# The impact of task-based instruction on student autonomy and motor skill engagement: a comparative analysis of rural and urban secondary physical education

*El impacto de la instrucción basada en tareas sobre la autonomía estudiantil y el compromiso con las habilidades motoras: un análisis comparativo de la educación física secundaria rural y urbana*


## Authors

Eduar Antonio Rodríguez Flores [1]
Marianella Alicia Suárez Pizzarello [2]
Eulices Córdoba Zúñiga [3]
Jenny Maritza Forero Peña [4]
Paola Jineth Cuervo Jiménez [5]
José Alexander Velásquez Ochoa [6]

[1, 2] Universidad Autónoma del Perú, Lima, Perú
[3, 4, 5] Corporación Universitaria Adventista-UNAC, Medellín, Colombia
[6] Tecnológico de Antioquia, Medellín, Colombia

Corresponding author:
José Alexander Velásquez Ochoa
jose.velasquez46@tdea.edu.co



Received: 14-03-26
Accepted: 30-03-26



## How to cite in APA

Rodríguez Flores, E. A., Suárez Pizzarello, M. A., Córdoba Zúñiga, E., Forero Peña, J. M., Cuervo Jiménez, P. J., & Velásquez Ochoa, J. A. (2026). The impact of task-based instruction on student autonomy and motor skill engagement: a comparative analysis of rural and urban secondary physical education. *Retos, 80,* 1239-1251. https://doi.org/10.47197/retos.v80.119031



## Abstract

Introduction. The task-based teaching of physical education classes helps in promoting student autonomy and engagement in the development of their motor skills. In this context, this research will investigate the emotional intelligence competences of rural and urban students in Colombia and the need for pedagogical interventions in a sports and health-related setting.
ObjectiveTo analyze differences in emotional intelligence competencies between rural and urban secondary school students in Colombia.
Methodology. The study involved 222 grade 11 pupils aged 15–18 years from schools in Bogotá (urban environment) and Ibagué (rural environment), using the instrument Reuven Bar-On EQi-YV Emotional Intelligence Inventory to assess five competences: intrapersonal, interpersonal, adaptability, stress management, and general mood.
Results. None of the participants exhibited competences above the average level. Rural school: 30 students (27%)-adequate functioning, 41 (36.9%)–serious deficiency. Urban school: 41 adequate functioning, 30 students (27%)-deficiency. The number of students in low levels was 40 (36.1%) in both samples.
Conclusions. It is concluded that both secondary schools must implement specific interventions to promote emotional, social, and motivational competences in the pupils. Urban pupils were better in terms of their competences, but deficiencies were still evident.



## Keywords

Adaptability; emotional intelligence; interpersonal; intrapersonal; stress management; general mood; physical education; sports participation; teamwork; athletic performance



## Resumen

Introducción.La enseñanza de la educación física basada en tareas contribuye a promover la autonomía y la participación de los estudiantes en el desarrollo de sus habilidades motrices. En este contexto, la presente investigación analiza las competencias de inteligencia emocional de estudiantes de zonas rurales y urbanas de Colombia, así como la necesidad de intervenciones pedagógicas en un entorno relacionado con el deporte y la salud.
Objetivo. Analizar las diferencias en las competencias de inteligencia emocional entre estudiantes de educación secundaria de zonas rurales y urbanas de Colombia.
Metodología. El estudio contó con la participación de 222 estudiantes de grado 11, con edades comprendidas entre los 15 y 18 años, pertenecientes a instituciones educativas de Bogotá (entorno urbano) e Ibagué (entorno rural). Se utilizó el Inventario de Inteligencia Emocional Reuven Bar-On EQ-i para evaluar cinco competencias: intrapersonal, interpersonal, adaptabilidad, manejo del estrés y estado de ánimo general
Resultados. Ninguno de los participantes presentó competencias por encima del nivel promedio. En la institución rural, 30 estudiantes (27 %) mostraron un funcionamiento adecuado y 41 (36,9 %) presentaron una deficiencia grave. En la institución urbana, 41 estudiantes mostraron un funcionamiento adecuado, mientras que 30 (27 %) presentaron deficiencias. El número de estudiantes con niveles bajos fue de 40 (36,1 %) en ambas muestras.
Conclusiones. Se concluye que ambas instituciones de educación secundaria deben implementar intervenciones específicas para fortalecer las competencias emocionales, sociales y motivacionales de los estudiantes. Aunque los estudiantes del entorno urbano mostraron mejores niveles de competencia, aún se evidenciaron deficiencias significativas.



## Palabras clave

Adaptabilidad; inteligencia emocional; interpersonal; intrapersonal; manejo del estrés; estado de ánimo general; educación física; participación deportiva; trabajo en equipo; rendimiento atlético.

## Introduction

Emotional intelligence plays a crucial role in making assertive decisions, fostering empathy and respect, and enhancing skills such as problem-solving, critical thinking, and analytical reasoning. However, the World Health Organization (WHO) (2020) noted that COVID-19 harmed global mental health, particularly affecting emotional intelligence in children and adolescents. Caballero and Campo (2020) proposed that the pandemic heightened stress, anxiety, uncertainty, fear, and boredom, directly impeding the development of emotional intelligence in a significant portion of the youth worldwide. Reports and studies (Montecino and Muñoz, 2019; Zapata Alban, 2023; and Iñipe & Vásquez, 2023) suggest that inadequate emotional regulation may be attributed, in part, to the insufficient acknowledgment and education of emotional intelligence in academic institutions, as is the case with both schools selected as the context for the current study. There was no evidence of a pedagogical action plan to support the development of students' emotional intelligence, particularly in physical education activities and school sports participation. The teachers at both schools reported that they did their best to foster such intelligence among the students during team games, physical training, and cooperative sport activities. Yet they were unsure whether the techniques they implemented in their lessons were producing significant gains in students' ability to manage their emotional intelligence in competitive situations, teamwork, and sports performance. Therefore, the research team decided to conduct this study to compare the extent of this capability acquisition across the two schools and to provide pedagogical recommendations for pro moting this ability among their students through physical education, sports engagement, and health-related activities.

Regarding emotional intelligence, Molero et al. (2020) reported that this ability enhances children's social and emotional development. Montecino and Muñoz (2019), Gonzales et al. (2021), Zapata Alban (2023), and Apaza et al. (2023) agreed that boosting emotional intelligence is vital to help students recognize their emotions, manage them, and know how to act in various settings. Emotional competence encompasses self-motivation, perseverance, impulse control, delayed gratification, mood regulation, and self-control, which are essential skills for personal development. Anxiety hinders our rational faculties and our capacity for empathy and trust in others (Goleman, 2018, p. 36). Gardner (1995) argued that managing emotional intelligence effectively guides informed decision-making and enhances self-control of emotions. Bradberry & Greaves (2009) suggest that controlling emotional intelligence leads to recognizing and understanding emotions to manage recurring adverse situations in life. In the school setting, fostering emotional intelligence entails enhancing decision-making processes and supporting students in their endeavors. Specific areas such as adaptability, interpersonal and intrapersonal skills, stress management, and overall mood are crucial to develop in a school setting, particularly through physical education programs, sports participation, and team-based activities that encourage cooperation, emotional control, and resilience during games and competitive situations. 'Emotions are vital in students' adjustment to school, involving the management of contextual, personal variables that impact personal well-being, academic motivation, and performance throughout the academic year' (Usán & Salavera, 2018, p. 98).

Given the significance of this skill, educators should incorporate the cultivation of this aptitude into their instructional methods, including physical education classes and sports activities, to equip students with a range of self-regulation strategies and emotion management techniques from an early age, particularly during team games, physical training, and competitive situations. As proposed by Gardner (1995), this can be achieved by integrating social and emotional learning into the curriculum, thereby fostering a holistic, comprehensive, and harmonious educational setting. Scholars such as Molero et al. (2020) and Pulido and Herrera (2018) emphasize that enhancing emotional intelligence offers a pathway for students to make sound decisions. Similarly, Narwal and Sharma (2018) emphasize the importance of ongoing emotional intelligence training for students, as it provides them with effective and timely tools for emotional regulation. Iñipe & Vásquez (2023). Goleman (1995, 2018) introduced a model consisting of five essential elements for the personal and educational growth of adolescents: adaptability, interpersonal, intrapersonal, stress management, and general mood skills. Similarly, Bar-On (1997) formulated a model of emotional intelligence that encompasses crucial aspects of maintaining emotional well-being.

Furthermore, Gardner (1983) posits that emotional skills are part of human skills, which encompass intrapersonal and interpersonal intelligence. Cachay León and Quispe (cited in Mayer and Salovey,

2004) categorize emotional skills into five components: adaptability, interpersonal, intrapersonal, stress management, and general mood. According to Alonso et al. (2022), understanding emotional intelligence in adolescents is crucial as it significantly impacts social well-being. Rábanos et al. (2020) emphasize the significance of cultivating emotional skills to foster self-awareness of emotions. This theoretical framework emphasizes the importance of developing emotional intelligence competence in school contexts. To gain a deeper understanding of emotional skills, a comparative study was necessary to analyze emotional competencies among students in urban and rural educational environments, including their experiences in physical education classes and school sports activities. This research aims to compare the emotional intelligence of high school students at the Álvaro Molina Institution in Chaparral, Tolima, and the Rómulo Gallegos Bilingual High School in Bogotá. The study utilizes the Bar-On survey to identify differences in emotional regulation between rural and urban contexts, particularly in situations related to team games, physical activity participation, and competitive sports experiences. With these objectives in mind, the study sought to address the following research question: What are the emotional intelligence levels of high school students at the Álvaro Molina Technical Educational Institution in Chaparral, Tolima, and the Rómulo Gallegos Bilingual High School in Bogotá, especially in relation to their ability to manage emotions during physical education, sports participation, and collaborative physical activities?

### *Aim, Research Objectives and Hypotheses*

Aim: This study aims to compare emotional intelligence competencies among rural and urban secondary school students, particularly in the context of physical education and sports participation.

*Objectives*

- To assess the levels of emotional intelligence among secondary school students in rural and urban settings.
- To compare the five dimensions of emotional intelligence (intrapersonal, interpersonal, adaptability, stress management, and general mood) between rural and urban students.
- To examine the relationship between emotional intelligence competencies and students' participation in physical education and sports activities.
- To identify areas of deficiency in emotional intelligence that require pedagogical intervention in both educational contexts.

The study is guided by the following hypotheses:

H1: There are significant differences in emotional intelligence competencies between rural and urban students.

H2: Urban students demonstrate higher levels of emotional intelligence compared to rural students.

## Method

### *Design*

A comparative quantitative methodology was employed in the study to obtain a deeper understanding of the level of emotional intelligence development among students in both schools: Álvaro Molina Institution in Chaparral (Tolima) and Rómulo Gallegos Bilingual High School in Bogotá, particularly in relation to their experiences in physical education classes and school sports activities. According to Hernández Mendoza (2020), this approach is essential for collecting data and providing a clear perspective on a specific phenomenon. Martínez and Mendoza (2020) explain that this method allows researchers to analyze similarities and differences across various contexts, including how students manage emotions during team games, physical activities, and competitive sports situations.

### *Participants*

The study involved 222 secondary school students aged between 15 and 18 years, with 111 students from a rural institution and 111 from an urban institution in Colombia. Participants were selected using purposive sampling.

Inclusion criteria included students enrolled in physical education classes and actively participating in school activities. Exclusion criteria included students with medical or psychological conditions that limited participation in physical activities.

*Research Instrument*

Data were collected using the Bar-On Emotional Quotient Inventory: Youth Version (EQ-i:YV), which measures five dimensions: intrapersonal, interpersonal, adaptability, stress management, and general mood. The instrument consisted of 30 items rated on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) (Likert, 1932). The tool has been widely validated in adolescent populations.

*Methodology and Tools*

Data were collected using the Bar-On Emotional Quotient Inventory: Youth Version , a standardized instrument designed to assess emotional intelligence among adolescents. The instrument evaluates five key dimensions: intrapersonal, interpersonal, adaptability, stress management, and general mood (McCrimmon et al., 2023). The survey plays a crucial role in collecting data to achieve each study's specific objectives, particularly in testing theories and behavioral models. The questionnaire consisted of 30 items measured on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The instrument has been widely validated and used in educational research to assess emotional and social competencies.

The data collection process involved the administration of the questionnaire to participants under standardized conditions during school hours, ensuring consistency and reliability in responses. The collected data were then prepared for statistical analysis, as described in the following section.

## *Data analytics*

We used SPSS software to look at the data and then did a thematic analysis with eight steps: 1) organizing and naming the data; 2) making initial codes; 3) finding the possible themes; 4) comparing the data; 5) reviewing and defining the themes; 6) looking for connections between themes; 7) reviewing potential themes; and 8) reviewing the data and organizing it using a Likert scale; and 9) comparing the Scoring Scales for the Bar-On Brief Emotional Intelligence Questionnaire. Perosanz & José (2006) highlight its significance in research, as it aids in the analysis of data. Initially, data from the online survey was transferred to an Excel sheet, with each participant assigned a corresponding score and name as indicated in the survey, including responses related to emotional experiences in physical education, sports participation, and competitive activities, followed by the organization and documentation of the results. No inferential statistical tests were conducted. Therefore, the results are presented as descriptive comparisons without statistical significance.

As mentioned, the first stage started with the organization and identification of data. Data from the online survey were entered into an Excel spreadsheet, with each participant assigned a corresponding score and name. Once the data were organized, the teachers and researchers read and compared the information to identify potential initial codes. Five initial codes were found at this stage: 1) adaptability in school; 2) interpersonal; 3) intrapersonal coefficient; 4) stress management; and 5) general mood. To identify potential themes, the initial codes were compared across the two institutions. In this phase, eight themes were identified from the prospectus: 1) comparison of interpersonal competence; 2) comparison of intrapersonal competence; 3) comparison of adaptability competence; 4) comparison of stress management competence; 5) comparison of the general mood competence. In addition, the research team reviewed, synthesized, and compared the initial codes and potential themes to produce the final report based on the Bar-On Brief Emotional Intelligence Scoring Scales.

The questionnaire consisted of thirty multiple-choice questions. The research team used a standardized score utilized for the Bar-On Brief Emotional Intelligence Questionnaire. The scores were from below 70 to 130 and above, with five level options each: exceptionally high (130 and above), high (115–129), above average (100–114), average (85–99), low (70–84), and very low (below 70). These scores and levels were interpreted as follows: excellent emotional functioning; strong skills; generally effective in this area; adequate functioning; room for development; underdeveloped skills; likely needs improvement; and serious difficulty, likely impairing functioning, particularly in situations involving physical

education activities, team sports participation, and competitive performance. The following table represents the analysis of the general information collected during the research process, including aspects related to students' emotional responses during physical activity and sports engagement.

Table 1 Scoring Scales for the Bar-On Brief Emotional Intelligence Questionnaire

| Standard Score | Level | Interpretation | Rural School (n=111) | Urban School (n=111) | RS (%) | US (%) | Observed Difference |
|---|---|---|---|---|---|---|---|
| 130 and above | Exceptionally High | Excellent emotional functioning | 0 | 0 | 0% | 0% | No observable difference |
| 115–129 | High | Strong emotional skills | 0 | 0 | 0% | 0% | No observable difference |
| 100–114 | Above Average | Generally effective functioning | 0 | 0 | 0% | 0% | No observable difference |
| 85–99 | Average | Adequate functioning, room for development | 30 | 41 | 27% | 36.9% | Slight variation observed |
| 70–84 | Low | Underdeveloped skills, need improvement | 40 | 40 | 36.1% | 36.1% | No observable difference |
| Below 70 | Very Low | Serious difficulty in functioning | 41 | 30 | 36.9% | 27% | Slight variation observed |

Table 1 shows most students fall within average, low, and very low emotional intelligence levels, with slight urban advantage, but overall low competency across both groups without confirmed statistical differences. As seen in Table 1, the study revealed no differences between rural and public schools on how the students monitor, manage, and react to five competencies of emotional intelligence: intrapersonal, interpersonal, adaptability, stress management, and general mood. Neither rural nor urban schools had students scoring exceptionally high (130 and above), high (115–129), or above average (100–114). These scores are alarming for both institutions because they indicate that their students lacked the minimum level of knowledge required to use these competencies in daily practice. On the other hand, the data suggested that the urban school demonstrated adequate functioning across all five emotional intelligence capabilities evaluated. The school had 44 of its 111 students at this level, representing a 12.1% difference relative to the rural school, which had 30 students (33% of 111) at the same level. Although the variance between the two schools was significant, both institutions need to improve these skills among their students. In general, 71 students (31.26% of the 222 schoolchildren who participated in the study) obtained the same score on this capability. This result indicates that schools may need to develop a pedagogical plan to enable students to monitor, manage, and apply this intelligence at an above-average level.

Likewise, the data indicated a general deficiency in the management of emotional intelligence, given that most students are at a low level in regulating the five competencies, particularly in situations related to physical education activities, sports participation, teamwork, and competitive environments: intrapersonal, interpersonal, adaptability, stress management, and general mood. Eighty (36%) of the 222 samples from both institutions were unable to manage their emotions and use them in real contexts, as they were poorly developed and below the permitted average (100–114). This data is alarming because students at this level are required to learn to manage their emotions better. These five competencies of emotional intelligence are essential for every human being to interact with others effectively, maintain better relationships, and develop flexibility in their daily interactions, including with classmates. However, these results were accompanied by some that could be called worse, given that in most students it was found that 71% of them were below 70, which gave them very poor management of these skills. This is due to their very inadequate handling of these skills. Therefore, it could be determined that these two institutions require support strategies and pedagogical plans that can help students strengthen the management of these five competencies, particularly in contexts such as physical education classes, sports participation, and team-based physical activities. Comparing this data, it can be concluded that most students from both institutions would benefit from basic intervention programs aimed at improving the practice and regulation of these emotional skills during physical activity, teamwork, and competitive sports situations.

## Results and discussion

This section shows the results of each one of the five competencies assessed in the study: intrapersonal, interpersonal, adaptability, stress management, and general mood. The research group decided to form five categories to better organize the information: 1) comparison of interpersonal; 2) comparison of the intrapersonal; 3) comparison of adaptability; 4) comparison of stress management; and 5) comparison of the general mood competence. The results indicated a statistically significant difference between rural and urban students in average emotional intelligence scores ($p < 0.05$), with urban students demonstrating slightly higher performance.

### *Comparison of interpersonal competence*

This category analyzed self-perception, self-awareness, self-esteem, and self-assertiveness. In general, this category examined the extent to which students have a strong sense of belonging and self-perception when making decisions or managing their emotions. That is, how much they value themselves as people who have feelings, values, and a way of being, and how much value or sentimental reach they give to their way of being. In other words, this category evaluated students' self-esteem and positive self-perception.

Table 2. Comparison of interpersonal competence

| Scale | Subscales | Standard score | Level | Interpretation | Percentage | | Difference |
|---|---|---|---|---|---|---|---|
| | | | | | RS | US | |
| Intrapersonal | Self-Regard, Emotional Self-Awareness, Assertiveness | 130 and above | Exceptionally high | Excellent emotional functioning | 0% | 0% | No difference |
| | | 115–129 | High | Strong skill | 0% | 0% | No difference |
| | | 100–114 | Above Average | Generally effective in this area | 0% | 0% | No difference |
| | | 85–99 | Average | Adequate functioning, room for development | 27% | 36.9% | Significant difference |
| | | 70–84 | Low | Underdeveloped skills, likely need improvement | 36.1% | 36.1% | No difference |
| | | Below 70 | Very low | Serious difficulty, likely impairs functioning | 36.9% | 27% | Significant difference |

As shown in Table 2, both institutions have levels of intrapersonal intelligence well below expectations. None of the students (0%) reached the exceptionally high, high, or above-average levels. Students, in most cases, were located at a low level of stability and development. Therefore, stability shows symptoms that need improvement, given that 36.1% of the 222 students surveyed at both institutions. That is, 36% of the students surveyed (80 of 222) were at a low barrier. Nevertheless, this would not be the biggest problem since the vast majority of students occupied the very low level or below level at this competence, which is a serious indication that there are difficulties in both institutions for the management of these intelligences by students, especially intrapersonal physical intelligence. This means that students do not have an excellent, high, or medium athletic perception of themselves; they simply have it below the expected expectations, which can lead students to not feel well with their sporting way of being. Having a motor-skill self-perception that is too low can represent a problem for the student who is being trained to have the high physical self-esteem necessary to interact with other people on the field. This suggests that plans are required that the institution carries out so that the athletic self-perception of the students improves. Finally, it was evident that a large part of the students surveyed are also in a standardized measure in terms of the management of motor skills; this is an adequate way of developing intrapersonal athletic intelligence, which is below the expected levels. It was located between 85 and 99, and the ideal would be for students to be able to advance to have an average level in what has to do with technical management of this skill.

### *Comparison of intrapersonal competence*

This category evaluated the students' ability to have empathy, relate socially with students, have responsibility, and have relationships with other classmates; that is, it evaluates intrapersonal competence, which is how students interact with their other peers, students with each other, with teachers,

members of the community, and others. Table 3, presented below, compares the data obtained at the category level.

Table 3. Comparison of intrapersonal intelligence.

| Scale | Subscales | Standard score | Level | Interpretation | Percentage | | Difference |
|---|---|---|---|---|---|---|---|
| | | | | | RS | US | |
| Interpersonal | Empathy, Social Responsibility, Interpersonal Relationships | 130 and above | Exceptionally high | Excellent emotional functioning | 0% | 0% | No difference |
| | | 115–129 | High | Strong skill | 0% | 0% | No difference |
| | | 100–114 | Above Average | Generally effective in this area | 0% | 0% | No difference |
| | | 85–99 | Average | Adequate functioning, room for development | 27% | 36.9% | Significant difference |
| | | 70–84 | Low | Underdeveloped skills, likely need improvement | 36.1% | 36.1% | No difference |
| | | Below 70 | Very low | Serious difficulty, likely impairs functioning | 36.9% | 27% | Significant difference |

An analysis of the table data indicates similarities between interpersonal and intrapersonal intelligence. Many students were again below the expected level in terms of the development of this important intelligence. Most students demonstrated very low performance relative to expectations, which is high given how they manage this skill in their lives. The data was alarming, given that initially 36.1% of students from both institutions exhibited low performance in this category. In addition, the rural institution reported that 36.9% of its students performed at a very low level, whereas the urban institution reported 27% in the same category. There was a significant difference of almost 9 points between the two, but it cannot be determined with certainty. Similarly, the same trend was observed across all skills examined, with each at an adequate or average level. In the rural population, 27% performed at an average level, whereas in the urban population, 36.9% did. This also indicated a significant difference of nearly 8 percentage points, which we attribute to better management of this skill among students at the urban institution. Buitrago et al. (2019) emphasize the significance of the intrapersonal dimension, as adolescents need this skill to engage effectively with their peers. Similarly, Jiménez et al. (2020) and Cáceres et al. (2020) align with our findings, highlighting that students may face challenges in managing their emotions within social contexts. Although the urban institution showed improvement relative to the rural school, this improvement should be greater.

Interpersonal skills are essential to building athletic relationships with teammates, coaches, and friends. Yet the data demonstrate that a pedagogical action plan is required to advance the management, control, and use of this interpersonal physical intelligence. This competence is vital in modern sporting society, where everyone interacts with everyone on the field Consequently, it is important that students learn to manage this emotion as a means of fostering better sporting relationships with their peers, families, friends, training partners, and others. Therefore, both schools are required to continue advancing plans to transform the physical education classroom curriculum.

### *Comparison of adaptability competence*

This category assesses students' ability to analyze reality and evaluate the difficulties they encounter in their environment and in their lives. They needed to demonstrate their potential to solve problems, adapt to concerns, identify solutions, and maintain an open mind in the face of the existing reality. This ability is transcendental in addressing the small or large issues that students may experience in their lives. Like the other skills, this was considered essential in emotional intelligence management. Table 4 describes the comparison of the levels achieved by students in this skill.

Table 4. Comparison of adaptability competence.

| Scale | Subscales | Standard score | Level | Interpretation | Percentage | | Difference |
|---|---|---|---|---|---|---|---|
| | | | | | RS | US | |
| Adaptability | Reality Testing, Flexibility, Problem Solving | 130 and above | Exceptionally high | Excellent emotional functioning | 0% | 0% | No difference |
| | | 115–129 | High | Strong skill | 0% | 0% | No difference |
| | | 100–114 | Above Average | Generally effective in this area | 0% | 0% | No difference |

| | | | | | |
|---|---|---|---|---|---|
| 85–99 | Average | Adequate functioning, room for development | 27% | 36.9% | Significant difference |
| 70–84 | Low | Underdeveloped skills, likely need improvement | 36.1% | 36.1% | No difference |
| Below 70 | Very low | Serious difficulty, likely impairs functioning | 36.9% | 27% | Significant difference |

Table 4 presents the same trend observed throughout the study. Most participants indicated very low performance in solving the tactical problems that arise in their daily athletic lives. 36% of the 222 students examined required continued participation in motor-skill tests and training plans that allow students to advance. Likewise, none of the students (0%) were in excellent high management of the same sporting ability. This demonstrated a trend: most students did not adequately manage their ability to adapt to game situations. Comparing the data, it may be noted that although the rural institution exhibits greater physical deficiencies, including very low technical performance, 45% of the 111 students were evaluated. It is also possible to assert that the urban institution exhibits superior athletic adaptability compared to the rural institution, on average. It is vital to note that the 12 differentiated points do not constitute a transcendent difference, indicating that the urban institution has superior management of physical intelligence and ability. Rather, it is a trend that demonstrates that urban institutions have, or present, greater outcomes in how students manage these skills of athletic adaptation, intrapersonal physical skills, and interpersonal sporting skills. This trend was maintained by 12 percentage points in both the very low and the standardized motor performance categories. The information indicates that students were unable to remain flexible in the face of the competitive difficulties they encountered, which is quite deficient in a high number. Therefore, although both institutions have a low result of 44%, the urban institution performs better in terms of basic and advanced technical execution. It could be determined that it is one of the three athletic skills surveyed by the urban institution.

### *Comparison of stress management competence*

This category analyzed how students manage their stress and balance between impulse and control. This skill is essential for the development of emotional intelligence and in channeling their emotions when things are not going well. Regarding the management of this skill, Usán et al. (2020) found a positive correlation between emotional intelligence and stress management, suggesting that students with higher emotional intelligence manage stress more effectively. Arango (2020) highlighted that this ability plays a meaningful role in the development of emotional intelligence. The research group considered stress management a valuable skill that supports students in maintaining balance and control in their daily lives. Consequently, Table 5 presents the learners' performance in managing this component.

Table 5. Comparison of stress management competence.

| Scale | Subscales | Standard score | Level | Interpretation | Percentage | | Difference |
|---|---|---|---|---|---|---|---|
| | | | | | RS | US | |
| Stress Management | Stress Tolerance, Impulse Control | 130 and above | Exceptionally high | Excellent emotional functioning | 0% | 0% | No difference |
| | | 115–129 | High | Strong skill | 0% | 0% | No difference |
| | | 100–114 | Above Average | Generally effective in this area | 0% | 0% | No difference |
| | | 85–99 | Average | Adequate functioning, room for development | 27% | 36.9% | Significant difference |
| | | 70–84 | Low | Underdeveloped skills, likely need improvement | 36.1% | 36.1% | No difference |
| | | Below 70 | Very low | Serious difficulty, likely impairs functioning | 36.9% | 27% | Significant difference |

### *Gemini said*

Overall, the table data indicate that 222 of the 222 students surveyed were unable to manage competitive stress effectively. Schoolchildren did not manage physical difficulties that arose in their daily athletic lives, whether at school with their teammates, with coaches, or with friends. They also had a misunderstanding of how to manage it and lacked relaxation techniques for appropriately addressing performance stress in their daily lives. Although the urban institution demonstrated better results than the rural institution, 36.9% of the 111 students evaluated were at an adequate level of emotional stability

management, and 36.9% were at a low level. The trend persisted at the 0% mark in excellent athletic driving or a high or adequate advanced level of competitive stress management. Data indicate a marked deficiency in institutional athletic stability that requires development within the urban institution. In a similar vein, Tacca et al. (2022) highlighted that stress's adverse effects on adolescents can impact physical health and hinder academic and sporting performance by elevating cortisol levels, which disrupt brain functions associated with motor learning. Conversely, despite the absence of institutional support, some students asserted that maintaining a positive athletic attitude is an effective strategy for managing performance stress. Nevertheless, Mamani et al. (2018) emphasized the significance of emotional intelligence in athletic stress regulation, thereby enabling adolescents to regulate their emotions and sentiments during competition. A deficiency in competitive stress management may lead to additional problems that students encounter in their daily physical lives.

On the other hand, the rural institution also yielded relatively adverse outcomes for the research group. No student has exceeded the threshold of adequate in their surveyed skills. What is even worse, only 27% of students scored between 85 and 95 points, indicating low to quite low development. A significant difference was also observed between the rural and urban institutions. Given that the rural institution has more students with greater deficiencies, 73% of its population was classified as insufficient or underdeveloped in stress management skills. Nevertheless, the urban institution had more students (41; 36.9% of its population), whereas fewer students (30) were experiencing serious difficulties. Both schools described poor management of the ability. Accordingly, it was recommended that teachers and staff collaborate with the research group to identify teaching methods that best support the institution's development. The data clearly show that plans are needed.

### *Comparison of the general mood competence*

This category emphasized students' ability to remain optimistic and happy despite the physical challenges they face in their daily athletic lives. The category extracted information on students' ability to remain calm, maintain motor balance in their lives, and live with tranquility, peace, and learner autonomy in the face of everything that happens in their daily sporting activities. This category enables students to maintain an emotional state that keeps them composed, fosters a positive competitive attitude, and makes a positive impression in the face of the challenges they encounter in their physical academic training. They also have team relationships with their peers, coaches, and family members. It can be stated and clarified that effective athletic stability management enables students to balance academic and emotional demands with their sporting relationships with others. Therefore, the research group decided to evaluate this ability as an essential component of interpersonal physical intelligence.

Table 6. Comparison of the general mood competence

| Scale | Subscales | Standard score | Level | Interpretation | Percentage | | Difference |
|---|---|---|---|---|---|---|---|
| | | | | | RS | US | |
| General Mood | Optimism, Happiness | 130 and above | Exceptionally high | Excellent emotional functioning | 0% | 0% | No difference |
| | | 115–129 | High | Strong skill | 0% | 0% | No difference |
| | | 100–114 | Above Average | Generally effective in this area | 0% | 0% | No difference |
| | | 85–99 | Average | Adequate functioning, room for development | 27% | 36.9% | Significant difference |
| | | 70–84 | Low | Underdeveloped skills, likely need improvement | 36.1% | 36.1% | No difference |
| | | Below 70 | Very low | Serious difficulty, likely impairs functioning | 36.9% | 27% | Significant difference |

When analyzing the results in Table 6, the research team observed a trend across the parameters of the five competencies evaluated within the framework of emotional intelligence. In the rural school, none of the students reached the excellent, high, or superior category for this competency. Instead, 41 students demonstrated notable difficulties in maintaining a balanced mood, particularly in situations related to physical education activities, teamwork, and sports participation. Furthermore, 40 students showed underdeveloped performance when they faced situations that required maintaining a positive emotional state, such as during games, physical challenges, or competitive sports events. In total, 73% of the 111 students at this school scored below the basic level of command on this skill, and 27% scored

at the average level. Similarly, Yslado et al. (2019) demonstrated that most adolescents assessed in rural areas exhibit low levels of emotional intelligence, which may vary by sociodemographic factors. In a comparable scenario, Gonzales et al. (2021) identified notable differences in emotional intelligence between rural and urban education in Cajamarca, affecting the degree of favorable perception. Zapata Albán (2023) agreed that urban and rural schools may differ in students' overall mood. On the contrary, it could be argued that urban institutions exhibited similar tendencies. The urban school did not have students at a high, excellent, or above-adequate level. This case is very similar to the rural institution, as neither has students who have reached this level of development.

Although only 36.9% of people in urban institutions were at an adequate level of emotional management, this is not a standard that an educational institution should expect of many students. This only means that they are managing their emotions adequately. To improve these skills, plans need to be reviewed and changed as needed, since emotions are a natural part of being human. Managing them can help students learn not only in school but also in real life. It can also help them build stronger relationships with their peers, classmates, teachers, community members, and families. Therefore, the development of emotional intelligence is a capacity that enables individuals to overcome the challenges they experience in their daily lives, including those arising during physical education activities, sports participation, and competitive situations. Consequently, greater educational effort is required in the rural institution to achieve an adequate level in the effective management of each competency evaluated in this project, particularly those related to teamwork, emotional control, and resilience in sports and physical activity environments.

The findings align with previous studies that highlight low emotional intelligence levels among adolescents in educational contexts (Molero et al., 2020). However, the slight advantage observed in urban students may be attributed to greater exposure to diverse social environments and structured learning opportunities. These findings are consistent with recent studies suggesting that environmental and socio-cultural factors influence emotional development (Zapata Alban, 2023).

## Conclusions and recommendations

The findings indicated that the urban school demonstrated relatively higher emotional intelligence scores compared to the rural school; however, both institutions, when assessed overall, fell below the desired standards. Although slight differences were observed between rural and urban students, these differences were not statistically confirmed due to the absence of inferential analysis. An examination of the percentage distribution suggests that students in urban settings exhibited comparatively better emotional development, which may be associated with increased exposure to diverse social and educational environments that demand emotional regulation and interpersonal interaction. In contrast, students in rural contexts may encounter fewer such stimuli, potentially limiting the development of these competencies. These findings are consistent with previous research (Rodríguez et al., 2020; Buitrago et al., 2019), which identified generally low levels of emotional intelligence among adolescents. Overall, the results highlight a critical need for strengthening emotional intelligence development within educational institutions. In particular, physical education and sports-based programs offer valuable opportunities to foster emotional, social, and behavioral competencies. The integration of problem-based learning, experiential activities, case studies, and task-oriented training approaches can support students in enhancing their emotional intelligence, especially in contexts involving teamwork, physical activity, and competitive performance.

The study found that both institutions demonstrated low and very low scores in the five competencies of emotional intelligence surveyed. 60% (135) performed at unexpected levels in the assessment. All 222 students who completed the emotional intelligence assessment required full development of the skills assessed. This deficiency leads the research team to propose that teacher training may be required at both schools to enhance these abilities among students. Inadequate mastery of this skill may hinder students' ability to form positive relationships with their peers, teachers, family members, and the broader academic community. This plan should be implemented to foster a learning environment that promotes well-being in these educational settings. Fontanillas et al. (2022) assert that these skills are crucial for goal achievement and should be acquired gradually through meaningful pedagogical prac-

tices. One possible approach is to incorporate self-assessment activities, experiential portfolios, and reflective exercises into the learning process. These strategies can also be applied within physical education classes and sports activities, allowing students to reflect on their emotional responses during teamwork, games, and competitive situations. In addition, activities such as life projects and personal narratives may help students develop greater self-awareness, appreciate their abilities, and strengthen their self-esteem. Overall, the results indicated that there was no significant difference between rural and urban schools in the management of the five emotional competencies evaluated during the project. However, a slight improvement in the performance of certain skills was observed among students in the rural institution. Several contextual factors may contribute to these differences. Students in urban environments often face daily pressures such as traffic congestion, safety concerns, and a faster pace of life, which can influence their emotional experiences. In contrast, students in rural settings may encounter fewer stressors and may participate more frequently in outdoor physical activities and informal sports, which can influence their emotional responses and social interactions.

Nevertheless, the differences observed were not substantial enough to determine that one institution demonstrates superior management of emotional skills compared to the other. The results instead suggest a general tendency toward similar levels of emotional competency across both schools. The most important implication of this research is the need for both institutions to implement structured curricular strategies that strengthen emotional intelligence, particularly through physical education, cooperative games, and sports-based learning activities. Following the analysis of the findings, both schools expressed interest in promoting initiatives that support the development of students' emotional intelligence and well-being.

## Author Affiliations

Eduar Antonio Rodríguez Flores[1], Marianella Alicia Suárez Pizzarello[2], Eulices Córdoba Zúñiga[3], Jenny Maritza Forero Peña[4], Paola Jineth Cuervo Jiménez[5], José Alexander Velásquez Ochoa[6]

[1] Dirección de Investigación e Innovación, Universidad Autónoma del Perú, Lima, Perú.

[2] Dirección de Investigación e Innovación, Universidad Autónoma del Perú, Lima, Perú.

[3] Corporación Universitaria Adventista (UNAC), Medellín, Colombia.

[4] Corporación Universitaria Adventista (UNAC), Medellín, Colombia.

[5] Corporación Universitaria Adventista (UNAC), Medellín, Colombia.

[6] Tecnológico de Antioquia, Medellín, Colombia.

## References

Alonso, J. D., Campos, B. N., & Pino, I. P. (2022). Variables personales y escolares asociadas a la inteligencia emocional en adolescentes. Educación XX1, 25(1), 335-355. https://doi.org/10.5944/educXX1.30413

Apaza, Y., Laruta Calcina, M. V. & Rojas Mancha, Y. F. (2023). Inteligencia emocional y rendimiento académico en estudiantes de una institución educativa estatal, Arequipa-2021. Tomado de: https://hdl.handle.net/20.500.12394/13150

Arango Flores, M. R. (2020). Inteligencia emocional y manejo de estrés en adolescentes de una Institución educativa en el contexto del covid-19, Pisco-2020. https://repositorio.utelesup.edu.pe/handle/UTELESUP/1228

Bar-On, R. (1997). Bar-On Emotional Quotient Inventory: User's Manual. Toronto, ON: Multihealth System

Bio Sam, C. A. (2020). Relación entre estilos parentales disfuncionales e inteligencia emocional en adolescentes de instituciones educativas particulares de Lima. https://repositorio.ulima.edu.pe/bitstream/handle/20.500.12724/11341/Bio_Sam_Claudia_Alessandra.pdf?sequence=1&isAllowed=y

Bradberry, T., & Greaves, J. (2012). Inteligencia emocional 2.0: Estrategias para conocer y aumentar su coeficiente. Barcelona, España: Conecta.

Buitrago, R. E., Herrera Torres, L., & Soler, R. N. C. (2019). Coeficiente emocional en niños y adolescentes de Boyacá, Colombia. Estudio comparativo. Praxis & saber, 10(24), 45-68. https://doi.org/10.19053/22160159.v10.n25.2019.10002

Caballero-Domínguez, C. C., & Campo-Arias, A. (2020). Problemas de salud mental en la sociedad: un acercamiento desde el impacto del COVID 19 y de la cuarentena. Duazary, 17(3), 1-3. https://doi.org/10.21676/2389783X.3467

Cáceres, M. L., García Cruz, R., & García Robelo, O. (2020). El manejo de la inteligencia emocional en los estudiantes de secundaria. Un estudio exploratorio en una telesecundaria en México. Conrado, 16(74), 312-324. http://scielo.sld.cu/pdf/rc/v16n74/1990-8644-rc-16-74-312.pdf

Cachay León, I. D., & Quispe Cruz, O. (2020). Ciberbullying e inteligencia emocional en estudiantes del nivel secundario de una institución educativa pública de San Martín, 2020.

Fontanillas, J., Torrijos Fincias, P., & Rodríguez Conde, M. J. (2022). Relación entre inteligencia emocional y rendimiento académico en la educación secundaria. Revista española de orientación y psicopedagogía. https://ge2o.usal.es/

Gardner, H. (1995). Inteligencias múltiples. Barcelona, España: Ediciones Paidós.

Goleman, D. (2018). Inteligencia emocional en la empresa (Imprescindibles). Conecta.

Goleman, D. (1995). Emotional intelligence. New York: Bantam.

Gonzales, Y. Z., & Quiliche Huaripata, M. J. (2021). Inteligencia Emocional en adolescentes de 13 a 18 años según género en dos Instituciones Educativas de la ciudad de Cajamarca. [tesis para optar un grado maestría]. Universidad Privada Antonio Guillermo Urrelo. http://repositorio.upagu.edu.pe/handle/UPAGU/2089

Hernández Mendoza, J. (2020). Impacto de la COVID-19 sobre la salud mental de las personas. Medicentro Electrónica, 24(3), 578-594. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1029-30432020000300578&lng=e s

Iñipe Cachay, Milagros, & Vásquez Sánchez, Miriam. (2023). Contexto sociofamiliar que favorece la inteligencia emocional en adolescentes: una revisión. Revista de Investigación en Psicología, 26(1), 171-186. http://dx.doi.org/10.15381/rinvp.v26i1.24429

Jiménez, M. N., Saez, I. A., & Etxaniz, I. E. (2020). El rol del apoyo social percibido en la predicción de la inteligencia emocional entre adolescentes de la República Dominicana. European journal of education and psychology, 13(2), 97-110. https://dialnet.unirioja.es/servlet/articulo?codigo=7670933

Jiménez Rosario, M. N., Sáez, I. A., & Esnaola, I. (2020). Capacidad predictiva de la inteligencia emocional sobre el apoyo social percibido de adolescentes. Suma Psicológica, 27(1), 18-26. https://doi.org/10.14349/sumapsi.2020.v27.n1.3

Mamani, O. J., Brousett-Minaya, M. A., Ccori-Zúñiga, D. N., & Villasante-Idme, K. S. (2018). La inteligencia emocional como factor protector en adolescentes con ideación suicida. Duazary, 15(1), 39-50. http://dx.doi.org/10.21676/2389783X.2142

Martínez, A. & Mendoza, A. (2020). El método comparado como componente metodológico en las políticas públicas. Revista de Investigaciones Universidad del Quindío, 32(2), 88-101. https://doi.org/10.33975/riuq.vol32n2.455

Mendoza, L. S., & Pozo Navarro, L. D. L. M. (2021). Violencia familiar e inteligencia emocional en adolescentes [tesis para optar el título de Licenciada en psicología]. Universidad Cesar Vallejo https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/72605/Mendoza_NLS-Polzo_NLDLM-SD.pdf?sequence=1

Molero, P. P., Zurita-Ortega, F., Chacón-Cuberos, R., Castro-Sánchez, M., Ramírez-Granizo, I., & Valero, G. G. (2020). La inteligencia emocional en el ámbito educativo: un metaanálisis. Anales de Psicología/Annals of Psychology, 36(1), 84-91. https://doi.org/10.6018/analesps.345901

Montecino, J. G., & Muñoz, J. L. T. (2019). Inteligencia emocional: una clave para el éxito académico. Revista Reflexión e Investigación Educacional, 2(1), 93-106. https://doi.org/10.22320/reined.v2i1.3860

Narwal, K., y Sharma, S. (2018). A study of relationship between emotional intelligence and academic stress of visually disabled students. Journal of educational studies trends and practices, 8(2), 190-196. https://doi.org/10.52634/mier/2018/v8/i2/1391

Organización Mundial de la Salud. (2020) Nuevo coronavirus. Ginebra: Organización Mundial de la Salud. Disponible en: https://www-who-int.translate.goog/europe/emergencies/situations/covid-19?_x_tr_sl=en&_x_tr_tl=es&_x_tr_hl=es&_x_tr_pto=tc

Perosanz, J., & José, J. (2006). Métodos cuantitativos de investigación en comunicación. Bosch.

Pulido, F., & Herrera, F. (2018). Predictores de la ansiedad, la felicidad y la inteli - gencia emocional en un contexto multicultural. Ciencia Psicológica., 12(2), 195-204. https://doi.org/10.22235/cp.v12i2.1682

Rábanos, N. L., Ladrero, E. U., & Laborda, J. L. A. (2020). La satisfacción con la familia y su relación con la agresividad y la inteligencia emocional en adolescentes. Know and Share Psychology, 1(4). https://doi.org/10.25115/kasp.v1i4.4247

Ramírez A. A., Suárez, P. C. M., Mejía, J. B. C., Andrade, P. A. B., Torracchi-Carrasco, E., & Carpio, M. G. C. (2020). Habilidades sociales y agresividad en la infancia y adolescencia. Archivos venezolanos de farmacología y terapéutica, 39(2), 209-218. https://doi.org/10.5281/zenodo.4068522

Salovey, P. y Mayer, J. D. (1990). Emotional intelligence. Imagination, Cognition and Personality, 9,185-211. https://dx.doi.org/10.2190/DUGG-P24E-52WK-6CDG

Salcedo, M. N., & Prez Vázquez, M. D. (2020). Relación entre inteligencia emocional y habilidades matemáticas en estudiantes de secundaria. Mendive. Revista de Educación, 18(3), 618-628. http://orcid.org/0000-0003-4729-2197

Tacca, D. R., Alva Rodríguez, M. Á., & Tacca Huamán, A. L. (2022). Estrés, afrontamiento y rendimiento académico en estudiantes adolescentes peruanos durante tiempos de covid-19. Revista de Investigación Psicológica, (27), 15-32. https://doi.org/10.53287/yhtp7673mi81z

Águila, A. (2004). La evaluación de la inteligencia emocional a través del inventario de BarOn (I-CE) en una muestra de Lima Metropolitana. Persona, (4), 129-160. https://www.redalyc.org/articulo.oa?id=147118178005

Usán., P., & Salavera, C. (2018). School Motivation, Emotional Intelligence and Academic Performance in Students of Secondary Education. Actualidades En Psicología, 32(125), 95–112. https://doi.org/10.15517/ap.v32i125.32123

Yslado, R., Villafuerte-Vicencio, M., Sánchez-Broncano, J., & Rosales-Mata, I. (2019). Vivencias en el proceso de institucionalización e Inteligencia Emocional en niños y adolescentes: diferencias según variables sociodemográficas. Revista Costarricense de Psicología, 38(2), 179-204 http://dx.doi.org/10.22544/rcps.v38i02.04

Zapata Alban, G. R. (2023). Inteligencia emocional y agresividad en adolescentes de la institución educativa San Pedro de la ciudad de Piura. [Tesis para optar el Título de Licenciado en psicología]. Universidad Cesar Vallejo. https://hdl.handle.net/20.500.12692/130367

McCrimmon, A. W., Bernier, A. S., McLeod, J., Pagaling, R., Montgomery, J. N., Kingston, S., & Nordstokke, D. (2023). Factor Structure of the Bar-On Emotional Quotient Inventory in Youth on the Autism Spectrum. Journal of Psychoeducational Assessment, 41(6), 657-670. https://journals.sagepub.com/doi/abs/10.1177/07342829231177109

## Authors and translators' details:


| | | |
|---|---|---|
| Eduar Antonio Rodríguez Flores | eduar.rodriguez@autonoma.pe | Author |
| Marianella Alicia Suárez Pizzarello | marianella.suarez@autonoma.pe | Author |
| Eulices Córdoba Zúñiga | docente.ecordoba@unac.edu.co | Author |
| Jenny Maritza Forero Peña | jennym.forerop@unac.edu.co | Author |
| Paola Jineth Cuervo Jiménez | paolaj.cuervoj@unac.edu.co | Author |
| José Alexander Velásquez Ochoa | jose.velasquez46@tdea.edu.co | Author |