

# The correlation between attachment style and sports choice

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## ABSTRACT

**Introduction:** Attachment theory, a psychological framework by J. Bowlby, explains the bond between infants and their caregivers, emphasizing the importance of a secure base for exploration. It has significant implications in psychology, education, and parenting, explaining how early experiences shape personality and behavior. In sports, attachment theory is underutilized, with most research focusing on the relationship between coaches and athletes. Secure attachments with coaches lead to positive performance, motivation, and overall well-being, with individual and team sports athletes scoring higher on autonomy and conscientiousness.

**Aim:** The aim of the study was to explore whether there may be a correlation between the type of attachment and the sport choice.

**Material & Methods:** It was an observational, cross-sectional study. For the study, the Greek adaptation of Inventory of Parent and Peer Attachment for Children was used to assess the attachment to parents and peers. One hundred twenty questionnaires were distributed to swimmers and water-polo athletes in Attica, Greece, competitively.

**Results:** In the study participated 29 females and 38 males, where no statistically significant correlation was found between the choice of sport and attachment type. The participant's gender had an impact on the sport they chose.

**Conclusion:** The results of the study didn't confirm the initial hypothesis, and this is most likely relating to the research's limitations. Thus, the survey should be administered again with several adjustments to the structure. This study provides a well starting point for further analysis.

**Key words:** attachment theory, type of attachment, sport choice, insecure individuals, secure individuals, parental attachment, IPPA-25

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## INTRODUCTION

**A**ttachment theory, a foundational psychological framework, was pioneered by John Bowlby, whose insights were significantly shaped by the works of renowned researchers such as Konrad Lorenz and Harry Harlow (Van der Horst, LeRoy & Van Der Veer, 2008). This theory seeks to elucidate the profound bond that develops between infants and their primary caregivers, particularly mothers, and how this bond influences an individual's capacity to form and sustain relationships throughout their life. Bowlby posited that caregivers are not merely providers of basic needs; they also serve as a crucial source of emotional security for the child.

Mary Ainsworth, a key figure in expanding Bowlby's foundational ideas, developed the «Strange Situation» assessment (Ainsworth, Blehar, Waters, & Wall, 1978), which allowed for empirical testing of attachment styles and classifications. This collaborative work between Bowlby and Ainsworth has been articulated by Bretherton (1992), emphasizing the importance of their joint contributions to attachment theory.

At the core of attachment theory is the concept of the attachment figure acting as a secure base from which infants can explore their environment. This secure base instills a sense of safety, enabling the infant to navigate the world with confidence. In contrast, an inconsistent or neglectful caregiver can instigate a sense of insecurity in the child, leading to the development of maladaptive beliefs about love and relationships (Pietromonaco & Barrett, 2000). The early experiences with attachment figures foster internalized mental representations known as Internal Working Models (IWBs), which serve as cognitive and emotional frameworks shaped by these attachment experiences (Maier et al., 2004). Understanding IWBs is crucial for deciphering attitudes, behaviors, and coping strategies (Saunders, 2015; Collins, 2006; Felton & Jowett, 2017). Notably, IWBs are dynamic and often unconscious, proving resistant to change over time under certain circumstances (Bretherton, 1990).

The implications of attachment theory extend across various fields, including psychology (Burke, Danquah &

Berry, 2016), education (Harlow, 2021), and parenting (Brisch, 2007). It provides a psychological framework for understanding how early experiences shape personality and behavior (Collins, 1996). For educators, recognizing attachment patterns can inform strategies to foster environments where students can thrive academically and socially (Geddes, 2003). Furthermore, attachment theory underscores the necessity of responsive caregiving in parenting, promoting secure bonds between parents and children (Brisch, 2016).

Despite its relevance, attachment theory remains underexplored in the realm of sports psychology, where most studies concentrate on the dynamics between coaches and athletes. Research by Davis & Jowett (2010) indicates that secure attachments with coaches are positively correlated with enhanced performance, motivation, and overall well-being, as athletes who feel supported and trusted tend to flourish in their sports endeavors.

Additionally, studies suggest that athletes engaged in individual sports tend to score higher in autonomy and conscientiousness, while those involved in team sports exhibit heightened levels of sociotropy and agreeableness. The motivations for athletes also diverge; individual sports are often driven by a need for achievement, while team sports prioritize affiliation and cooperation. The discipline required in individual sports often necessitates an environment free from unpredictability (Nia & Besharat, 2010). Castellano (2020) further notes that individuals with secure attachment styles are more likely to gravitate toward team sports, reporting feelings of being cared for, understood, and valued in comparison to those participating in individual sports.

This study hypothesizes that adolescents with secure attachment styles are more inclined to choose both team and individual sports, while those with insecure attachments may prefer individual sports to mitigate unpredictable interferences. The primary objective of this research is to investigate the potential relationship between attachment styles and the type of sport chosen by adolescents—specifically, whether they gravitate toward

individual or team sports.

## **MATERIALS AND METHODS**

This research utilized an observational, cross-sectional study design. A total of 120 questionnaires were distributed, of which 80 were returned. However, 13 of these were excluded due to a lack of parental signatures, resulting in a final sample of 67 completed questionnaires for analysis. Prior to administering the questionnaires, initial contact was established with the secretaries of various sports clubs, and after receiving positive responses, the questionnaires were distributed. Participants included competitive swimmers and water polo athletes, chosen for their shared aquatic environment, which facilitated comparative analysis. Other aquatic disciplines, such as synchronized swimming, diving, and technical swimming, were excluded due to the unavailability of those sports in the pools where the data collection occurred. The survey was conducted during June and July 2023 in the northern region of Attica, Greece.

To assess attachment to parents, the Inventory of Parent and Peer Attachment for Children (IPPA-25) (Armsden & Greenberg, 1987) was employed. Each questionnaire comprised six pages, with the first page addressing demographic information about the respondents' parents and their consent for their child's participation. The second page included questions about the child/athlete, followed by the IPPA-25 questions.

The selection of the IPPA-25 for this study was guided by several factors: it is concise, user-friendly, and quick to complete; it has been specifically adapted for late childhood and pre-adolescence; it allows for the assessment of attachment to both parents and peers; and it captures children's perceptions of secure attachment relationships.

Data analysis was conducted using SPSS (IBM Corp. Released 2019, IBM SPSS Statistics for Windows, v.25.0, Armonk, NY: IBM Corp.). Frequency distributions were generated for parental and adolescent characteristics. The symmetry of IPPA-25 scores was assessed using Blom's method (QQ plot) and skewness coefficients. The non-parametric Friedman method was utilized for

overall comparisons of IPPA-25 scores among mothers, fathers, and peers. To explore the relationship between IPPA-25 scores and parental/adolescent characteristics, Spearman's rank correlation coefficients were calculated.

Additionally, Student's t-test and  $\chi^2$  tests were employed to examine the relationship between sport type (individual/team) and parental/adolescent characteristics. The Mann-Whitney method was used to compare IPPA-25 scores based on sport type and adolescent gender. Finally, a multiple hierarchical logistic regression analysis was conducted to investigate the association between sport type (team vs. individual) and parental/adolescent characteristics, as well as overall IPPA score levels, categorized based on median values. Odds ratios (OR) and 95% confidence intervals (95% CI) were reported, with a significant level set at 0.05.

It is essential to note that the IPPA-25 is a self-report measure that does not differentiate between secure and insecure attachment types as defined by Ainsworth, but instead categorizes responses into three groups: alienation (reflecting insecure types A and C), trust, and communication (indicating secure attachment) (AHO & MU, 2013). High scores in the Trust & Communication category correspond to stronger attachment security and lower levels of alienation. The reliability of the scale was evaluated using Cronbach's alpha coefficient, yielding values of  $\alpha=0.68$  for the mothers' version,  $\alpha=0.72$  for the fathers' version, and  $\alpha=0.69$  for peers.

All participants were informed about the voluntary nature of their involvement and their right to withdraw from the study at any time. Parental consent was obtained for all participants prior to questionnaire completion. Participants were assured that the collected data would be utilized for scientific purposes.

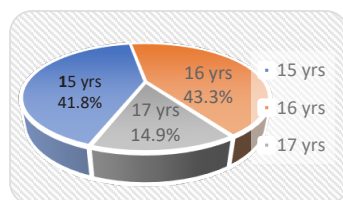
## **RESULTS**

The participant's parents' characteristics are listed in Table 1, whereas the age distribution, academic achievement, and sports participation are represented in figures 1, 2, and 3.

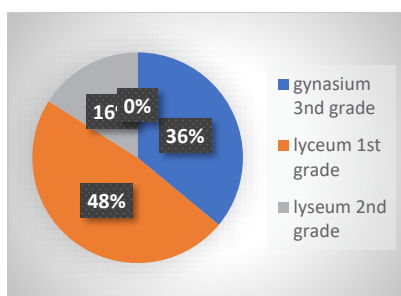
**Table 1.** Basic characteristics of the 67 adolescents' parents who participated in current study

| <b>Age, years</b>    | <i>mean±stand.dev.</i>           | 50.9±4.8  | 46.3±3.7  |
|----------------------|----------------------------------|-----------|-----------|
| <b>Education</b>     | <i>Primary school diploma</i>    | 1 (1.5)   | -         |
|                      | <i>Middle school diploma</i>     | -         | 1 (1.5)   |
|                      | <i>Upper secondary education</i> | 21 (31.3) | 15 (22.4) |
|                      | <i>Degree</i>                    | 32 (47.8) | 33 (49.3) |
|                      | <i>Master</i>                    | 9 (13.4)  | 8 (11.9)  |
|                      | <i>Others</i>                    | 4 (6.0)   | 10 (14.9) |
| <b>Occupation</b>    | <i>Worker</i>                    | 5 (7.5)   | -         |
|                      | <i>Employee</i>                  | 28 (41.7) | 27 (40.3) |
|                      | <i>Director</i>                  | 6 (9.0)   | 5 (7.5)   |
|                      | <i>Self employed</i>             | 27 (40.3) | 16 (23.9) |
|                      | <i>Unemployed</i>                | -         | 11 (16.4) |
|                      | <i>Other</i>                     | 1 (1.5)   | 8 (11.9)  |
| <b>Family income</b> | <b>annual</b>                    |           |           |
|                      | <i>up to 28,000</i>              | 13 (19.4) |           |
|                      | <i>28,001-55,000</i>             | 18 (26.9) |           |
|                      | <i>55,001-75,000</i>             | 14 (20.9) |           |
|                      | <i>&gt;75,000</i>                | 22 (32.8) |           |
| <b>Parity</b>        | <i>one child</i>                 | 32 (47.8) |           |
|                      | <i>two children</i>              | 30 (44.7) |           |
|                      | <i>three or more</i>             | 5 (7.5)   |           |

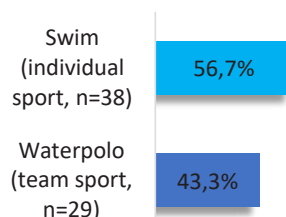
**Figure 1.** Age distribution of the 67 adolescents of current study



**Figure 2.** School level distribution of the 67 adolescents of current study



**Figure 3.** Individual and team sports were participating the 67 adolescents of current study.



Proceeding on to the outcomes of the analysis in Table 2 they analyzed all the responses of the 67 adolescents regarding their mothers, by following Table 3 regarding their fathers and finally in the fourth table regarding their peers.

**Table 2.** Responses of the 67 adolescents' MOTHERS in Inventory of Parent and Peer Attachment scale (IPPA-25), who participated in current study.

|                                                      | Almost<br>never | Not<br>very often | Sometimes<br>true | Often<br>true | Almost<br>always true |
|------------------------------------------------------|-----------------|-------------------|-------------------|---------------|-----------------------|
|                                                      | %               |                   |                   |               |                       |
| 1. My mother respects my feeling. (T)                | 0,0             | 6,0               | 25,4              | 49,3          | 19,4                  |
| 2. I feel my mother does a good job as a mother. (T) | 0,0             | 0,0               | 7,5               | 65,7          | 26,9                  |
| 3. I wish I had a different mother. (T)              | 0,0             | 19,4              | 11,9              | 40,3          | 28,4                  |
| 4. My mother accepts me as I am. (T)                 | 0,0             | 4,5               | 16,4              | 53,7          | 25,4                  |

|                                                                                  |      |      |      |      |           |
|----------------------------------------------------------------------------------|------|------|------|------|-----------|
| 5. I like to get my mother's point of view on things I'm concerned about. (C)    | 1,5  | 16,4 | 26,9 | 41,8 | 13,4      |
| 6. I feel it's no use letting my feelings show around my mother. (C)             | 3,0  | 9,0  | 41,8 | 25,4 | 20,9<br>8 |
| 7. My mother can tell when I'm upset about something. (C)                        | 1,5  | 17,9 | 13,4 | 58,2 | 9,0       |
| 8. Talking over my problems with my mother makes me feel ashamed or foolish. (A) | 13,4 | 56,7 | 10,4 | 13,4 | 6,0       |
| 9. My mother expects too much from me. (T)                                       | 22,4 | 29,9 | 35,8 | 11,9 | 0,0       |
| 10. I get upset easily around my mother. (A)                                     | 3,0  | 43,3 | 25,4 | 25,4 | 3,0       |
| 11. I get upset a lot more than my mother knows about. (A)                       | 4,5  | 29,9 | 47,8 | 13,4 | 4,5       |
| 12. When we discuss things, my mother cares about my point of view. (T)          | 0,0  | 14,9 | 31,3 | 41,8 | 11,9      |
| 13. My mother trusts my judgment (T)                                             | 0,0  | 35,8 | 32,8 | 26,9 | 4,5       |
| 14. My mother has her own problems, so I don't bother her with mine. (C)         | 4,5  | 32,8 | 23,9 | 31,3 | 7,5       |
| 15. My mother helps me to understand myself better. (C)                          | 1,5  | 40,3 | 23,9 | 32,8 | 1,5       |
| 16. I tell my mother about my problems and troubles. (C)                         | 1,5  | 23,9 | 43,3 | 26,9 | 4,5       |

|                                                                               |      |      |      |      |      |
|-------------------------------------------------------------------------------|------|------|------|------|------|
| 17. I feel angry with my mother. (A)                                          | 16,4 | 14,9 | 53,7 | 9,0  | 6,0  |
| 18. I don't get much attention from my mother. (A)                            | 22,4 | 28,4 | 31,3 | 16,4 | 1,5  |
| 19. My mother helps me to talk about my difficulties. (C)                     | 0,0  | 23,9 | 29,9 | 34,3 | 11,9 |
| 20. My mother understands me. (T)                                             | 1,5  | 6,0  | 40,3 | 41,8 | 10,4 |
| 21. When I am angry about something, my mother tries to be understanding. (T) | 0,0  | 4,5  | 26,9 | 50,7 | 17,9 |
| 22. I trust my mother. (T)                                                    | 0,0  | 6,0  | 35,8 | 29,9 | 28,4 |
| 23. My mother doesn't understand what I'm going through these days. (A)       | 3,0  | 16,4 | 43,3 | 31,3 | 6,0  |
| 24. I can count on my mother when I need to get something off my chest. (C)   | 0,0  | 3,0  | 38,8 | 41,8 | 16,4 |
| 25. If my mother knows something is bothering me, she asks me about it. (C)   | 1,5  | 7,5  | 46,3 | 32,8 | 11,9 |

T, trust; C, communication; A, Alienation.

**Table 3.** Responses of the 67 adolescents' FATHERS in Inventory of Parent and Peer Attachment scale (IPPA-25), who participated in current study.

|                                                      | Almost<br>never | Not<br>very often | Sometimes<br>true | Often<br>true | Almost<br>always true |
|------------------------------------------------------|-----------------|-------------------|-------------------|---------------|-----------------------|
|                                                      | %               |                   |                   |               |                       |
| 1. My father respects my feeling. (T)                | 1,5             | 6,0               | 44,8              | 28,4          | 19,4                  |
| 2. I feel my father does a good job as a father. (T) | 3,0             | 3,0               | 23,9              | 43,3          | 26,9                  |



## ΕΠΕΥΝΗΤΙΚΟ ΑΡΘΡΟ

|                                                                                  |      |      |      |      |      |
|----------------------------------------------------------------------------------|------|------|------|------|------|
| 3. I wish I had a different father. (T)                                          | 3,0  | 11,9 | 7,5  | 32,8 | 44,8 |
| 4. My father accepts me as I am. (T)                                             | 1,5  | 4,5  | 23,9 | 35,8 | 34,3 |
| 5. I like to get my father's point of view on things I'm concerned about. (C)    | 6,0  | 7,5  | 35,8 | 34,3 | 16,4 |
| 6. I feel it's no use letting my feelings show around my father. (C)             | 4,5  | 11,9 | 44,8 | 17,9 | 20,9 |
| 7. My father can tell when I'm upset about something. (C)                        | 4,5  | 22,4 | 25,4 | 26,9 | 20,9 |
| 8. Talking over my problems with my father makes me feel ashamed or foolish. (A) | 28,4 | 29,9 | 20,9 | 11,9 | 9,0  |
| 9. My father expects too much from me. (T)                                       | 25,4 | 11,9 | 32,8 | 25,4 | 4,5  |
| 10. I get upset easily around my father. (A)                                     | 9,0  | 49,3 | 25,4 | 16,4 | 0,0  |
| 11. I get upset a lot more than my father knows about. (A)                       | 4,5  | 26,9 | 35,8 | 23,9 | 9,0  |
| 12. When we discuss things, my father cares about my point of view. (T)          | 1,5  | 10,4 | 31,3 | 35,8 | 20,9 |
| 13. My father trusts my judgment (T)                                             | 3,0  | 13,4 | 35,8 | 29,9 | 17,9 |

14. My father has his own problems, so I don't bother him with mine. (C)

|     |      |      |      |      |
|-----|------|------|------|------|
| 6,0 | 23,9 | 25,4 | 17,9 | 26,9 |
|-----|------|------|------|------|

15. My father helps me to understand myself better. (C)

|     |      |      |      |     |
|-----|------|------|------|-----|
| 9,0 | 38,8 | 14,9 | 29,9 | 7,5 |
|-----|------|------|------|-----|

16. I tell my father about my problems and troubles. (C)

|      |      |      |      |     |
|------|------|------|------|-----|
| 11,9 | 40,3 | 16,4 | 23,9 | 7,5 |
|------|------|------|------|-----|

17. I feel angry with my father. (A)

|      |      |      |     |     |
|------|------|------|-----|-----|
| 17,9 | 40,3 | 31,3 | 6,0 | 4,5 |
|------|------|------|-----|-----|

18. I don't get much attention from my father. (A)

|      |      |      |      |     |
|------|------|------|------|-----|
| 17,9 | 32,8 | 26,9 | 16,4 | 6,0 |
|------|------|------|------|-----|

19. My father helps me to talk about my difficulties. (C)

|     |      |      |      |      |
|-----|------|------|------|------|
| 1,5 | 41,8 | 17,9 | 17,9 | 20,9 |
|-----|------|------|------|------|

20. My father understands me. (T)

|     |      |      |      |      |
|-----|------|------|------|------|
| 3,0 | 17,9 | 37,3 | 17,9 | 23,9 |
|-----|------|------|------|------|

21. When I am angry about something, my father tries to be understanding. (T)

|     |     |      |      |      |
|-----|-----|------|------|------|
| 1,5 | 9,0 | 34,3 | 34,3 | 20,9 |
|-----|-----|------|------|------|

22. I trust my father. (T)

|     |     |      |      |      |
|-----|-----|------|------|------|
| 1,5 | 3,0 | 31,3 | 35,8 | 28,4 |
|-----|-----|------|------|------|

23. My father doesn't understand what I'm going through these days. (A)

|     |     |      |      |      |
|-----|-----|------|------|------|
| 3,0 | 9,0 | 41,8 | 35,8 | 10,4 |
|-----|-----|------|------|------|

24. I can count on my father when I need to get something off my chest. (C)

|     |      |      |      |      |
|-----|------|------|------|------|
| 0,0 | 13,4 | 43,3 | 17,9 | 25,4 |
|-----|------|------|------|------|

**Table 4.** Responses of the 67 adolescents (Peers) in Inventory of Parent and Peer Attachment scale (IPPA), who participated in current study.

|                                                                                       | Almost<br>never | Not<br>very often | Sometim<br>es true | Often<br>true | Almost<br>always true |
|---------------------------------------------------------------------------------------|-----------------|-------------------|--------------------|---------------|-----------------------|
|                                                                                       | %               |                   |                    |               |                       |
| <i>1. I like to get my friends' point of view on things I'm concerned about. (T)</i>  | 4,5             | 13,4              | 35,8               | 22,4          | 23,9                  |
| <i>2. My friends can tell when I'm upset about something. (T)</i>                     | 4,5             | 0,0               | 47,8               | 31,3          | 16,4                  |
| <i>3. When we discuss things, my friends care about my point of view. (T)</i>         | 7,5             | 7,5               | 10,4               | 29,9          | 44,8                  |
| <i>4. Talking over my problems with friends makes me feel ashamed or foolish. (T)</i> | 38,8            | 40,3              | 6,0                | 6,0           | 9,0                   |
| <i>5. I wish I had different friends. (C)</i>                                         | 3,0             | 6,0               | 32,8               | 25,4          | 32,8                  |
| <i>6. My friends understand me. (C)</i>                                               | 3,0             | 3,0               | 25,4               | 49,3          | 19,4                  |
| <i>7. My friends encourage me to talk about my difficulties. (C)</i>                  | 1,5             | 6,0               | 61,2               | 20,9          | 10,4                  |
| <i>8. My friends accept me as I am. (A)</i>                                           | 0,0             | 13,4              | 20,9               | 31,3          | 34,3                  |
| <i>9. I feel the need to be in touch with my friends more often. (T)</i>              | 4,5             | 29,9              | 22,4               | 35,8          | 7,5                   |
| <i>10. My friends don't understand what I'm going through these days. (A)</i>         | 10,4            | 58,2              | 22,4               | 4,5           | 4,5                   |
| <i>11. I feel alone or apart when I am with my friends. (A)</i>                       | 50,7            | 23,9              | 6,0                | 7,5           | 11,9                  |
| <i>12. My friends listen to what I have to say. (T)</i>                               | 4,5             | 9,0               | 23,9               | 16,4          | 46,3                  |
| <i>13. I feel my friends are good friends. (T)</i>                                    | 0,0             | 1,5               | 10,4               | 40,3          | 47,8                  |

|                                                                              |     |      |      |      |      |
|------------------------------------------------------------------------------|-----|------|------|------|------|
| 14. My friends are fairly easy to talk to. (C)                               | 0,0 | 7,5  | 19,4 | 29,9 | 43,3 |
| 15. When I am angry about something, my friends try to be understanding. (C) | 0,0 | 7,5  | 22,4 | 47,8 | 22,4 |
| 16. My friends help me understand myself better. (C)                         | 4,5 | 49,3 | 20,9 | 17,9 | 7,5  |
| 17. My friends care about how I am feeling. (A)                              | 1,5 | 20,9 | 14,9 | 52,2 | 10,4 |
| 18. I feel angry with my friends. (A)                                        | 4,5 | 41,8 | 25,4 | 25,4 | 3,0  |
| 19. I can count on my friends when I need to get something off my chest. (C) | 1,5 | 9,0  | 25,4 | 55,2 | 9,0  |
| 20. I trust my friends. (T)                                                  | 0,0 | 4,5  | 13,4 | 65,7 | 16,4 |
| 21. My friends respect my feelings. (T)                                      | 0,0 | 9,0  | 13,4 | 44,8 | 32,8 |
| 22. I get upset a lot more than my friends know about. (T)                   | 0,0 | 40,3 | 26,9 | 26,9 | 6,0  |

On an overall dimension, the trust level in mothers is estimated to be significantly lower than at the peers (36,2 vs 39,2,  $p$ -value=0,002). Furthermore, higher levels of alienation (lower prices) were estimated in fathers (13,9 vs 17,9,  $p$ -value=0,001). Regarding communication there was no significant correlation (Table 5).

**Table 5.** Score levels of Inventory of Parent and Peer Attachment scale (IPPA-25)

| Domains              |                | Mean  | SD  | Median | Min. | Max. | Skewness |
|----------------------|----------------|-------|-----|--------|------|------|----------|
| <b>Trust</b>         | Mother         | 35.8  | 4.4 | 37.0   | 25.0 | 45.0 | -0.47    |
|                      | Father         | 36.2  | 5.6 | 37.0   | 23.0 | 46.0 | -0.23    |
|                      | Peer           | 39.2  | 5.2 | 38.0   | 30.0 | 48.0 | 0.10     |
|                      | <i>p-value</i> | 0.002 |     |        |      |      |          |
| <b>Communication</b> | Mother         | 30.2  | 5.1 | 30.0   | 21.0 | 42.0 | 0.07     |
|                      | Father         | 29.2  | 7.2 | 27.0   | 16.0 | 44.0 | 0.52     |
|                      | Peer           | 28.0  | 2.9 | 28.0   | 19.0 | 32.0 | -0.88    |
|                      | <i>p-value</i> | 0.135 |     |        |      |      |          |

|                            |        |                       |          |      |      |           |       |
|----------------------------|--------|-----------------------|----------|------|------|-----------|-------|
| <b>Overall<br/>I score</b> | Mother | 85.5                  | 11.<br>2 | 88.0 | 60.0 | 111.<br>0 | -0.25 |
|                            | Father | 81.6                  | 14.<br>4 | 77.0 | 52.0 | 114.<br>0 | 0.38  |
|                            | Peer   | 91.3                  | 10.<br>0 | 92.0 | 70.0 | 108.<br>0 | -0.47 |
|                            |        | <i>p-value</i> <0.001 |          |      |      |           |       |

For Trust, Communication & Overall, high scores correspond to a high level of attachment security or to a low level of alienation, Friedman tests.

Table 6 shows that overall, there is a strong relationship between adolescent features and the subscales, e.g., older adolescence is significantly correlated with lower levels of maternal trust ( $\rho=-0.272$ ,  $p<0.05$ ) or lower levels of communication with the mother ( $\rho=-0.264$ ,  $p<0.05$ ).

**Table 6.** Correlations of score levels of Inventory of Parent and Peer Attachment scale (IPPA) with parents' and adolescents' characteristics in total sample

|               | Age    |         |        | Education |        | Income  | Parity | Adolescents                    |         |
|---------------|--------|---------|--------|-----------|--------|---------|--------|--------------------------------|---------|
|               | Mother | Father  | Mother | Father    | Age    |         |        | Gender<br>(1:boys,<br>2:girls) |         |
|               |        |         |        |           |        |         |        |                                |         |
| rho-Spearman  |        |         |        |           |        |         |        |                                |         |
| Trust         | Mother | 0.128   | -0.149 | 0.024     | -0.074 | 0.194   | 0.057  | -0.272*                        | -0.082  |
|               | Father | -0.069  | -0.160 | 0.007     | -0.058 | 0.093   | 0.196  | -0.079                         | -0.324* |
|               | Peer   | 0.165   | 0.062  | 0.115     | -0.013 | 0.088   | 0.093  | 0.043                          | -0.273* |
| Communication | Mother | 0.110   | -0.041 | 0.107     | 0.121  | 0.178   | -0.001 | -0.264*                        | -0.167  |
|               | Father | -0.280* | -0.229 | 0.176     | 0.015  | 0.039   | 0.159  | -0.025                         | -0.205  |
|               | Peer   | -0.287* | -0.192 | 0.097     | -0.138 | -0.196  | 0.264* | 0.288*                         | 0.132   |
| Alienation    | Mother | 0.098   | 0.276* | 0.031     | 0.148  | -0.084  | 0.009  | 0.441*                         | 0.194   |
|               | Father | -0.019  | 0.040  | -0.146    | -0.057 | -0.104  | -0.037 | 0.003                          | 0.076   |
|               | Peer   | -0.267* | -0.134 | -0.163    | -0.147 | -0.309* | 0.057  | 0.203                          | 0.246*  |
| Overall       | Mother | 0.045   | -0.168 | 0.089     | 0.032  | 0.157   | 0.000  | -0.371*                        | -0.153  |
|               | Father | -0.154  | -0.206 | 0.079     | -0.043 | 0.070   | 0.192  | -0.038                         | -0.285* |
|               | Peer   | 0.142   | 0.050  | 0.111     | -0.027 | 0.137   | 0.081  | 0.021                          | -0.253* |

For Trust, Communication & Overall, high score corresponds to a high level of attachment security or to a low level of alienation.

\*  $p\text{-value}<0.05$

Given that there are much more males participating in team sports than in individual ones (89.7% vs. 34.2%,  $p<0.001$ ), it is clear from Table 7 that the choice of sport is only related (differs in frequency) in terms of the gender of the teens themselves.

**Table 7.** Individual and team sports were participating in the 67 adolescents of current study in relation to their parents and own characteristics

|                           |                           | Selected Sports      |                     | p-value |
|---------------------------|---------------------------|----------------------|---------------------|---------|
|                           |                           | Individual<br>(swim) | Team<br>(waterpolo) |         |
|                           |                           | Mean±Stand. Dev.     |                     |         |
| <b>Age, years</b>         | Father                    | 50.4±4.4             | 51.5±5.3            | 0.348   |
|                           | Mother                    | 45.7±3.8             | 47.0±3.5            | 0.169   |
| <b>Mothers' education</b> | Primary school            | -                    | 3.4%                | 0.079   |
|                           | Upper secondary education | 34.2%                | 27.6%               |         |
|                           | Degree                    | 55.3%                | 37.9%               |         |
|                           | Master                    | 10.5%                | 17.2%               |         |
|                           | Others                    | -                    | 13.8%               |         |
|                           |                           |                      |                     |         |
| <b>Fathers' education</b> | Middle school             | 2.6%                 | -                   | 0.598   |
|                           | Upper secondary education | 26.3%                | 17.2%               |         |
|                           | Degree                    | 50.0%                | 48.4%               |         |
|                           | Master                    | 7.9%                 | 17.2%               |         |
|                           | Others                    | 13.2%                | 17.2%               |         |
|                           |                           |                      |                     |         |
| <b>Family</b>             | up to 28,000              | 26.3%                | 10.3%               |         |
| <b>annual income</b>      | 28,001-55,000             | 28.9%                | 24.1%               | 0.296   |
|                           | 55,001-75,000             | 18.5%                | 24.1%               |         |
|                           | >75,000                   | 26.3%                | 41.5%               |         |
| <b>Parity</b>             | one child                 | 55.3%                | 37.9%               | 0.340   |
|                           | two children              | 39.5%                | 51.7%               |         |
|                           | three or more             | 5.2%                 | 10.4%               |         |

|                                         |              |       |       |        |
|-----------------------------------------|--------------|-------|-------|--------|
| <b>Gender</b><br><i>adolescents</i>     | <i>boys</i>  | 34.2% | 89.7% | <0.001 |
|                                         | <i>girls</i> | 65.8% | 10.3% |        |
| <b>Age, years</b><br><i>adolescents</i> | <i>15</i>    | 36.8% | 48.3% | 0.528  |
|                                         | <i>16</i>    | 44.8% | 41.4% |        |
|                                         | <i>17</i>    | 18.4% | 10.3% |        |

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Student t &  $\chi^2$  tests.

The association between various factors, including characteristics and IPPA scores, and the decision to engage in team sports versus individual sports is analyzed through multiple hierarchical logistic regression, as presented in Table 8. Findings indicate that boys exhibit significantly higher odds of selecting team sports (OR=1.41,  $p=0.033$ ) for each year their mother's age increases, while girls display significantly lower odds (OR=0.02,  $p<0.001$ ). In the second model, which includes IPPA scores, the odds of choosing team sports increase by 1.47 (OR=1.47,  $p=0.029$ ) for each additional year of maternal age, whereas girls again show significantly reduced odds (OR=0.01,  $p<0.001$ ). Furthermore, the odds of selecting team sports increase by 2.62 for each category increase in the father's education (OR=2.62,  $p>0.05$ ), by 2.27 for each category increase in household income (OR=2.27,  $p>0.05$ ), and by 5.98 for higher levels of the father's IPPA score (high/medium), which also correspond to increased odds of selecting team sports (OR=5.98,  $p>0.05$ ).

**Table 8.** Multiple hierarchical logistic regression of sports (team versus individual) in relation to parents' and adolescents' characteristics and the overall score levels of Inventory of Parent and Peer Attachment scale (IPPA-25)

|                                                                      |        | Sport choice:<br>team (waterpolo) vs. individual (swim) |       |      |         |                       |       |       |         |
|----------------------------------------------------------------------|--------|---------------------------------------------------------|-------|------|---------|-----------------------|-------|-------|---------|
|                                                                      |        | 1 <sup>st</sup> model                                   |       |      |         | 2 <sup>nd</sup> model |       |       |         |
| Prognostic factors                                                   |        | Odds ratio                                              | 95%CI |      | p-value | Odds ratio            | 95%CI |       | p-value |
| Age<br>(increase per year)                                           | Father | 0.87                                                    | 0.72  | 1.06 | 0.170   | 0.91                  | 0.73  | 1.13  | 0.400   |
|                                                                      | Mother | 1.41                                                    | 1.03  | 1.95 | 0.033   | 1.47                  | 1.04  | 2.07  | 0.029   |
| Education<br>(increase per category)                                 | Father | 2.39                                                    | 0.92  | 6.17 | 0.072   | 2.62                  | 0.99  | 6.94  | 0.053   |
|                                                                      | Mother | 0.68                                                    | 0.29  | 1.57 | 0.366   | 0.59                  | 0.24  | 1.46  | 0.256   |
| Family annual income (increase per category)                         |        | 1.70                                                    | 0.83  | 3.46 | 0.147   | 2.27                  | 0.96  | 5.39  | 0.063   |
| Age of adolescents<br>(increase per year)                            |        | 0.53                                                    | 0.18  | 1.55 | 0.250   | 0.77                  | 0.24  | 2.50  | 0.667   |
| Gender of adolescents<br>(girls vs. boys)                            |        | 0.02                                                    | 0.00  | 0.13 | <0.001  | 0.01                  | 0.00  | 0.13  | <0.001  |
| Overall IPPA of mothers<br>(high/medium vs. low/medium) <sup>a</sup> |        | -                                                       |       |      |         | 1.01                  | 0.15  | 6.97  | 0.990   |
| Overall IPPA of fathers<br>(high/medium vs. low/medium)              |        | -                                                       |       |      |         | 5.98                  | 0.84  | 42.57 | 0.074   |
| Overall IPPA of Peers<br>(high/medium vs. low/medium)                |        | -                                                       |       |      |         | 0.35                  | 0.08  | 1.63  | 0.181   |
| R <sup>2</sup> (Nagelkerke)                                          |        | 0.557                                                   |       |      |         | 0.623                 |       |       |         |

95%CI, 95% confidence interval.

<sup>a</sup> Levels have been categorized based on the nonspecific median values.

## DISCUSSION

The results demonstrated no significant association between the IPPA-25 score and the type of sport participated in (personal or team). The selection of sports is solely dependent (differentiated by frequency) on the gender of the adolescents, men are more likely to participate in team sports than women, this is indicated by the greater number of boys in sports than girls. Additionally, it demonstrates that boys tend to participate in sports teams as a result of an increase in the mother's age, while girls have a lower probability. Additionally, the selected team sport had an increase of 2.62 ( $p < 0.05$ ) for every category of increase in the father's education and 2.27 ( $p < 0.05$ ) for income increase, these factors were emphasized. However the results indicate that the educational level and income have no bearing on the degree of trust, communication, and alienation between adolescents and their parents.

Additionally, fathers were thought to have a higher degree of distance (lower prices) than their counterparts (13,9 vs 17,9,  $p$ -value=0,001). A strong association between adolescent traits and subscales, with older adolescents having a significant association with lower levels of maternal trust and communication. Trust in parents and communication between them are primarily derived from the features of teenagers, with lower levels resulting from older adolescents.

Admittedly, the answers of the adolescents are brief. However, the majority of the 65,7% believe that their mothers have a competent job as a mother, a majority of the 49,3% believe that their fillings are accurate and the majority of the 53,7% believe that they are just as accepted as they are. It's notable that nobody has responded that their mother disregards their sentiment, nor has anyone wanted to have a different mother, even those who believe their mother is 53.7% angry with them and 47.8% upset with them more than their mothers are aware of.

In response to the father's inquiries, the responses were more mischievous. Even though most of the population believes that their fathers are performing effectively as a father, the majority of them (44.5%) stated that they would have preferred to have a different father. While 35.8% of respondents said they trusted their father, 35.8% said their fathers didn't understand what they were attempting today.

### Limitations

The primary restriction was the small sample size. The

limited number of participants is partially attributed to the duration of the study's period. Additionally, the variety of sports was also limited (only swimming and water polo), which were therefore intended for a specific group of adolescents. Additionally, the investigation was conducted in a specific region; remote areas, many villages and islands, do not participate in the survey.

## CONCLUSION

Despite the results not being what was expected, a re-run of the survey is necessary. Some alterations to the structure of the study, including a larger sample and a broader range of sports, is necessary. It would be of great interest to have non-athletes participate in the questionnaires, as Belsky suggests, individuals who have a high degree of insecurity and are inclined to distance themselves from the source of their pain and distress will participate in the process. Their positive mood doesn't result in increased problem resolution, as Belsky (2002) mentions, so if this is true, it will be of great interest to investigate if these can participate in stressful competitive sports.

Exploring the potential correlation between attachment styles and the choice of sports can offer significant benefits for athletes who struggle with insecurity. When the foundational attachment between an athlete and their parent is fraught with challenges or does not lead to success, it can have long-lasting effects on the athlete's development. However, this dynamic can shift positively with the introduction of a supportive figure, such as a coach or a sports psychologist. By employing specialized training techniques, these professionals can serve as a «secure base» for athletes, gradually and consistently altering their internal working models (IWBs) of relationships and self-worth. This study marks a crucial advancement in understanding the connection between sports preferences and the attachment dynamics between adolescents and their parents. It aims to inspire further exploration into this important topic. Establishing a secure attachment not only has the potential to enhance athletic performance but also contributes significantly to the overall well-being of the athlete. As such, fostering these supportive relationships within the sporting environment could lead to profound improvements, both on and off the field, underscoring the importance of psychological support in sports.

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