Students who do not play at home have lower self-esteem: results of the multicenter study Active Classes Chile

Escolares que no juegan en casa presentan una menor autoestima: resultados del estudio multicéntrico Clases Activas Chile

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Abstract

Introduction: The association between physical activity for health and socio-emotional well-being in children and adolescents is widely documented. However, the relationship between active play and self-esteem in schoolchildren is unknown, especially when considering socio-demographic variables that influence active play.
Objectives: 1) to analyze the association between different types of active play and self-esteem in schoolchildren aged 6 to 10 in schools in Chile, and 2) to determine the role of sociodemographic, school, and family variables involved in this potential association.
Methodology: A cross-sectional study was carried out with 417 Chilean schoolchildren (7.8 ± 1.1 years, 53.4% children). Active play was assessed using the Questionnaire for the Measurement of Physical Activity and Sedentary Behavior, and self-esteem with the School Self-Esteem Test.
Results: Schoolchildren who did not play at home showed lower self-esteem, even after adjusting for sociodemographic variables (βi = -3.00; 95% CI: [-5.78; -0.23]; p = 0.033), sociodemographic and school (βi = -3.02; 95% CI: [-5.82; -0.22]; p = 0.034) and sociodemographic, school, and family (βi = -2.84; 95% CI: [-5.67; -0.02]; p = 0.047).
Conclusions: These findings support the implementation of public policies, and at the same time collaborative work between schools and families, that promote active play as a key factor for the socio-emotional well-being and health of schoolchildren.

Keywords

Self-esteem; schoolchildren; school; cross-sectional study; active play.

Resumen

Introducción: Los beneficios de la actividad física para la salud y el bienestar de niños y adolescentes están ampliamente documentados. Sin embargo, se desconoce sobre la relación entre el juego activo y la autoestima infantil, especialmente al considerar variables sociodemográficas que influyen en el juego activo.
Objetivo: Analizar la asociación entre distintas modalidades de juego activo y la autoestima en escolares de 6 a 10 años de centros educativos en Chile y determinar el rol de las variables sociodemográficas, escolares y familiares implicadas en esta potencial asociación.
Metodología: Se llevó a cabo un estudio transversal con 417 escolares chilenos (7.8 ± 1.1 años, 53.4% niños). El juego activo se evaluó mediante el Cuestionario de Medición de Actividad Física y Conducta Sedentaria, y la autoestima con el Test de Autoestima Escolar.
Resultados: Los escolares que no jugaban en casa mostraron una disminución significativa en la autoestima, incluso tras ajustar por variables sociodemográficas (β = -3.00; IC 95%: [-5.78; -0.23]; p = 0.033), sociodemográficas y escolares (β = -3.02; IC 95%: [-5.82; -0.22]; p = 0.034) y sociodemográficas, escolares y familiares (β = -2.84; IC 95%: [-5.67; -0.02]; p = 0.047).
Conclusiones: Estos hallazgos respaldan la implementación de políticas públicas, y a la vez de trabajo colaborativo de escuelas y familias, que promuevan el juego activo como un factor clave para el bienestar y la salud de los escolares.

Palabras clave

Autoestima; escolares; escuela; estudio transversal; juego activo.

Introduction

The benefits of physical activity for the well-being and health of children and adolescents are widely documented (Carson et al., 2017; Rodriguez-Ayllon et al., 2019). In addition to preventing chronic diseases, physical activity has been shown to have a positive impact on mental health, contributing to the reduction of depression, anxiety, and stress, as well as the strengthening of self-esteem (Biddle & Asare, 2011; Liu et al., 2015). However, globally, only one-fifth of children and adolescents meet weekly physical activity recommendations (Aubert, Barnes, Demchenko, Hawthorne, Abdeta, et al., 2022; Aubert et al., 2021). Latin America is one of the regions most affected by this problem (Aubert, Barnes, Demchenko, Hawthorne, Abdeta, et al., 2022; Aubert et al., 2021), and Chile is one of the countries with the lowest levels of compliance (Gray et al., 2015).

In this context, it has been reported that current lifestyles have progressively reduced the practice of active play, an activity intrinsic to childhood. This transformation has led to an increase in sedentary behaviors and excessive use of screens, which has had negative repercussions on child development (Clements, 2004; Gray et al., 2015).

Active play is defined as voluntary participation in fun and rewarding activities, generally driven by intrinsic motivation and requiring physical effort greater than resting metabolic expenditure (Aubert, Barnes, Demchenko, Hawthorne, Abdeta, et al., 2022; Lee et al., 2024). This type of play has been widely recognized for its physical, emotional, and social benefits during childhood and in school (Lee et al., 2024; Mygind et al., 2019). Among these, its possible positive influence on self-esteem stands out as a determining factor for the psychosocial stability of children and adolescents (Lacomba-Trejo et al., 2020).

On the other hand, self-esteem refers to the perception, evaluation, and feeling that a person has of themselves based on the assessment of their own abilities, qualities, achievements, and relationship with the environment. It is a construct that involves emotional, cognitive, and behavioral aspects and that directly influences well-being and the way in which individuals face challenges, make decisions, and establish interpersonal relationships (Rubin, 2023). In this regard, studies have indicated that low levels of self-esteem are associated with a higher risk of presenting symptoms of anxiety (Rubin, 2023), depression, and suicidal ideation (Kuhlberg et al., 2010), unhealthy habits and physical health problem (Knox & Muros, 2017). On the other hand, various meta-analyses have shown the positive impact of physical activity on the self-esteem of children and adolescents, reporting effects ranging from moderate to high, mainly when the interventions are carried out in school environments or gyms (s. Ahn & Fedewa, s. f.; Ekeland, Heian, Hagen, et al., 2005; Liu et al., 2015). Additionally, research carried out in the South American child population shows positive and direct relationships between the general level of physical activity and self-esteem or variables related to psychological well-being (Bolados et al., 2021; Zurita-Ortega et al., 2017).

Despite these empirical findings, the specific relationship between active play and self-esteem has been little studied (Lee et al., 2024; Tremblay et al., 2016) partly due to the lack of data on the frequency and types of participation in active gambling. The Global Reporting Matrix on Physical Activity for Children and Youth, led by the Active Healthy Kids Global Alliance (AHKGA), assesses 10 physical activity indicators, including active play (Aubert, Barnes, Demchenko, Hawthorne, Abdeta, et al., 2022). In this regard, it is alarming that 55% of the 68 participating countries do not have sufficient information on this indicator (Aubert, Barnes, Demchenko, Hawthorne, Abdeta, et al., 2022). Chile is one of these countries, as it does not have data on active gambling and also has persistently low values in several other indicators of this global matrix (Aguilar-Farias et al., 2024) .

Studying the relationship between active play and self-esteem presents a unique challenge for developing educational and family intervention strategies. These strategies should promote play and design public and educational spaces that encourage physical activity and foster positive self-esteem from an early age. Likewise, it is essential to consider the differences in the levels of active play according to sex, area of residence, socioeconomic level, and family environments, differentiating those that have been commonly used in the literature (Aubert, Barnes, Demchenko, Hawthorne, Abdeta, et al., 2022; Aubert et al., 2021; Kemp et al., 2023; Whiting et al., 2021).

In this context, this study aimed to analyze the association between the different types of active play and self-esteem in schoolchildren aged 6 to 10 who attend schools in Chile and to determine the role of sociodemographic, school, and family variables involved in this possible association.

Method

Study design

This secondary study, with a quantitative approach and cross-sectional design, took data from the initial evaluation of the Active Classes Chile project, carried out between March and September 2024. The Active Classes Chile project was a 12-week randomized controlled trial in which active video-guided breaks with curricular content were implemented in the classroom, aimed at schoolchildren aged 6 to 10 (Zapata-Lamana et al., 2024) .

The Active Classes Chile project was approved by the Ethics, Bioethics, and Biosecurity Committee of the University of Concepción (CEBB 1533-2023, September 2023). The present study followed the STROBE guidelines for observational studies (Cuschieri, 2019).

Participants

Of the 823 participating schoolchildren, out of a total of 5 from public educational institutions in the Biobío Region (Chile), the Active Classes study (collected in March and April 2024) selected schoolchildren from 1st to 4th grade. A total of 406 participants who did not have data on the Questionnaire for the Measurement of Physical Activity and Sedentary Behavior or on the School Self-Esteem Test were excluded. The exclusion of students was due to reasons related to non-participation or difficulties in obtaining data, such as incomplete questionnaires, frequent absences, or logistical problems. Leaving a final sample of 417 participants.

The a priori sample size was calculated using the G*Power software and following (Cohen, 2013) conventions for a small effect (f2 = 0.02), with a significance level of 0.05 and a statistical power of 0.80 (Cohen, 2013). It yielded a sample size a priori of 395 participants. Before answering the questionnaires, all schoolchildren and parents were informed about the general purpose of the study and their rights of anonymity and confidentiality. All those who agreed to participate signed informed consent and assent forms.

Procedure

Members of the research team visited each classroom of the participating establishments to deliver, in an envelope, the self-report questionnaires, consents, and informed assents, which had to be completed by the parents and/or caregivers or by the schoolchildren as appropriate. After a week, they returned to the establishments to collect the consent forms, assents, and questionnaires that had already been completed.

Instrument

Self-esteem. Self-esteem evaluates the perception and valuation that a person has of themselves, including their abilities, achievements, and relationship with the environment. It was evaluated using the School Self-Esteem Test. This scale, developed and validated in Chile by (Marchant et al., 2002), is composed of 23 statements (e.g., "my classmates think I have good ideas"), to which the student must answer yes, or no. One point is awarded for each positive response and zero for each negative response, with a maximum of 23 points (gross score). To the extent that the score is close to 23 points, the level of self-esteem of the subject evaluated will be higher and lower to the extent that it is closer to 0. The sum of the raw scores is transformed into a T-score according to age norms, categorizing students as follows: normal self-esteem, $\geq$ 40 points; low self-esteem, 30-39 points; and very low self-esteem, $\leq$ 29 points. The authors report that the Self-Esteem test has adequate reliability and validity indices, showing a high internal consistency (Cronbach's $\alpha = 0.79$). The Kuder-Richardson coefficient 20 is 0.79, and the concurrent validity with the Piers-Harris Test yields a Pearson Product-Moment correlation of 0.88. This instrument has been widely used (Posso-Pacheco et al., 2022) .

Types of active play. The types of active play represent the different types of recreational activities that involve voluntary physical movement and effort greater than the metabolic expenditure at rest. It was evaluated using the Questionnaire for the Measurement of Physical Activity and Sedentary Behavior completed by parents and/or caregivers, which inquiries about the three behaviors (physical activity, sedentary behavior, and sleep) during all the days of the previous week (Camargo et al., 2015) . The questionnaire includes eight questions related to active play activities. Four of these questions were specifically selected: Did your child play indoors? Did your child play outside the house? Did your child play in the park? and Did your child play with friends? The answer for each item was recorded with a yes or no. As reported by the authors (Camargo et al., 2015), the instrument showed an internal consistency between 0.59-0.64 for physical activity and 0.22-0.34 for sedentary behaviors and Kappa coefficients between 0.71 and 0.82 in the different dimensions.

Covariables. The covariates analyzed in this study were determined through self-report questionnaires used in the Clases Activas Chile project (Zapata-Lamana et al., 2024) . Sociodemographic variables such as sex (male or female), age, area of residence (urban or rural), distance from the establishment (1 to 5 blocks, 6 to 10 blocks, 11 to 15 blocks, and more than 15 blocks), access to a park/court/gym near the house (without access or with access) were included; school variables such as school day (morning, afternoon or full) and school uniform (sweatshirt, traditional or mixed); and family variables such as studies (none, basic, middle school, and higher education) and physical activity (1 time a week, 3 times a week, and not performed) of the father and mother.

Data analysis

Initial participant characteristics were described using means and standard deviations (SD) for continuous variables and frequency and percentages (%) for categorical variables. To analyze the relationship between the different types of play and self-esteem, the linear regression method was used, expressing the results as regression coefficients (βi) with 95% confidence intervals (CI). The reference group (ref) was the group of schoolchildren who did play one of the types of play (at home, away from home, in the park, or with friends). All analyses were incrementally adjusted, and Model 0 was unadjusted. Model 1 adjusted for sociodemographic variables (sex, age, area of residence, distance from the establishment, access to park/gym near the house). Model 2 adjusted for sociodemographic and school variables (school day and uniform). Model 3 adjusted for sociodemographic and school variables, and family variables (studies and physical activity of the father and mother). All analyses were carried out using R software version 4.3.3, with a significance level established at $p < 0.05$.

Results

In the sample of 417 schoolchildren (53.4% boys, 46.6% girls), the average age was 7.8 ± 1.1 years. Most lived in urban areas (89.9%), and more than half lived more than 15 blocks from their educational establishment (53.4%). 88.9% had access to a park, court or gym. Regarding the school day, 50.8% of schoolchildren had a full day, with a higher proportion of girls in this modality (57.2% vs. 45.2% in boys). In relation to uniforms, 50.6% wore a traditional uniform. Regarding the educational level of the parents, 60.1% of the fathers and 58.9% of the mothers had secondary education, and approximately a third of both parents had higher education. Regarding physical activity, 51.7% of fathers and 59.2% of mothers did not engage in physical activity.

Regarding active play modalities, 79.6% played at home, being more common among girls (82.9% vs. 76.6% of boys). 61.6% played away from home, and almost half played in parks (49.1%) and with friends (47.5%). Finally, the average self-esteem scores were similar between boys (49.7 ± 11.2) and girls (51.0 ± 11.8), indicating a normal level of self-esteem according to the cut-off points.

Table 1. Characteristics of the study population.

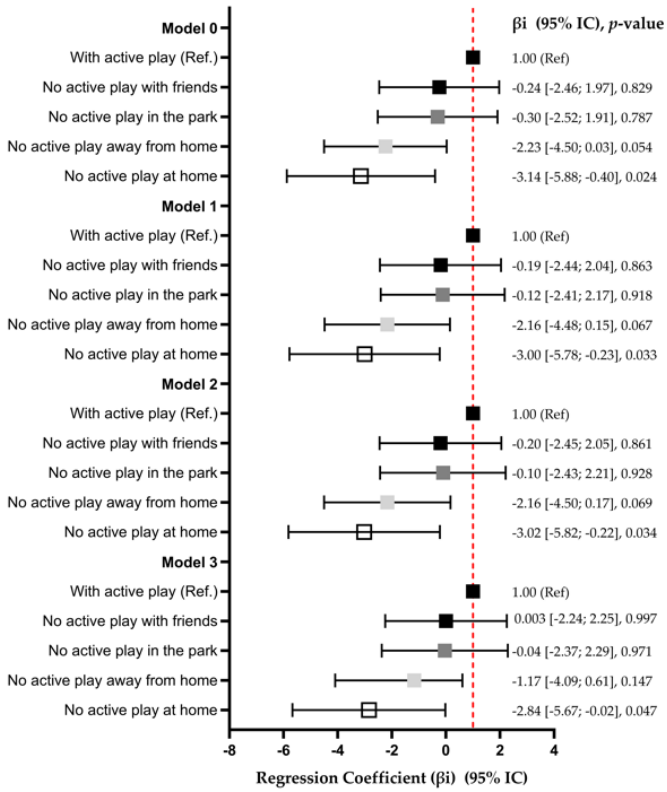
Variables	Total (n=417, 100%)	Boys (n=223, 53.4%)	Girls (n=194, 46.6%)
Sociodemographic variables			
Age (years), M ±SD	7.8 ±1.1	7.7 ±1.1	7.8 ±1.1
Residence area, n (%)			
Urban	375 (89.9)	200 (89.6)	175 (90.2)
Rural	42 (10.1)	23 (10.4)	19 (9.8)

Distance to school, n (%)			
1 to 5 blocks	48 (11.5)	23 (10.4)	25 (12.9)
6 to 10 blocks	65 (15.5)	33 (14.8)	32 (16.5)
11 to 15 blocks	81 (19.5)	44 (19.7)	37 (19.1)
More than 15 blocks	223 (53.5)	123 (55.1)	100 (51.5)
Access to park or gym, n (%)			
Yes	371 (88.9)	198 (88.7)	173 (89.1)
No	46 (11.1)	25 (11.3)	21 (10.9)
	School variables		
School day, n (%)			
Morning	37 (8.9)	18 (8.1)	19 (9.8)
Afternoon	168 (40.2)	104 (46.6)	64 (32.9)
Full day	212 (50.9)	101 (45.3)	111 (57.3)
Schoolwear, n (%)			
Sportswear	173 (41.5)	83 (37.2)	90 (46.4)
Traditional wear	211 (50.6)	122 (54.8)	89 (45.8)
Both	33 (7.9)	18 (8.0)	15 (7.8)
	Family variables		
Study level of father, n (%)			
None	4 (0.9)	2 (0.8)	2 (1.0)
Primary education	45 (10.8)	24 (10.7)	21 (10.8)
Secondary education	251 (60.2)	139 (62.4)	112 (57.8)
University degree	117 (28.1)	58 (26.1)	59 (30.4)
Physical exercise level of father, n (%)			
Once a week	119 (28.5)	61 (27.3)	58 (29.8)
Three a week	82 (19.7)	46 (20.6)	36 (18.6)
Without exercise	216 (51.8)	116 (52.1)	100 (51.6)
Study level of mother, n (%)			
None	2 (0.5)	1 (0.4)	1 (0.5)
Primary education	30 (7.2)	17 (7.6)	13 (6.7)
Secondary education	246 (59.0)	133 (59.6)	113 (58.2)
University degree	139 (33.3)	72 (32.4)	67 (34.6)
Physical exercise level of mother, n (%)			
Once a week	96 (23.0)	53 (23.8)	43 (22.2)
Thrice a week	74 (17.7)	43 (19.3)	31 (15.9)
Without exercise	247 (59.3)	127 (56.9)	120 (61.9)
	Types of active play		
Active play in the home, n (%)			
Yes	332 (79.6)	171 (76.6)	161 (82.9)
No	85 (20.4)	52 (23.4)	33 (17.1)
Active play outside the home, n (%)			
Yes	257 (61.6)	137 (61.5)	120 (61.8)
No	160 (38.4)	86 (38.5)	74 (38.2)
Active play in the park, n (%)			
Yes	205 (49.2)	107 (47.9)	98 (50.5)
No	212 (50.8)	116 (52.1)	96 (49.5)
Active play with friends, n (%)			
Yes	198 (47.5)	110 (49.4)	88 (45.3)
No	219 (52.5)	113 (50.6)	106 (54.7)
	Self-esteem level		
Self-esteem (score), M ±SD	50.3 ±11.5	49.7 ±11.2	51.0 ±11.8

n: sample size. For continuous variables, mean (M) and standard deviation (SD) were used, and for categorical variables, frequencies (%) were used.

A multiple regression analysis assessed the relationship between different forms of play and self-esteem through four progressively adjusted models. In the unadjusted model, it was observed that schoolchildren who did not play at home had lower self-esteem compared to those who did play at home β -3.14 (95% CI: [-5.88; -0.40], p = 0.024). This effect remained significant in Adjusted Models 1, 2 and 3, with β coefficients of -3.00 (95% CI: [-5.78; -0.23], p = 0.033), -3.02 (95% CI: [-5.82; -0.22], p = 0.034), and -2.84 (95% CI: [-5.67; -0.02], p = 0.047), respectively. No significant effects were observed in the relationship between self-esteem and play outside the home, in the park, or with friends in any of the models (see Figure 1).

Figure 1. Relationship between different types of active play and self-esteem of schoolchildren



The relationship between different types of active play and self-esteem of schoolchildren. Data presented as Regression Coefficient (βi) and its 95% Confidence Intervals (CI). The statistical models were progressively adjusted for the following variables: Model 0 unadjusted. Model 1 adjusted for sociodemographic variables (sex, age, area of residence, distance from the establishment, access to park/gym near the house). Model 2 adjusted for sociodemographic and school variables (school day and uniform). Model 3 adjusted for sociodemographic and school variables, and family variables (studies and physical activity of the father and mother). The reference group was assigned to those who played at home, away from home, in the park, or with friends.

Discussion

This study analyzed the association between different types of active play and self-esteem in schoolchildren aged 6 to 10 years who attend schools in Chile, considering sociodemographic, school, and family variables. The findings revealed that children who do not play active play at home have lower self-esteem than those who do, even after adjusting for sociodemographic, school, and family factors. Regarding the type of active play, 79% of the participants reported playing at home, 61% outside the home, 49% in parks, and 47% with friends, maintaining, on average, a level of self-esteem classified as normal (50 points) according to the School Self-Esteem Test. Although most schoolchildren had access to parks, sports fields, or gyms, 79.6% stated they preferred to play at home. This choice could be explained by the flexibility offered by the home environment, where children can play at different times and every day of the year. This preference is relevant considering that the literature has reported a progressive shift from active play to sedentary behaviors, such as time spent in front of the computer, watching television, using the internet, watching and listening to music, or playing video games. In this context, it is important to raise awareness among parents and caregivers about the significance and promotion of active play, since in addition to its close relationship with self-esteem, physical activity and sedentary behavior habits formed during childhood tend to persist into adolescence and even adulthood. Therefore, it is essential to educate and motivate families to dedicate time to teaching and sharing active play with their children, both at home and outdoors. Furthermore, these results highlight the importance of ensuring safe and adequate spaces for children to engage in active play outside, in parks, sports fields, and gyms, thereby expanding opportunities for their comprehensive development.

Various authors recognize that, among children, physical activity is typically achieved in the form of active play behavior.

Our findings coincide with previous research that links greater physical activity with higher self-esteem in children (s. Ahn & Fedewa, s. f.; Ekeland, Heian, Hagen, et al., 2005; Liu et al., 2015), as well as agree with studies conducted in Chile that show a positive relationship between the general level of physical activity and self-esteem. In this sense (Zurita-Ortega et al., 2017) , in a study with 515 10-year-old children from 27 schools in Santiago de Chile, identified that participation in physical activity is positively associated with self-esteem (Zurita-Ortega et al., 2017) Similarly, in the study by (Delgado-Floody et al., 2021) 600 schoolchildren aged 11 to 12 years from public schools in Chile were analyzed, reporting that those who performed more hours of physical activity had higher levels of self-esteem. However, unlike that study, which primarily assessed physical activity outside of school hours, our work found a specific positive association between playing at home and self-esteem. These results are consistent with those of (Gamboa Jiménez et al., 2024) , who promote active play through a pedagogical proposal that encourages play with the family during childhood, strengthening affective bonds and promoting collaborative playful-motor experiences (Gamboa Jiménez et al., 2024) . Likewise, research carried out in Spain, with 446 schoolchildren from 3rd to 6th grade, concluded that recess play could contribute to psychological well-being from the perspective of the theory of self-determination and self-esteem (Méndez Giménez & García Rodríguez, 2024).

The relevance of these findings lies in the importance of self-esteem for the integral development of children and school learning, as demonstrated in previous studies (Krauss et al., 2020). This study carried out with Chilean adolescents showed that high levels of anxiety, low self-esteem, and low levels of happiness are associated with lower school performance and a weaker cognitive profile. On the other hand, the longitudinal study by (Krauss et al., 2020) that included 674 families of Mexican origin living in the United States reports that multiple family environment characteristics shape the development of self-esteem during late childhood and adolescence. In this way, evidence shows that it is not only necessary to implement emotional education and mental health plans through which academic performance could be improved (Zapata-Lamana et al., 2021). However, as demonstrated by this study, it will also be important to design public policies to raise awareness among educational communities and families about the importance of active play for developing self-esteem. Among the many fundamental benefits of active play in children's holistic development, it has a positive impact on skills, education, and physical and mental health. It is recommended that university teacher training include active play-based learning strategies so they can implement them in their future teaching practices. At the school level, it is suggested that workshops be organized and play spaces promoted during recess and other areas of the institution, integrating active play into educational projects. Schools and families should work collaboratively, with schools advising parents on organizational strategies at home, including active play schedules and activities with their children, with the goal of reducing ignorance about the many benefits of active play and promoting healthy habits from childhood.

While preliminary evidence suggests that active play has the potential to improve self-esteem, more comprehensive research is needed to confirm its benefits and the mechanisms involved. In the meantime, educators and professionals are encouraged to incorporate practical, playful, and physical activities into their programs, thereby promoting physical and emotional well-bein and self-esteem.

Strengths and limitations

This is one of the first studies in the early childhood school population in Chile that explores the relationship between active play and self-esteem. Its design included a large and diverse sample based on a more extensive study obtained from different locations and educational establishments, which allowed it to capture a greater diversity of contexts, enriching the results and conclusions. In addition, a broad set of variables was incorporated that facilitated adjustment for possible confounding biases and an adequate sample description.

However, the study has some limitations. Its cross-sectional design prevents establishing causal relationships, even after adjusting to relevant covariates. A prolonged assessment of active play would have provided greater precision in our analysis. However, (Lee et al., 2024) recently reported the lack of standardized instruments to measure this behavior, highlighting the need to develop tools to improve the generation of global data on active play in children and adolescents.

Likewise, limitations in the use of self-reporting instruments are identified. In the case of the School Self-Esteem Test, although it has been validated in the Chilean population and has adequate reliability indices, its application depends on the self-report of the students, which could introduce biases in the answers due to social desirability or the lack of full understanding of the items by the youngest children. In addition, self-reporting to determine physical inactivity has a low correlation with objective methods, such as those used with accelerometers (Camargo et al., 2015). This could have generated certain levels of bias in the associations found due to the overestimation of self-reported physical activity (Martorell et al., 2020), particularly in people with unhealthy lifestyles, specific pathologies, and overweight or obesity (Celis-Morales et al., 2012). On the other hand, the exclusion of schoolchildren from the original sample constitutes a limitation of the study, attributable to reasuch as voluntary non participation or difficulties such as repeated absences or logistical difficulties in data collection. Regarding methodology, although the questionnaire did not consider variables such as parents' employment status, type of housing, or household size, it is recognized that incorporating these aspects could enrich future research by providing a broader context on the family conditions that influence active play at home. Furthermore, incorporating information on the participants' nutritional status would allow for a more holistic understanding, given that previous studies have shown that nutritional status is related to participation in physical activity and, consequently, to schoolchildren's self-esteem. Consequently, it is suggested that these variables be considered in future research in order to provide a more comprehensive understanding of the factors that influence the self-esteem of school-aged children.

Future research should delve into the social, contextual, and environmental factors that influence the relationship between active play and self-esteem at an early age. In addition, evidence has described that climate change, the perception of insecurity, and the characteristics of the environment impact active gambling (Lee et al., 2024) . Likewise, it is necessary to advance measurement methods that promote objective monitoring techniques, although challenges are presented by the flexible nature of active play (Lee et al., 2024).

Conclusions

Our results highlight the importance of active play in the child school population, particularly in the home context, to promote children's self-esteem. The fact that those who do not play at home have lower levels of self-esteem, even after controlling for sociodemographic, school, and family factors, confirms the need to promote environments that promote playful motor activity in the family. These findings support implementing programs and strategies that strengthen active play, involving both schools and homes, thus contributing to children's socio-emotional well-being.

Future research should investigate environmental and social factors while improving measurement methods with greater precision, such as using accelerometers. This will improve our understanding of how active play affects children's self-esteem and help develop more effective intervention designs.

Author Contributions

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Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki (World Medical Association, 2013) and approved by the Ethics, Bioethics, and Biosecurity Committee of the University of Concepción (code CEBB 1533-2023, approved in September 2023).

Conflicts of Interest

The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

AHKGA	Active Healthy Kids Global Alliance.
CEBB	Ethics, Bioethics, and Biosecurity Committee of the University of Concepción.
CI	Confidence Intervals.
FIC-R	Innovation Fund for Competitiveness of Regional Government of Biobío.
Ref	Reference.
STROBE	Strengthening the Reporting of Observational studies in Epidemiology.

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