

Translated from the original in spanish

Original article

Emotional intelligence and body mass index: a descriptive-cross-sectional study with students from the municipality of Soledad, Atlántico (Colombia)

Inteligencia emocional e índice de masa corporal: un estudio descriptivo-transversal con estudiantes del municipio de Soledad, Atlántico (Colombia)

Inteligência emocional e índice de massa corporal: um estudo descritivo-transversal com estudantes do município de Soledad, Atlântico (Colômbia)

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Received: February 24th, 2020.

Accepted: June 8th, 2020.

ABSTRACT

This research characterizes the body mass index (BMI) and Emotional Intelligence (EI), differentiated through emotional attention, clarity of feelings and repair of emotions, of a group of 120 schoolchildren from Basic Education in the Municipality of Soledad, Atlántico 11 years old. For the measurement of the variables, the values proposed for the measurement of the Body Mass Index (BMI) in Colombia have been used, as well as the Trait Meta-Mood Scale-24 questionnaire (TMMS24), validated for the Colombian population. The results of this work show infants with severe malnutrition, obesity and overweight inclined towards the difficulty to attend to their emotions, the repair of feelings and the understanding of their emotions. Therefore, it is pertinent to address this problem in the aforementioned institutions, since it may lead to infants suffering from anxiety, fear, and others, associated with bullying due to their body condition, which have affected their self-esteem and may reach be decisive for decision-making such as suicide.

Keywords: Body mass index; Emotional intelligence; Malnutrition; Anxiety; Depression.



RESUMEN

Esta investigación caracteriza el índice de masa corporal (IMC) y la Inteligencia Emocional (IE), diferenciada a través de la atención emocional, claridad de sentimientos y reparación de emociones, de un grupo de 120 escolares de Educación básica del Municipio de Soledad, Atlántico, en edad de 11 años. Para la medición de las variables, se han utilizado los valores propuestos para la medición del Índice de Masa Corporal (IMC) en Colombia, como también el cuestionario Trait Meta-Mood Scale-24 (TMMS24), validado para población colombiana. Los resultados de este trabajo muestran a infantes con desnutrición severa, obesidad y sobrepeso, inclinados hacia la dificultad para atender sus emociones, la reparación de sentimientos y el entendimiento de sus emociones. Por lo tanto, resulta pertinente atender dicha problemática en las instituciones mencionadas, puesto que esta puede conllevar a los infantes a padecer de ansiedad y miedo, asociados al bullying, debido a su estado corporal, que han afectado su autoestima y que pueden llegar a ser determinantes para la toma de decisiones, tales como el suicidio.

Palabras clave: Índice de masa corporal; Inteligencia emocional; Malnutrición; Ansiedad; Depresión.

RESUMO

Esta investigação caracteriza o índice de massa corporal (IMC) e a Inteligência Emocional (IE), diferenciada a través de la atención emocional, claridad de sentimientos y reparación de emociones, de un grupo de 120 escolares de Educación básica del Municipio de Soledad, Atlántico, en edad de 11 años. Para a medição das variáveis, utilizam-se os valores propuestos para a medição do Índice de Masa Corporal (IMC) na Colômbia, como también el cuestionario Trait Meta-Mood Scale-24 (TMMS24), validado para población colombiana. Os resultados deste trabajo muestran a infantes con desnutrición severa, obesidad y sobrepeso, inclinados hacia la dificultad para atender sus emociones, la reparación de sentimientos y el entendimiento de sus emociones. Por lo tanto, resulta pertinente atender dicha problemática nas instituições mencionadas, porque esta puede conllevar a los infantes a padecer de ansiedad y miedo, asociados al bullying, debido a su estado corporal, que han afectado su autoestima y que pueden llegar a ser determinantes para la toma de decisiones, tales como el suicidio.

Palabras clave: Índice de masa corporal; Inteligência emocional; malnutrición; Ansiedad; Depresión.

INTRODUCTION

According to data from the World Health Organization, at the global level, according to a study conducted in 2016, more than 340 million children and adolescents between the ages of 5 and 19 suffered from overweight and obesity, which indicates a public health problem that is part of a nutritional problem that has prevailed for many years: "indicators of severe and moderate under nutrition that continue to affect children on five continents, which leads to an understanding of the existence of a malnutrition problem" (World Health Organization, 2016, p. 5).



In the case of the Colombian context, according to data from the **Colombian Institute of Family Welfare (2015)**, through the document National Survey of the Nutritional Situation, there was an increase of 25.9 % between 2010 and 2015 of the child population with obesity in ages ranging from 5 to 17 years, "associated with high fat and ultra-processed food intake, as well as low levels of physical activity" (p. 3). In turn, according to the Economic Commission for Latin America and the Caribbean (2018), "Colombia is among the countries with the highest rates of malnutrition in Latin America - involving severe and moderate under nutrition, overweight and obesity-, accompanied by Guatemala, Mexico, Ecuador, Costa Rica, Chile and Brazil" (p. 12).

Meanwhile, reports of infants with severe and moderate malnutrition, according to the Colombian Institute of Family Welfare (2015), based on the report of the Commission on Human Rights and Hearings of the Colombian Senate, claim "an increase in 2018 of 36 % in child deaths due to malnutrition". (p. 14). In the department of Atlántico, it is observed that 19 out of every 100 children present overweight or obesity, being the causes, according to the **Colombian Institute of Family Welfare (2015)**, the lack of physical activity and the frequent use from early ages of mobile phones, computers and other technologies that incite sedentarism, in addition to "a food intake made up of fried foods, processed foods and others" (p. 7).

On the other hand, what is alarming, according to **Bernal-Salazar, Martínez-Cabrera and Quintero-Salleg (2015)**, has become bulimia nervosa, asserting that the problems associated with high food consumption, in short periods of time, lead to severe stomach problems, among other implications, which finds its seminal root in situations of "anxiety, fear, stress, disinterest and depression presented by children in schools in the metropolitan area mentioned" (p. 12).

It becomes evident then, a problem not only related to obesity and overweight in the environment of the Department of Atlántico, but also to situations related to moderate and severe under nutrition, which is correlated with emotional disorders and which generate in children food problems such as stopping eating or eating in an excessive way (**Campo-Tenera et al., 2017**).

It is also known that those situations related to emotional problems have induced the child to commit suicide, finding its seminal root in circumstances that occurred in the school context, where the child is a victim of bullying, frequent mockery because of its appearance, among other factors. Moreover, according to **Palacio-Durán et al., (2017)**, children who suffer from nutritional problems (especially under nutrition), suffer a marked decrease in their mental development and physical growth, this being "a delimiter of the level of school performance, as well as unassertive social interactions, which also lead to school dropout" (p. 299).

As noted in the above background, the problems of severe and moderate under nutrition, overweight and obesity in the world, have been a prevailing health phenomenon in educational institutions that have significantly affected infants and have been one of the reasons why children have been limited in establishing assertive inter- and intrapersonal relationships that are related to emotional intelligence, due to avoid exposure to mockery, verbal and physical aggressions that attempt against their self-esteem or, in cases, being victimizers as a defense mechanism to avoid mockery and lead to problems of coexistence that degenerate the peaceful environment in which academic activities are developed.



Therefore, understanding the emotions of the infant is relevant to detect the seminal root of such situations that afflict educational contexts; it is then, when it is possible to talk about Emotional Intelligence (EI), understood from the position of **Salovey and Mayer (1997)**, quoted in **Mestre et al., (2006)**, as "a set of related skills intrinsic to the perception, use, understanding and regulation of emotions" (p. 98). According to Palermo and Fernández (1998), emotions from a functionalist perspective acquire "an active role in adaptive behaviour, in non-verbal communication and intervene in social interaction processes" (p. 120). In continuity with this idea, according to **Goleman (1995)**, "all emotions are, in essence, impulses that lead to action, programmes of automatic reaction with which evolution has endowed the human being" (p. 14). Therefore, emotions are the trigger of actions of a human being, which are associated to a positive or negative emotionality.

In the educational field, according to **Fernández, Extremera and Ramos (2004)**, various problems related to emotional intelligence have become notorious, such as "the deficit in levels of well-being and psychological adjustment, the decrease in the number and quality of interpersonal relationships, the decline in academic performance and the appearance of disruptive behaviour and consumption of psychoactive substances" (p. 3). Therefore, it is very important to care for infants who have difficulty relating to others and who choose to be isolated at school, as this may be an indication that the infant may be depressed.

It should be pointed out that the role of the emotions is fundamental since it allows for the orientation of thought and assertive decision making, the state of mind being a determining factor in the choice of ways of thinking and decision making; therefore, it is possible to say that, in infants, with a positive state of mind, inclinations towards creative acts and interaction with others will be much easier. In contrast, children with anxiety or sadness are more prone to settlement and frequent attention, to threats (**Gallego-Henao et al., 2019; Bonilla-Santos et al., 2019; Castillo-Pulido, 2011**).

In seeking to relate emotionality to body mass index, this link is made clear in studies that show that, in children who have an assertive relationship between healthy lifestyles and who are at body mass levels within normal standards, they are less likely to suffer from mental illness, with a lower tendency towards anxiety, depression and suicide. According to the study by **Ortega et al., (2015)** it was found that infants with healthy body weight show better indicators of self-esteem, "unlike those who are overweight or obese, denoting a dissociation between positive self-esteem and high body mass indexes" (p. 315).

On the other hand, a study carried out in Mexico by **Muñoz et al., (2015)**, applied to 89 adolescents between 11 and 15 years old, obtained as results that the percentage suffering from obesity and overweight (16.8 %) showed the relationship between high levels of body mass with feelings such as fear, hate, guilt and anxiety. The high levels of body mass according to the instruments used by the researchers are due to the consumption of high fat, sweet and processed foods, as well as fried foods in abundance. On the other hand, in underweight adolescents, "there is also evidence of a significant impact on self-esteem leading to feelings of anxiety and negative self-concept" (**Muñoz et al., 2015, p. 27**). Therefore, this research aims to characterize the body mass index and emotional intelligence of students from two educational institutions in the municipality of Soledad, Atlántico.



MATERIALS AND METHODS

Descriptive cross-sectional study, which sought to characterize the body mass index and emotional intelligence of 11-year-old children from two educational institutions (in areas whose socioeconomic stratum corresponds to 1 and 2) in the municipality of Soledad, Atlántico. A sample was then selected through a non-probabilistic process for convenience, establishing as criteria the age of the students and their availability for study. In addition, the respective ethical guidelines were followed through the request to parents to authorize the participation of the children. The sample was then of 120 students (52.8 % of the male gender and 67.2 % of the female gender).

Instruments

Anthropometry: all children were weighed and measured by conventional standardized methods, using a stable Seca Clara 803 digital scale to take the weight; for height, a wall-mounted stadiometer with no protrusions was used. For the calculation of the body mass index (BMI), the World Health Organization's guidelines for Colombia, established by the United States Agency for International Development (USAID, 2013), were taken into account.

In girls, the following indicators were used to calculate the BMI: severe under nutrition (≤ 12.4), moderate under nutrition (12.5 to 13.4), normal (13.5 to 19.0), overweight (20.0 to 23.7) and obesity (≥ 23.8). Meanwhile, for children the indicators were: severe under nutrition (≤ 13.1), moderate under nutrition (13.2 to 14.0), normal (14.1 to 19.2), overweight (19.3. to 22.5) and obesity (≥ 22.6) (USAID, 2013).

Emotional intelligence:

The Spanish Modified Trait Meta-Mood Scale-24 (TMMS-24) is the short version in Spanish of the Trait Meta-Mood Scale-48, proposed by Salovey, et al. This research chose to use the version adapted by Cerón-Perdomo, Pérez-Olmos Ibáñez-Pinilla (2011) for use in the Colombian population, taking into account 24 statements from the original questionnaire, distributed in four items (eight for each factor) and validated by Fernández, Extremera and Ramos, (2004). In the evaluation of this test, the following criteria were taken into account: emotional attention, clarity of feelings and emotional repair, defined in Table 1. These criteria were evaluated through a Likert scale whose options and score are the following: one point not at all in agreement, two points somewhat in agreement, three points quite in agreement, four points very in agreement and five points totally in agreement (Table 1).



Table 1. - Scales for the assessment of emotional intelligence

Criteriom	Definition
Emotional care (items 1 to 8)	It refers to the awareness of one's own emotions, the ability to recognise individual feelings and know their meaning.
Emotional clarity (items 9-16)	Emphasis is placed on the faculty for the knowledge and understanding of one's own emotions, distinguishing them from one another, understanding the way they evolve and their adaptation to thought.
Repairing of emotions (items 17-24)	Emphasis is placed on the way the individual regulates and controls positive and negative emotions.

Source: Taken from Cerón-Perdomo, Pérez-Olmos e Ibáñez-Pinilla (2011).

As for the test's scoring system, emotional attention was measured through questions 1 to 8; clarity of feelings, through questions 9 to 16 and reparation of emotions was measured through questions 17 to 24; the evaluation of this questionnaire was done through the data presented in Table 2.

Table 2. - Scale for emotional intelligence scores

Assessment criteria	Male	Female
Emotional care	Must improve his attention, pay little: <25	Must improve her attention, pay little: <23
	Adequate attention: 22 to 32	Adequate attention: 22 to 35
	Must improve his attention, pays too much: >36	Must improve her attention, pays too much: >33
Clarity of emotions	He should improve his clarity:<23	She must improve clarity:<24
	Adequate clarity: 24 to 34	Adequate clarity: 26 to 35
	Excellent clarity: >36	Excellent clarity:>35
Repairing of emotions	He must improve his repair:<23	She must improve her repair:<23
	Adequate repair: 24 to 35	Adequate repair: 24 to 35
	Excellent repair: >35	Excellent repair: >36

Source: Taken from Cerón-Perdomo, Pérez-Olmos e Ibáñez-Pinilla (2011).

The self-report was applied in the two educational institutions in the department of Atlántico, Colombia, selected for the study; informed consent was previously requested, verbally and in writing, from these school contexts and from the parents of the participating individuals, taking into account the legal aspects, defined in Resolution 8430 of the **Ministry of Health and Social Protection of Colombia (1993)**, especially those that categorize risk-free research.



RESULTS

General results of the body mass index (BMI)

Among the results regarding the Body Mass Index (BMI) of the studied infants, it was observed that, at an overall level, 10 % (12) of the individuals presented in the body mass levels severe malnutrition; 15 % (18), moderate malnutrition; 29 % (35), a normal body mass level; 25 % (30), overweight and 21 % (25), obesity (Figure 1).

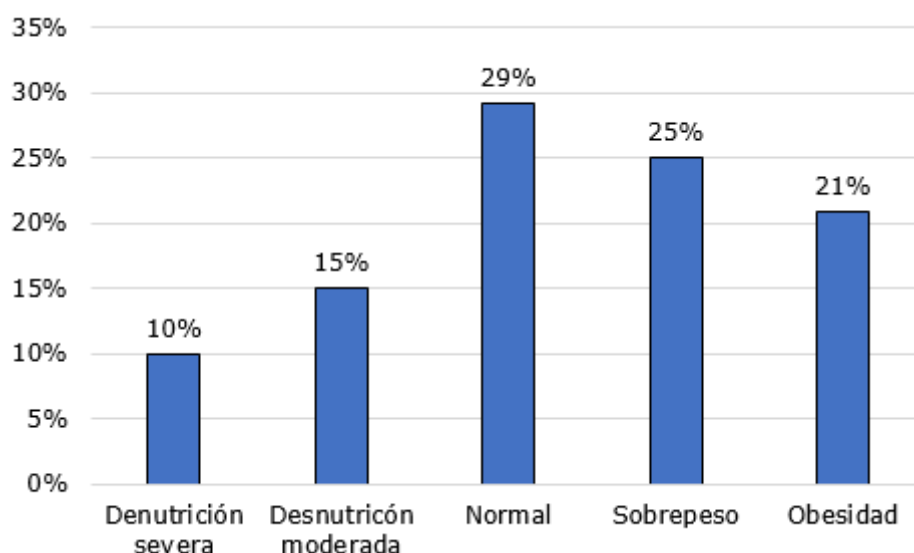


Fig. 1. - Sample body mass levels

In terms of gender, for girls, 4 percent (5) of the sample were severely undernourished; 5 percent (6) were moderately undernourished; 8 percent (10) had a normal body mass index; 11 percent (13) were overweight and 13 percent (16) obese, while for boys 6 percent (7) were severely undernourished, 10 percent (12) moderately undernourished, 21 percent (25) normal, 14 percent (17) overweight and 8 percent (9) obese. From the above, it is possible to assert that girls present higher body mass indicators with respect to obesity, although, in terms of overweight they have a better balance than boys. Meanwhile, in terms of severe under nutrition, girls present a better balance than boys, as well as moderate under nutrition. Regarding normal body mass indicators, boys presented better indicators than girls.

General results of the emotional intelligence test

In table 3, the results concerning the emotional intelligence of the individuals studied are presented. 34.2 % should improve their attention to their emotions, which indicates that this percentage of infants are not aware of their emotions at all, that is, the impossibility of recognizing individual feelings, understanding what they mean and paying too much attention to their emotions prevails. 27.5 % of infants may cause disruptive behaviour to others, in spaces such as school and be victims of *bullying*; the latter are prone to depression and anxiety. On the other hand, in relation to clearness, a tendency of the majority of children (65 %) towards the need to improve their clarity of emotions, which shows the difficulty to understand their own emotions, without distinguishing them from each other, making them insecure and asocial. Finally, with regard to the repair of emotions, 58.3 % of the sample,



according to the results, presents difficulty in regulating and controlling their positive and negative emotions (Table 3).

Table 3. - Results of emotional intelligence in the infants studied

Assessment criteria	Male	N	%
Emotional care	He must improve his care	41	34,2 %
	Adequate care	46	38,3 %
	Pay too much attention	33	27,5 %
Clarity of emotions	He should improve his clarity.	78	65 %
	Adequate clarity	18	15 %
	Excellent clarity	24	20 %
Reparing of emotions	He must improve his repair	70	58,3 %
	Adequate repair	35	29,2 %
	Excellent repair	15	12

Emotional intelligence according to body mass index

Emotional care in relation to BMI

In this section, the results obtained regarding the emotional care of children are presented according to the body mass category (severe and moderate under nutrition, normal body mass index, and obesity and overweight) in which the infants were placed according to their sex.

In girls who presented severe under nutrition, three were located in low levels of emotional care, while two girls reported levels that denote adequate care. In the case of severely undernourished children, six individuals presented indicators that denote low levels of emotional attention and only one child presented an adequate level of emotional attention.

In the case of infants with moderate under nutrition, all girls (6), who present this body mass indicator, showed low levels of emotional attention; in the case of children suffering from moderate under nutrition, seven report low levels of emotional attention; three presented adequate emotional attention and two of the children showed a high level of attention. In girls with normal body mass, eight showed adequate levels of emotional attention, while two showed high levels of emotional attention; in boys with normal body mass, 23 showed adequate levels of emotional attention, while two showed high levels of emotional attention.

When overweight girls were studied through the test, ten girls were found to have a low level of emotional attention, while three had an adequate level. As for the overweight children, 14 presented a high level of emotional attention, while three showed adequate levels of emotional attention. Finally, when evaluating emotional attention in girls, with body mass indicators denoting obesity, 13 presented high



emotional attention, while three showed adequate levels of attention. In the case of boys, all nine showed low levels of emotional attention.

Children with body mass indicators that denote obesity and overweight and are found to have low and high emotional attention attract attention, as this indicates that these infants are more likely to suffer from pathologies such as anxiety and depression, as well as eating disorders derived from negative emotions such as distrust and a tendency to isolate themselves, as well as paying attention to what others think of their body, thus having a negative body image perception.

Clarity of feelings regarding the BMI

On the issue of clarity of feelings, according to the levels of severe malnutrition, four girls presented low indicators of clarity of feelings, while one showed adequate clarity. In the case of boys, five present low indicators, while two present adequate clarity of feelings. In terms of body mass levels, associated with moderate under nutrition, three girls presented low levels of clarity of feelings, while only one reported adequate clarity of feelings. In the case of boys, ten showed indicators of low clarity of feelings, while two reported excellent levels of emotional clarity.

For girls with normal body mass levels, eight showed adequate clarity of feeling, while two showed low indicators of clarity. On the boys' side, 22 showed excellent clarity of feeling, while three showed adequate clarity.

Regarding the body mass levels associated with overweight, the 13 girls in this group showed low indicators of emotional clarity; in overweight children, 15 showed low clarity of feelings, while two children showed adequate levels. With regard to obesity, the 16 girls suffering from this non-transmissible disease showed low levels of emotional clarity; in the case of boys, eight showed low levels of emotional clarity, while one reported adequate emotional clarity.

The indicators that show a problem in terms of clarity of feelings are those in which obese and overweight children are in the low clarity of feelings category, which indicates that these infants do not understand their emotional states well, without being able to say easily how they feel or which may be an indication of lack of attention and anxiety. However, the situation is also worrying for those infants who are severely malnourished and are in the low clarity of feelings category.

Repairing of emotions in relation to BMI

Finally, with regard to the repair of emotions, in the case of girls with body mass indicators, related to severe malnutrition, the five who suffer it showed low levels of emotional repair; in the case of boys, five showed low levels of emotional repair, while only two reported adequate repair of emotions. When investigating the girls with moderate under nutrition, it was observed that three of them presented low indicators of emotional repair, while two showed adequate emotional repair and one showed excellent levels. In the case of boys, ten showed low indicators of emotional repair and two reported adequate emotional repair. In the case of normal BMI, all ten girls, who have this level of body mass, showed excellent indicators of emotional repair; in the case of boys, 20 showed adequate indicators of emotional repair, while three showed excellent emotional repair and two showed low indicators.



With regard to overweight, 9 girls showed low indicators of emotional repair, while four showed an adequate level; in the case of boys, 15 showed low levels of emotional repair, while one showed adequate levels and one excellent level. The indicators for obese girls showed 14 with low levels of emotional repair and two with adequate levels. In the case of boys, seven reported low levels of emotional repair and two showed adequate levels. The children, who are in body mass indicators that denote obesity, overweight and severe under nutrition and present low emotional repair, have difficulty modifying negative feelings, which makes them resentful and difficult to modify disruptive actions such as anger, without being concerned about having a good mood.

DISCUSSION

With respect to the body mass index, indicators are observed in children that reaffirm problems associated with severe under nutrition, as well as overweight and obesity. The indicators of severe under nutrition (15 %) are consistent with the results obtained in the research conducted by [Marín-Escobar \(2014\)](#), where some of the infants studied reported severe under nutrition indicators in a context of Barranquilla city of stratum 1, where food insecurity prevailed.

Regarding the panorama of overweight and obesity (25 % and 21 %, respectively), they are an important antecedent to the aggregate highlighted by the Ministry of Health and Social Protection, which identified in the last national survey of the nutritional situation in 2015 that, in Colombia, the child obesity rate increased from 18 % to 24 % ([Colombian Institute of Family Welfare, 2015](#)). Also, the figures obtained in the work in progress, are consistent with the overall percentage of the department of Atlántico, which is at 19 %, obtained through the same survey. Likewise, these results agree with those obtained in the study carried out by [Herrán, Del Castillo and Fonseca \(2015\)](#), in which they identified excess weight in children (12.7 % overweight and 3.7 % obese).

With regard to the impact of malnutrition on the emotional intelligence of the children studied, it was observed a difficulty in these, in the attention to their emotions (high or low), clarity of feelings and emotional repair, which denote problems at the socio-affective level. Giving continuity to this influence, according to [Graziano \(2016\)](#) children are the main victims of malnutrition, as it affects their personal development, self-esteem and leads to asocial behaviour in adulthood, as in the study conducted by [Cerón-Perdomo, Pérez-Olmos and Ibáñez-Pinilla \(2011\)](#), in which the infants studied reported difficulty in repairing emotions and clarity of feeling. This means an obstacle for children to establish assertive interpersonal relationships and prefer isolation.

In Colombian educational institutions, bullying is a problem of coexistence, which leads to physical and verbal abuse, where the child is judged by its physical condition, especially when the child is overweight and obese, which leads some to prefer isolation, feelings of fear, insecurity, lack of emotional clarity, behavioural problems, constant anger at school and at home, which can lead to depression, anxiety, eating disorders and extreme behaviours such as suicide ([García-Cano & Niño-Murcia, 2018](#); [Castillo-Pulido, 2011](#); [Gallego-Henao et al., 2019](#); [Bonilla-Santos et al., 2019](#); [Muñoz et al., 2015](#); [Ortega et al., 2015](#)).



Finally, this study identified that overweight and obese infants were more likely to be insecure, asocial, and difficult to repair emotions, indicating that they have difficulty establishing interpersonal relationships with others, as well as having difficulty understanding the feelings of their peers. These results are consistent with several studies in Colombia where it was determined that one of the reasons why children, especially girls, prefer to isolate themselves from the groups in schools, is the fear of judgment by their physical appearance, indicating that the perception of their body image is negative (Campo-Tertera *et al.*, 2017; Mebarak *et al.*, 2009; Herazo-Beltrán *et al.*, 2019).

In conclusion, it is pertinent, according to the results obtained in this study, to call on government agencies, teachers and parents in the institutions of the Department of Atlántico, to pay attention to any trace of severe and moderate under nutrition, overweight and obesity in the infant, in order to intervene early, seeking, in turn, to raise awareness among children from an early age on the importance of loving themselves. This includes following up on their attitudes, affinities, feelings, emotions and ways of being, so that the child has adequate levels of self-esteem and knows how to regulate their emotions, as well as assertive inter-and intrapersonal relationships. In addition, the infant should be encouraged to physical activity, healthy nutrition, teaching them the complications that can generate a high-fat diet and ultra-processed.

REFERENCES

- Bernal-Salazar, R., Martínez-Cabrera, M., & Quintero-Salleg, C. (2015). *Situación de niñas y niños colombianos menores de cinco años, entre 2010 y 2013*. (F. d. Economía, Ed.) Bogotá, Colombia: Ediciones Uniandes. Obtenido de <http://repositorio.minedu.gob.pe/bitstream/handle/123456789/4345/Situaci%c3%b3n%20de%20ni%c3%b1as%20y%20ni%c3%b1os%20colombianos%20menores%20de%20cinco%20a%c3%b1os%2c%20entre%202010%20y%202013.pdf?sequence=1&isAllowed=y>
- Bonilla-Santos, J., Bonilla, G., Gutiérrez, D., Gómez, F., & González, A. (2019). Desempeño de la cognición social en niños y niñas inmersos en la dinámica del acoso escolar en la ciudad de Neiva, Colombia. *Psychologia*, 13(2), 13-24. Obtenido de doi: <https://doi.org/10.21500/19002386.3584>
- Campo-Tertera, L., Herazo, Y., García, F., Suarez, M., Méndez, O., & Vásquez, F. (2017). Estilos de vida saludables de niños, niñas y adolescentes. *Salud Uninorte*, 33(3), 419-428. Obtenido de <https://search.proquest.com/openview/e3a4e30b37cfbbedff895699fe20834/1?pq-origsite=gscholar&cbl=2027436>
- Caribe, C. E. (2018). *El derecho a la alimentación saludable en América Latina y el Caribe*. Santiago de Chile: CEPAL - Naciones Unidas. Obtenido de <https://repositorio.cepal.org/bitstream/handle/11362/43369/4/Boletindesafios21.pdf>
- Castillo-Pulido, L. (2011). El acoso escolar. De las causas, origen y manifestaciones a la pregunta por el sentido que le otorgan los actores. *Magis. Revista Internacional de Investigación en Educación*, 4(8), 415-428. Obtenido de <https://www.redalyc.org/pdf/2810/281021722009.pdf>



Cerón-Perdomo, D., Pérez-Olmos, I., & Ibáñez-Pinilla, M. (2011). Inteligencia emocional en adolescentes de dos colegios de Bogotá. *Revista Colombiana de Psiquiatría*, 40(1), 49-64. Obtenido de http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0034-74502011000100006&lng=en&tlng=es

Fernández, P., Extremera, N., & Ramos, N. (2004). Validity and reliability of the Spanish modified version of the Trait Meta-Mood Scale. *Psychological Reports*, 94, 751-755. Obtenido de <http://emotional.intelligence.uma.es/pdfs/spanish%20tmms.pdf>

Gallego-Henao, A., Agudelo-Torres, J., Vásquez, O., Restrepo, M., & Gálvez, A. (2019). El cultivo de la convivencia: una oportunidad para prevenir situaciones de acoso escolar. *Infancias Imágenes*, 18(2), 159-170. doi: Obtenido de <https://doi.org/10.14483/16579089.14025>

García-Cano, L., & Niño-Murcia, S. (2018). Percepciones sobre convivencia escolar y bullying en una institución educativa de Bogotá. *Cultura, Educación y Sociedad*, 9(1), 45-58. Obtenido de <http://dx.doi.org/10.17981/cultedusoc.9.1.2018.03>

Goleman, D. (1995). *La inteligencia emocional*. Madrid: Kairós. Graziano, R. (2016). *Asesoramiento nutricional: ¿Cómo motivar a las personas a modificar sus hábitos alimentarios?* Babelcube Inc.

Herazo-Beltrán, Y., Campo, L., García, F., Méndez, O., Suárez, M., Vásquez, F., & Núñez, N. (2019). Relación entre actividad física e inteligencia emocional e intimidación entre escolares. *Revista de psicología del deporte*, 28(1), 97-104. Obtenido de https://www.rpd-online.com/article/view/v28-n1-herazo-campo-garcia-et-al/Herazo_Campo_Garciaetal

Herrán, O., Del Castillo, S., & Fonseca, Z. (2015). Consumo de bocadillos y exceso de peso en niños colombianos. *Revista Chilena de Nutrición*, 42(3), 224-234. Obtenido de <https://scielo.conicyt.cl/pdf/rchnut/v42n3/art01.pdf>

Instituto Colombiano de Bienestar Familiar. (2015). ENSIN: Encuesta Nacional de Situación Nutricional. *Ministerio de Salud y protección Social*. Bogotá, Colombia. Obtenido de <https://www.icbf.gov.co/bienestar/nutricion/encuesta-nacional-situacion-nutricional>

Marín-Escobar, J. (2014). Conductas prosociales en los barrios Modelo y los trupillos de Barranquilla. *Psicogente*, 17(31), 211-225. Obtenido de <https://www.redalyc.org/pdf/4975/497551994015.pdf>

Mebarak, M., de Castro, A., Salamanca, M., & Quintero, M. (2009). Salud mental: un abordaje desde la perspectiva actual de la psicología de la salud. *Psicología desde el Caribe*, 83(112), 83-112. Obtenido de <https://www.redalyc.org/pdf/213/21311917006.pdf>

Mestre, J., Núñez, I., Guil, R., & Gil, P. (2006). Inteligencia Emocional y aspectos neurobiológicos disfuncionales: implicaciones de la salud mental y el bienestar emocional. *Revista de Psicología de la Salud*, 18(1), 97-121.



Ministerio de Salud y Protección Social. (4 de octubre de 1993). *Resolución 8430*. Recuperado el 14 de noviembre de 2019, de Por la cual se establecen las normas científicas, técnicas y administrativas para la investigación en salud: Disponible en: <https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/DE/DIJ/RESOLUCION-8430-DE-1993.PDF>

Muñoz, S., Vega, Z., Berra, E., Nava, C., & Gómez, G. (2015). Asociación entre estrés, afrontamiento, emociones e IMC en adolescentes. *Revista Intercontinental de Psicología y Educación*, 17(1), 11-29. Obtenido de <http://www.redalyc.org/pdf/802/80242935002.pdf>

Organización Mundial de la Salud. (24 de marzo de 2016). Informe de la Comisión para acabar con la obesidad infantil. *69.ª Asamblea Mundial de la Salud*. Obtenido de https://apps.who.int/gb/ebwha/pdf_files/WHA69/A69_8-sp.pdf

Ortega, M., Muros, J., Palomares, J., Martín, J., & Cepero, M. (2015). Influencia del IMC en la autoestima de los niños y niñas de 12-14 años. *Anales de Pediatría*, 83(5), 311-317. Obtenido de doi: <https://doi.org/10.1016/j.anpedi.2014.11.017>

Palacio-Duran, E., Pinillos-Patiño, Y., Herazo, Y., Galeano, L., & Prieto, E. (2017). Determinantes del desempeño psicomotor en escolares de Barranquilla, Colombia. *Revista de Salud Pública*, 19(3), 297-303. Obtenido de doi: <https://doi.org/10.15446/rsap.v19n3.65597>

Palermo, F., & Fernández, E. (1998). *Emociones y adaptación*. Barcelona.

Ariel Salovey, P., Mayer, J., Goleman, S., Turvey, C., & Palfai, T. (1995). *Emotional attention, clarity and repair: exploring emotional intelligence using the trait meta-mood scale*. (J. Pennebaker, Ed.) Washington, D.C: American Psychological Association. Obtenido de doi: <https://doi.org/10.1037/10182-006>

USAID. (2013). Tablas de IMC y tablas de IMC para la edad, de niños(as) y adolescentes de 5 a 18 años de edad y tablas de IMC para adultos(as) no embarazadas, no lactantes ≥ 19 años de edad. FANTA III.

Conflict of interests:

The authors declare not to have any interest conflicts.

Authors' contribution:

The authors have participated in the writing of the work and analysis of the documents.



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