



Coach-athlete relationships and life skills development among Brazilian handball players: A prospective study

Relaciones entrenador-atleta y desarrollo de habilidades para la vida entre jugadores brasileños de balonmano: un estudio prospectivo

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Abstract

This study was to examine the prospective associations between coach-athlete relationship (CAR) and life skills development in youth handball players. This study employed a longitudinal research design. A total of 78 male handball players completed the Life Skills Scale for Sport and the Coach-Athlete Relationship Questionnaire over three waves of data collection: start of the season; midseason and end of the season. Data were analyzed using multivariate analysis of variance Pearson's Correlation and Linear Multiple Regression ($p < .05$). The findings indicated the three dimensions of CAR seem to have higher effect on life skills subscales as the season progressed (i.e., higher effect on life skills at T3 compared to T2 and T1). Commitment and Complementarity were positively associated with several life skills subscales at all three timepoints. Results suggest that the quality of the CAR is an important determinant for the development of life skills in youth handball players across the sports season.

Keywords: Interpersonal relations; Positive youth development; Youth sports; Life skills

Resumen

Este estudio tuvo como objetivo examinar las posibles asociaciones entre la relación entrenador-atleta (CAR) y el desarrollo de habilidades para la vida en jugadores juveniles de balonmano. Este estudio empleó un diseño de investigación longitudinal. Un total de 78 jugadores masculinos de balonmano completaron la Escala de Habilidades para la Vida Deportiva y la Escala de Entrenadores. Cuestionario sobre la relación con los atletas en tres oleadas de recopilación de datos: inicio de la temporada; mitad de temporada y final de temporada. Los datos se analizaron mediante análisis multivariado de varianza, correlación de Pearson y regresión lineal múltiple ($p < 0,05$). Los hallazgos indicaron que las tres dimensiones de CAR parecen tener un mayor efecto en las subescalas de habilidades para la vida a medida que avanzaba la temporada (es decir, un mayor efecto sobre las habilidades para la vida en T3 en comparación con T2 y T1). El compromiso y la complementariedad se asociaron positivamente con varias subescalas de habilidades para la vida en los tres momentos. Los resultados sugieren que la calidad del CAR es un determinante importante para el desarrollo de habilidades para la vida en jugadores juveniles de balonmano a lo largo de la temporada deportiva.

Palabras clave: Relaciones interpersonales; Desarrollo juvenil positivo; Deportes juveniles; Habilidades para la vida

INTRODUCTION

Participating in sports is crucial for the physical and mental health of young people, and it fosters positive youth development by enhancing life skills like teamwork, social abilities, leadership, and emotional intelligence (Johnston et al., 2013; Holt et al., 2017). Charlotte Williams et al. (2020) defined life skills as “functional skills that individuals develop in one context (such as the home, school, sport, community, workplace) and that are also used effectively in other contexts beyond that in which they were learnt”. These life skills are not only beneficial in sports, but also have a positive impact in various other aspects of life, including education, work, relationships, and the community. Ultimately, these skills contribute to improved academic performance, economic opportunities, well-being, and overall quality of life for young individuals (Bean et al., 2018; Cronin et al., 2022, 2019, 2020; Holt et al., 2017).

Life skills can be developed in sports through implicit or explicit processes. Implicit development occurs when there’s a positive structure involving parents, coaches, and participants in the sporting context (Bean et al., 2018; Holt et al., 2017; Turnnidge et al., 2014). Explicit development involves focused discussions and practice of life skills within sports. The development of life skills is influenced by factors like the sport’s demands, program design, coach qualities, teaching methods, social environment, and the practicality of these skills within the sport, as explained by various models (Bean et al., 2018; Holt et al., 2017; Gould & Carson, 2008; Pierce et al., 2017).

Coaches play a crucial role in the development of life skills in young athletes. Studies by Gareth Mossman et al. (2021) and Lorcan Cronin et al. (2018) highlight the positive impact of coach autonomy support on life skills development among youth sport participants. Additionally, Cronin et al. (2022) found that coach autonomy support was linked to the satisfaction of basic psychological needs, which, in turn, influenced the development of life skills. In summary, coach-related behaviors are a significant factor in fostering life skills in young athletes (Cronin & Allen, 2018; Cronin et al., 2022; Nascimento Junior et al., 2021).

The quality of the coach-athlete relationship, encompassing closeness, commitment, and complementarity, is a central element in effective coaching (Jowett, 2007). This relationship is mutually beneficial for both coach and athlete, promoting growth and success in sports and beyond (Gosai et al., 2021; Jowett, 2017, Jowett & Slade, 2021). Research spanning two decades has shown that a strong coach-athlete relationship is linked to factors such as satisfaction, motivation, team cohesion, and sports performance. In terms of life skills development, a study by Stewart Vella et al. (2013) found that a positive coach-athlete

relationship was associated with the development of personal and social skills, goal setting, and initiative in young Australian soccer players. However, more longitudinal research is needed to establish causal links between coach-athlete relationships and

The association between the coach-athlete relationship and youth sports participants' life skills development, as observed in Stewart Vella et al.'s study, can be explained by several factors. Research has highlighted the crucial role of positive adult-youth relationships in fostering positive youth development (e.g., National Research Council and Institute for Medicine, 2001; Roth & Brooks-Gunn, 2016). Furthermore, the coach-athlete relationship is considered a crucial medium for facilitating life skills development in youth sports, with fostering positive relationships being a key element in creating a conducive environment for this development. Coaches' relationship skills, such as care and active listening, can nurture positive connections and a sense of belonging, which naturally promote life skills development (Bean et al., 2018; Gould & Carson, 2008; Holt et al., 2017; Pierce et al., 2017). Coaches must view themselves as educators and cultivate quality relationships with athletes to set the stage for teaching life skills. Optimal coaching practices involve coaches nurturing strong coach-athlete relationships and providing opportunities for athletes to learn and refine life skills. Ultimately, the trust and confidence young athletes have in their leaders play a pivotal role in determining the life skills they acquire through sports, underscoring the significance of relationship quality in life skills development.

This study addresses the lack of longitudinal research on the coach-athlete relationship's impact on life skills development in sports (Vella et al., 2013), focusing on Brazilian handball. Handball is widely practiced in Brazil. Life skills cultivated through sports, such as independent thinking, problem-solving, goal setting, creativity, and communication, are vital for young athletes' future challenges. This study aims not only to demonstrate that a positive coach-athlete relationship predicts life skills development, but also to emphasize how coaches maintaining these connections can ensure ongoing skill development throughout the season. It contributes to the growing body of literature on life skills development, particularly in non-English speaking sport cultures.

The present study

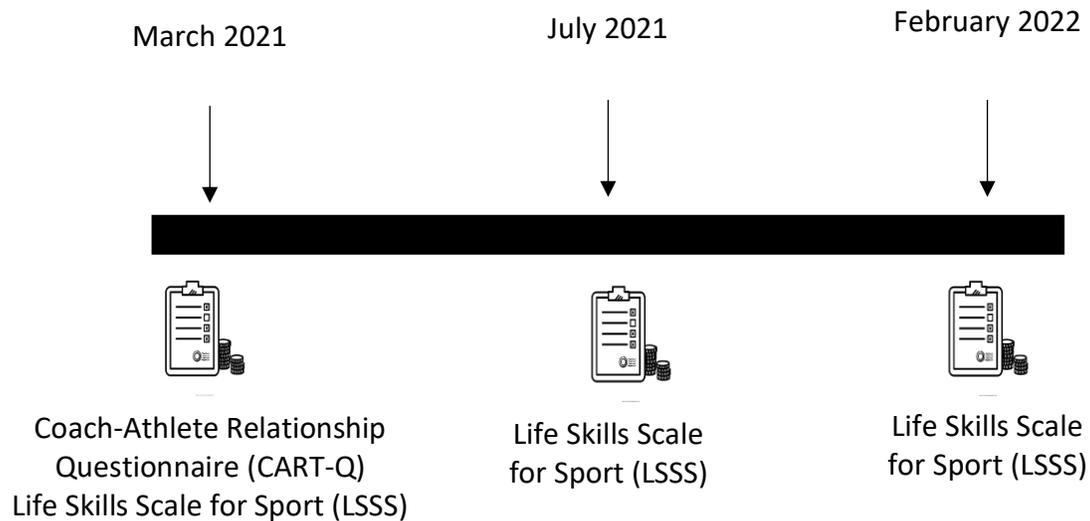
The overall aim of the present study was to investigate the impact that the CAR can have on life skills development in young male Brazilian handball players over a season. Based on the 3C's (Closeness, Commitment, Complementarity) model (Jowett, 2007) and previous longitudinal (Motz et al., 2021; Silva et

al., 2022) and cross-sectional studies (Davis et al., 2019; Felton et al., 2021; Freire et al., 2021), it was hypothesized that T1 CAR would be positively associated with life skills development at T1, T2 and T3 (H1). We also explored whether life skills development increased throughout the season and whether there were differences in mean scores for life skills between the three timepoints. Based on past studies (Lerner et al., 2017; Pierce et al., 2017), it was hypothesized that there would be significant differences between T1, T2 and T3 scores for life skill development (H2).

METHODS

Participants and Procedures

The study population consisted of handball players aged between 15 and 17 years old (M age = 16.17 years, SD = 2.32) from the state of Pernambuco, who competed in the Brazilian Championship 2020. This competition includes young athletes from all regions of the country. The participants included 78 males' handball players who had practiced handball for 3.18 years (SD = 2.51) and were selected via convenience sampling. The first data collection occurred at the beginning of the season in March (Time 1), while the second data collection was performed at midseason in July (Time 2), and the last data collection was at the end of the season in February (Time 3) (See Figure 1). Data were collected at the team training center on dates that were previously scheduled with the team's manager. The following inclusion criteria were adopted: 1) to have practiced handball for at least one year; and 2) to have been part of the team for at least three months. Before the data collection took place, ethical approval was granted by the lead author's university ethics committee. Prior to taking part in the study, participants, parents, and coaches were informed about the purpose of the study and what was required of participants taking part in the study. Only the participants who had the informed consent form signed by their parents and coaches (who were responsible for the adolescents at the tournament) took part in the study.

Figure 1. Study Design

Measures

Coach-Athlete Relationship. The Portuguese version (Vieira et al., 2015) of the coach-athlete relationship questionnaire (CART-Q; Jowett & Ntoumanis, 2004) was used to measure the coach-athlete relationship. The 11-item direct perspective CART-Q has four items assessing closeness (e.g., “I like my coach”), three items assessing commitment (e.g., “I am committed to my coach”), and four items assessing complementarity (e.g., “When I am coached by my coach, I am ready to do my best”). All CART-Q items were measured on a 7-point Likert scale ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). Past research has supported the factorial validity, test-retest reliability, and internal consistency reliability of this scale among youth sport participants (Contreira et al., 2019; Freire et al., 2021).

Life skills development. The Portuguese version (Nascimento Junior et al., 2019) of the Life Skills Scale for Sport (LSSS; Cronin & Allen, 2017) was used to measure participants’ life skills development in their sport. The validity and reliability of the LSSS has been supported with Portuguese speaking participants (Nascimento-Junior et al., 2019). The 43-item scale uses the stem “This sport has taught me to....” and is followed by items assessing: teamwork (7 items; “work with others for the good of the team/ group”), goal setting (7 items; “set specific goals.”), time management (4 items; “control how I use my time”), emotional skills (4 items; “understand that I behave differently when emotional”), interpersonal communication (4 items; “communicate well with others”), social skills (5 items; “maintain close friendships”), leadership (8

items; “know how to motivate others”), and problem solving and decision making (4 items; “evaluate a solution to a problem”). Participants respond to items on a scale ranging from 1 (*not at all*) to 5 (*very much*). Past research has supported the factorial validity, test-retest reliability, and internal consistency reliability of this scale with youth sport participants (e.g., Cronin et al., 2021; Cronin et al., 2022; Nascimento Junior et al., 2021).

Data Analysis

In order to compare the variables at the three timepoints of the season, Multivariate Analyses of Variance (MANOVAs) were used. The effect size (ES) for the MANOVAs was indicated by partial eta squared (η^2). The Rhea (2004) effect size criteria for η^2 was used to classify the effect sizes as: $\eta^2 < .25$ = trivial, $.25 \leq \eta^2 < .50$ = low, $.50 \leq \eta^2 < 1.0$ = moderate, and $\eta^2 \geq 1.0$ = large. Considering that the data presented a normal distribution, a descriptive presentation was adopted by means and standard deviation, with subsequent use of parametric tests. Pearson’s correlation was performed to verify the association between the coach-athlete relationship (closeness, commitment, and complementarity) and life skill development. Multiple regression analysis was used to determine if the three aspects of the CAR (closeness, commitment, and complementarity) combined influenced the eight life skills. For our multiple regression analysis, there were no sufficiently strong correlations between variables that indicated problems with multicollinearity (VIF range = 1.56-1.72). Specifically, these VIF values were below the 5 or 10 deemed acceptable by Hair et al. (2014). All statistical analysis was performed in SPSS 25.0 (Morgan et al., 2019) and adopted a statistical significance level of $p < .05$.

RESULTS

Correlation analysis

The correlational analysis showed that there were significant ($p < .05$) correlations between the CAR and handball player’s life skills development at the three timepoints of the season. Closeness was positively associated with teamwork ($r_{\text{range}} = .22$ to $.30$), goal seating ($r_{\text{range}} = .20$ to $.25$) and emotional skill ($r_{\text{range}} = .20$ to $.22$) during the three timepoints of season. Closeness was also positively associated with social skill ($r_{\text{range}} = .25$ to $.27$) and problem solving and decision making ($r_{\text{range}} = .20$ to $.22$) at timepoint 3. Commitment was positively associated with teamwork ($r_{\text{range}} = .21$ to $.27$), goal seating ($r_{\text{range}} = .21$ to $.23$), problem solving and decision making ($r_{\text{range}} = .20$ to $.24$), leadership ($r_{\text{range}} = .20$ to $.24$), time management ($r_{\text{range}} = .22$ to $.26$) and total life skills ($r_{\text{range}} = .24$ to $.26$) at the three timepoints. Complementarity was positively associated

with teamwork ($r_{\text{range}} = .25$ to $.30$), goal setting ($r_{\text{range}} = .22$ to $.25$), problem solving and decision making ($r_{\text{range}} = .21$ to $.22$), and total life skills ($r_{\text{range}} = .24$ to $.25$) at the three timepoints. Complementarity was also positively associated with emotional skill ($r = .22$) at two timepoints of the season. CAR total was positively associated with teamwork ($r_{\text{range}} = .31$ to $.41$), goal setting ($r_{\text{range}} = .28$ to $.35$), problem solving ($r_{\text{range}} = .24$ to $.31$), emotional skills ($r_{\text{range}} = .21$ to $.28$), and total life skills ($r_{\text{range}} = .24$ to $.40$) at the three timepoints. CAR total also was positively associated with social skills ($r_{\text{range}} = .28$ and $.31$), leadership ($r_{\text{range}} = .24$ and $.27$), time management ($r_{\text{range}} = .22$ and $.26$) at two timepoints of season. Finally, CAR total was positively associated with communication ($r = .24$) only at timepoint 3.

Table 1. Intercorrelations between CAR and life skills development at the three timepoints

Life Skills	Closeness	Commitment	Complementarity	CAR Total
Teamwork T1/T2/T3	.22*/.30*/.28*	.27*/.21*/.25*	.30*/.26*/.25*	.31**/.35**/.41***
Goal seating T1/T2/T3	.20*/.24*/.21*	.21*/.20*/.22*	.22*/.25*/.22*	.28*/.31***/.35***
Social skill T1/T2/T3	.15/.27*/.25*	.14/.18/.19	.06/.19/.19	.15/.28*/.31**
Problem solving ^a T1/T2/T3	.10/.20*/.22*	.21*/.23*/.23*	.21*/.21*/.22*	.24*/.28*/.31**
Emotional skill T1/T2/T3	.20*/.22*/.20*	.16/.18/.18	.18/.22*/.19	.21*/.24*/.28*
Leadership T1/T2/T3	.13/.18/.20*	.20*/.22*/.24*	.13/.17/.17	.19/.24*/.27*
Time management T1/T2/T3	.04/.18/.20*	.22*/.22*/.26*	.10/.15/.16	.18/.22*/.26*
Communication ^b T1/T2/T3	.10/.19/.18	.15/.18/.19	.12/.18/.19	.15/.19/.24*
Total life skills T1/T2/T3	.16/.17/.18	.24*/.25*/.26*	.24*/.24*/.25*	.24*/.31*/.40**

Note. ^aproblem solving and decision making; ^binterpersonal communication. * $p < .05$, ** $p < .01$.

Standard multiple regression

From Table 2, we can see that standard multiple regression analyses revealed that our models which included all dimension of CAR (closeness, commitment, and complementarity) measured at T1 explained a significant amount of the variance in the participant's development of four of the life skills measured at T1: teamwork ($\beta = .21$, $p < .05$), goal seating ($\beta = .21$, $p < .05$), problem solving and decision making ($\beta = .20$, $p < .01$), emotional skill ($\beta = .21$, $p < .01$), and total life skills ($\beta = .24$, $p < .01$). There were no significant associations between the CAR at T1 and participants' development of social skills, leadership, time management and interpersonal communication skills at T1. For life skills development at T2, our model which included all dimensions of CAR (closeness, commitment, and complementarity) measured at T1 explained a significant

amount of the variance in 7/8 life skills measured at T2: teamwork ($\beta = .33, p < .01$), goal setting ($\beta = .21, p < .05$), social skill ($\beta = .25, p < .05$), problem solving and decision making ($\beta = .20, p < .05$), emotional skill ($\beta = .23, p < .05$), leadership ($\beta = .20, p < .05$), time management ($\beta = .19, p < .05$), and total life skills ($\beta = .26, p < .05$). There was no significant association between the CAR at T1 and participants development of interpersonal communication skills at T2. For life skills development at timepoint 3, our model which included all dimensions of CAR (closeness, commitment, and complementarity) explained a significant amount of the variance in participant's development of all eight life skills at T3: teamwork ($\beta = .28, p < .01$), goal setting ($\beta = .24, p < .01$), social skill ($\beta = .22, p < .05$), problem solving and decision making ($\beta = .23, p < .05$), emotional skill ($\beta = .18, p < .05$), leadership ($\beta = .23, p < .05$), time management ($\beta = .23, p < .05$), communication skills ($\beta = .20, p < .05$), and total life skills ($\beta = .25, p < .05$).

Table 2. CAR as predictors of life skills development

Predictors	Teamwork	Goal setting	Social skills	Problem solving ^a	Emotional skills	Leadership	Time management	Commun ^b	Total life skills
	B (CI)	B (CI)	B (CI)	B (CI)	B (CI)	B (CI)	B (CI)	B (CI)	B (CI)
Time 1									
CAR	.21 (.01, .30)*	.21 (.02, .24)*	.04 (-.15, .23)	.20 (.02, .28)	.21 (.03, .35)	.14 (-.08, .40)	.08 (-.13, .27)	.13 (-.07, .29)	.24 (.05, .64)*
R ²	.05	.04	.01	.04	.04	.02	.01	.01	.04
F	4.802*	4.500*	.161	4.525*	3.492*	1.695	.487	1.465	4.658*
DW	1.596	1.502	1.817	1.632	1.937	1.949	1.818	1.917	1.588
Time 2									
CAR	.33 (.13, .64)**	.21 (.02, .60)*	.25 (.05, .79)*	.20 (.03, .60)*	.23 (.01, .81)*	.20 (.07, .65)*	.19 (.05, .66)*	.11 (-.17, .50)	.26 (.06, .58)*
R ²	.10	.04	.06	.04	.05	.04	.05	.01	.07
F	9.405**	4.500*	5.185*	4.273*	4.270*	4.505*	4.896*	.944	5.925*
DW	2.289	2.362	2.199	2.187	1.996	1.990	2.115	2.070	2.180
Time 3									
CAR	.28 (.04, .85)**	.24 (.05, .62)**	.22 (.04, .60)*	.23 (.07, .63)*	.18 (.01, .68)*	.23 (.03, .88)*	.23 (.04, .74)**	.20 (.06, .62)*	.25 (.06, .98)**
R ²	.09	.10	.07	.06	.05	.07	.09	.05	.10
F	7.640**	5.632**	3.719*	5.170*	4.383**	4.991*	6.026**	5.948*	5.891**
DW	1.738	1.747	1.956	1.870	1.885	1.822	1.849	2.110	1.752

Note. Only the standardized regression coefficients which were less than our significance level of .05 are highlighted in bold. B = Standardized regression coefficient; CI = 95% confidence interval; CAR= Coach-Athlete Relationship. ^aproblem solving and decision making; ^binterpersonal communication. DW= Durbin-Watson. * $p < .05$, ** $p < .01$, *** $p < .001$.

Differences for Life Skills Development Across Time

When comparing young athletes' life skills development according to the time of the season (see Table 3), a significant difference was found for seven of the eight individual life skills ($p < .05$; ES = .05 to .18, representing a small effect size) and for total life skills development ($p < .001$; ES = .96, representing a large effect size).

Table 3. Comparison of the coach-athlete relationship and life skills development according to time among youth athletes

Variables	Time 1 (N=78)	Time 2 (N=78)	Time 3 (N=78)	F	p	η^2p
	M (SD)	M (SD)	M (SD)			
Life Skills						
Teamwork	4.40 (.47)	4.42 (.55)	4.54 (.24)	1.684	.188	.01
Goal Setting	4.12 (.80)	4.29 (.55)	4.53 (.24) ^c	9.901	< .001	.08
Social Skill	4.06 (.66)	4.08 (.84)	4.49 (.27) ^c	11.181	< .001	.09
Problem Solving ^a	4.13 (.87)	4.26 (.56)	4.57 (.28) ^c	10.445	< .001	.08
Emotional Skill	3.93 (.71)	4.08 (.76)	4.56 (.30) ^c	26.212	< .001	.15
Leadership	4.11 (.65)	4.20 (1.06)	4.52 (.27) ^c	6.593	.002	.05
Time Management	3.83 (.88)	3.99 (.63)	4.55 (.29) ^c	26.212	< .001	.18
Communication ^b	4.07 (.80)	4.14 (.59)	4.53 (.30) ^c	13.349	< .001	.10
Total Life Skills	4.12 (.65)	4.15 (.47)	4.53 (.19) ^c	1604.075	< .001	.96

Note. ^aproblem solving and decision making; ^binterpersonal communication, M = mean and SD = standard deviation. Differences between c) time 3 with time 1 and 2.

DISCUSSION

The present study investigated the predictive role of the coach-athlete relationship (CAR) on life skills development in young handball players across the season. Broadly speaking, the results showed that the 3Cs (Closeness, Commitment, Complementarity) of the CAR combined had the greatest effect on participants' life skills development and this phenomenon increased across the season. Furthermore, when comparing participants life skills development throughout the season, results indicated that all eight life skills (teamwork, goal setting, emotional skills, interpersonal communication, social skills, leadership, problem solving and decision making) scores increased across the three timepoints.

The study's first hypothesis (H1) found that the Coach-Athlete Relationship (CAR) was positively related to all eight life skills in handball throughout the season. This supports previous research emphasizing that a strong coach-

athlete relationship, characterized by trust, respect, loyalty, and cooperation, contributes to the development of crucial life skills in young players (Bean et al., 2018; Gould & Carson, 2008; Holt et al., 2017; Pierce et al., 2017; Vella et al., 2013). The study suggests that coaches, through their behaviors and interpersonal skills, can serve as positive role models, inspiring athletes to learn life skills by observing and imitating them. This idea aligns with social learning theory and the concept of role models proposed by social scientists like Robert Merton and Albert Bandura, although further investigation is needed to confirm this conjecture.

The study's results revealed that closeness in the coach-athlete relationship had a positive impact on life skills development over the course of the season. At different timepoints, closeness was associated with various life skills, including teamwork, goal setting, social skills, problem solving, decision making, emotional skills, leadership, and time management. Commitment in the coach-athlete relationship was consistently linked to teamwork, goal setting, problem solving, decision making, leadership, and time management across all timepoints. Complementarity, on the other hand, was positively associated with teamwork, goal setting, problem solving, and decision making at various stages of the season, with an emphasis on emotional skills during the middle of the season (T2).

These findings suggest that the quality of the coach-athlete relationship, particularly the three Cs (closeness, commitment, complementarity), has a progressively stronger impact on life skills development as the season unfolds. Additionally, the specific life skills influenced by the coach-athlete relationship may vary during different phases of the season, with emotional skills becoming especially crucial during intense training periods. This research provides insight into the life skills that young athletes acquire and solidify throughout a sports season.

The coach-athlete relationship not only impacts performance and well-being, but also plays a significant role in fostering life skills development in youth sports. Coaches can enhance this relationship by promoting closeness through open dialogues, transparency, understanding, respect, trust, sincerity, and loyalty (Gosai et al., 2021; Jowett & Chaundy, 2004). To increase commitment, coaches should collaboratively set goals, communicate effectively, and establish clear roles and expectations. Additionally, creating a conducive learning environment and addressing conflicts effectively are essential for maintaining a strong coach-athlete relationship and team cohesion. Coaches' investment in building and sustaining quality relationships with each athlete in their team can contribute to the development of crucial life skills that benefit athletes both

within and beyond the realm of sports. This approach aligns with the 3+1Cs model by Sophia Jowett (2007), emphasizing the importance of closeness and commitment in coach-athlete relationships.

Contrary to expectations, the second hypothesis (H2) found that the Coach-Athlete Relationship (CAR) in handball was not initially related to the development of all eight life skills measured at T1. However, at T2 and T3, the analysis showed that CAR was associated with the development of all eight individual life skills. This suggests that it may take some time for the coach-athlete relationship to significantly impact athletes' life skills development. The study is the first to provide longitudinal evidence that the combined dimensions of CAR play a crucial role in predicting various life skills development in handball, aligning with past cross-sectional research emphasizing the coach's importance in this aspect. The 3C's coach-athlete relationship model by Sophia Jowett (2007) highlights the mutual influence between athletes and coaches, creating a conducive environment for life skills development within the sporting context.

In terms, we found that, during the season, the development of life skills differed significantly between timepoints. This finding aligns with past research using other analytic methods which showed that the greater the amount of time young people took part in an activity, the more they developed through that activity (Gould et al., 2021; Hansen & Larson, 2007). Daniel Gould et al. (2021) observed the development of life skills in young school athletes. Student-athletes reported developing life skills over the course of the season, as well as dealing with specific critical incidents such as winning and losing big games or dealing with team conflicts.

Limitations and future directions

The current study provided some interesting and novel findings, but had several limitations that need to be discussed. To begin, all data were collected via athlete self-report, which has limits in terms of memory recall, response accuracy, social desirability, and common method variance (Brenner & DeLamater, 2014). Therefore, future investigations should assess CAR using trained observers during training and assess life skills development through alternative assessments of parents, peers, or others within the sporting context. A second limitation was that we did not assess CAR at T2 or T3 during the season, and this variable could have fluctuated during the season. Thus, future research could assess how the CAR impacts life skill development at each specific time of the season. A third limitation in our study was that co-orientation was not assessed in the present study, as only athletes' views were elicited. A fourth limitation was

that we only assessed life skills development and not life skills transfer in the current study. Thus, future investigations could assess life skills transfer via available measures (i.e., Mossman et al.'s, 2021 transfer scale). As such, based on our initial positive findings, future CAR research investigating life skills development in athletic practitioners should look to utilize longitudinal and experimental research designs.

CONCLUSION

The findings of this study suggest that the quality of CAR is instrumental in the development of life skills in young athletes across a sports season. Thus, throughout the season, coaches must endeavor to create good relationships with their athletes in order to develop their athlete's life skills. From a practical point of view, the findings found in these studies can help coaches, sport psychologists, and sports professionals to stimulate the development of good one-to-one relationships characterised by trust, respect, loyalty, and cooperation as such qualities seem to promote the development of life skills. In addition, the findings from the present study indicated that life skills development increases over the course of a sporting season. Therefore, coaches and parents need to be aware that athletes will reap the greatest benefits possible in terms of life skills development as the season progresses. Thus, it is important to emphasise the role of quality coach-athlete relationships in interventions and guidelines that aim among others to develop young athletes' life skills within the sports context.

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