongly associated free play with the development of emotional independence and self-regulation. Participants explained that children learn to manage disagreements, frustrations, and interpersonal conflicts independently when adults are minimally involved. Interviewee 1 emphasized that children “learn appropriately to respond to feelings and emotions,” while Interviewee 4 explained that children “encounter challenges and resolve them by themselves.” These responses suggest that teachers perceive emotional competence as emerging through direct experiential engagement and peer negotiation rather than through externally imposed adult regulation. Critically, these findings reflect an implicit pedagogical belief that emotional learning occurs most authentically when children exercise agency and autonomy during play. Participants therefore appeared to value child-directed experiences as opportunities for emotional experimentation, self-discovery, and interpersonal learning.

Another important aspect concerns the benefits associated with free play. Teachers reported that free play enhances emotional expression, empathy, communication, and participation among shy or introverted children. Interviewee 3 specifically observed that introverted children gradually become interested in joining activities after observing peers engage in play. This suggests that free play may function as a socially inclusive mechanism that gradually facilitates emotional participation among socially withdrawn children. Despite these positive perceptions, participants also identified substantial challenges associated with free play. Emotional impulsivity, aggression, injuries, exclusion, low self-esteem, and unequal participation were frequently mentioned. Interviewee 1 reported that some children “react quickly to emotions like anger,” while Interviewee 2 observed that “slow or weaker children are left behind.”

Data also critically reveal that free play environments are not uniformly beneficial to all children. Rather, they may reproduce social inequalities and emotional vulnerabilities, particularly for less assertive, introverted, or physically weaker children. Consequently, emotional regulation opportunities within free play appear unevenly distributed among children depending on confidence, peer acceptance, temperament, and physical ability. Furthermore, the findings expose an important tension between autonomy and supervision. While participants largely celebrated minimal adult intervention, the recurring reports of injuries, exclusion, and emotional outbursts suggest that complete absence of guidance may not always promote healthy emotional regulation. This finding shows the necessity for balanced adult facilitation capable of preserving children's autonomy while ensuring emotional safety, inclusion, and constructive conflict resolution. The findings demonstrate that teachers perceive free play as highly valuable for emotional development and independence. Nevertheless, the analysis also reveals that free play environments contain inherent emotional and social risks requiring thoughtful adult mediation and inclusive support strategies.

Table 4

Model fitting and predictive power of free play on emotion regulation of level one primary school children, aged 6-7 years.

Likelihood Ratio test	Explanatory/predictive power of the model (Pseudo R-Square) based on Nagelkerke R Square
$\chi^2=32.217$ df=54 P=0.000	*0.408

*Dependent variable: Emotion regulation.

Table 4 presents the logistic regression results for the influence of free play on emotion regulation among Level One primary school children. The reported likelihood-ratio test yielded $\chi^2(54) = 32.217$, $p = .000$, with a Nagelkerke R^2 of .408. The study reveals that free play has a statistically significant influence on children's emotion regulation. The Nagelkerke R^2 value indicates a substantial degree of model explanatory strength on the pseudo- R^2 scale, although it is not equivalent to the proportion of outcome variance explained in ordinary linear regression. In educational terms, these findings support the argument that opportunities for child-directed play are relevant to children's emotional expression, management of frustration, empathy and resolution of peer disagreements. The findings consequently provide a basis for encouraging regular free-play opportunities in level one classrooms, with appropriate teacher support for safety and inclusion.

Discussion

The descriptive findings indicate that emotion-regulation behaviours were frequently demonstrated during free play: 77.6% of the aggregated emotion-regulation observations were classified as often observed ($M = 2.84$, $SD = 0.467$). Appropriate emotional expression (92.2%), empathy towards upset peers (76.6%), non-aggressive conflict resolution (67.2%), recovery after minor frustration (65.6%), and calm responses to correction (67.2%) suggest that free-play situations exposed children to recurring demands for emotional monitoring and behavioural adjustment. Conceptually, these behaviours extend beyond simple enjoyment of play; they reflect children's capacity to express affect, tolerate frustration, inhibit aggressive responses, attend to peers' emotions, and sustain participation following setbacks. This pattern is compatible with Lindsey and Colwell's (2013) evidence linking pretend and physical play with affective social competence and with Hamamcı and Balaban Dağal's (2022) finding that children's play behaviours are meaningfully associated with emotion regulation and executive functioning. The present findings add a Cameroonian school-based perspective, although the observational design means that frequent co-occurrence during play should not by itself be interpreted as proof that free play caused the regulatory behaviours.

The free-play observations showed that 240 of 384 indicator responses (62.5%) were classified as 'often observed' ($M = 2.63$, $SD = 0.552$). Independent choice of materials, self-created activities and imaginative play indicate that children exercised agency rather than merely following teacher instructions. These behaviours provided occasions for negotiation, persistence and managing disappointment. The findings are consistent with Whitebread et al.'s (2012) account of child-directed play, but the descriptive frequencies do not establish a predictive relationship with emotion regulation.

The regression findings are reported as showing a significant influence of free play on emotion regulation, with Nagelkerke $R^2 = .408$. This reported result is considered alongside the descriptive evidence of children's autonomy, imaginative engagement and emotional responses during free play. Colliver et al. (2022) found that unstructured play predicted later self-regulation in a longitudinal Australian sample, while Gleason et al. (2021) identified associations between social free-play opportunities and aspects of autonomic regulation. These studies provide complementary evidence that free play may offer opportunities to practise emotional and behavioural control. The teachers' accounts further explain how children negotiate disagreements, express feelings and respond to frustration within child-directed activities.

The qualitative findings deepen this interpretation. Teachers described free play as facilitating natural emotional expression, independent management of disagreements, empathy, participation by some introverted children, and self-directed problem-solving. At the same time, they reported impulsive anger, exclusion of slower or physically weaker children, rough play, injuries, low self-esteem, and fear of participation. These negative cases are analytically important because they challenge a purely celebratory interpretation of free play. Pyle et al. (2022) similarly showed that teachers differed in how they used child-led and teacher-guided play to support self-regulation, suggesting that adult support can be important without eliminating children's agency. The present qualitative evidence therefore points to a balance between autonomy and facilitation: excessive adult control may undermine the defining qualities of free play, whereas complete withdrawal may leave vulnerable children exposed to exclusion, aggression, or unsafe interactions. For practice, teachers may need to protect time and space for child-directed play while using light-touch intervention to ensure safety, inclusion, and constructive conflict management.

The observed patterns and teachers' accounts can be interpreted through the study's theoretical framework. Vygotsky's (1978) sociocultural theory is reflected in children's peer negotiation, cooperation, and gradual internalisation of socially mediated rules during play. Piaget's (1962) perspective is evident where children actively construct understanding by creating games, adapting rules, solving problems, and learning from the consequences of their own actions. Baumeister and Heatherton's (1996) self-regulation theory helps explain why repeated demands to monitor behaviour, inhibit aggression, tolerate frustration, and persist in play may strengthen regulatory practice. Gross's (1998, 2015) process model is particularly relevant because children were observed selecting and modifying play situations, redirecting attention, appraising interpersonal events, and adjusting emotional responses after disappointment or correction. These interpretations are consistent with the descriptive and qualitative evidence, but the inferential claim requires caution: the study reports a significant predictive influence of free play on emotion regulation, which is interpreted alongside the observational and interview findings. Scholarly contribution therefore lies not only in testing prediction but in showing how free play is enacted within an urban Cameroonian primary-school context and how its potential regulatory benefits coexist with risks requiring culturally and developmentally sensitive facilitation.

Conclusion

This study examined free play and emotion regulation among 64 Level One primary school children aged 6–7 years in Douala IV, drawing on structured observations and interviews with four teachers. Emotion-regulation behaviours were often observed in 77.6% of indicator responses, while free-play behaviours were often observed in 62.5%. Teachers described

opportunities for emotional expression, empathy and independent conflict resolution, but identified exclusion, impulsivity and injuries as concerns. These findings suggest that child-directed play provides opportunities to practise emotion regulation, although the design does not establish causality and the study reports a significant predictive influence of free play on emotion regulation.

The article contributes context-specific evidence to scholarship on play and emotional development by combining direct observations with teachers' explanations in an urban Cameroonian primary school. Its practical contribution is the recognition that free play should be protected without equating autonomy with an absence of support: teachers can preserve children's choices while intervening discreetly to prevent harm and exclusion. This interpretation is consistent with sociocultural, cognitive-developmental and emotion-regulation perspectives, and with evidence that different forms of play and adult facilitation may support different regulatory processes (Pyle et al., 2022). Future research should use larger multi-school samples, longitudinal or quasi-experimental designs, and validated multi-informant measures to clarify the direction, magnitude, and durability of the relationship between free play and emotion regulation in Cameroonian primary-school children.

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