



Examining the Role of Needs Satisfaction in the Coach-Athlete Relationship and in Athletes' Well-Being

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- A) conception and design of the study
- B) acquisition of data
- C) analysis and interpretation of data
- D) manuscript preparation
- E) obtaining funding

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Abstract

Although various studies have explored the effects of the coach-athlete relationship and athletes' well-being across a number of contexts, there is scant literature indicating how satisfaction of needs (autonomy, competence and relatedness) mediates the relationship. This study aimed to examine the mediating role of needs-satisfaction, particularly autonomy, competence, and relatedness, on the coach-athlete relationship and the well-being of athletes. Using a cross-sectional design, a total of 248 competitive athletes (142 males and 106 females, $M = 20.24$, $SD = 2.02$) from various sports participated in this study. The results indicate that needs satisfaction (autonomy, competence and relatedness) partially mediated the coach-athlete relationship and the athlete's well-being. This suggests that a strong relationship between coaches and athletes creates a positive social environment that fulfills athletes' basic psychological needs. This encourages athletes to stay involved in sports and promotes overall well-being. The findings indicate that individuals thrive and experience physical and mental well-being proactively and healthy development when their basic psychological needs are met. Conversely, when these needs are unmet, individuals experience poor functioning, stunted growth, fatigue, and physical and mental distress. Future research should incorporate longitudinal forms of investigations into athletic populations and pay considerable attention to concrete methods of promoting the psychological needs outlined above in the specified athletic populations.

Keywords: Coach-athlete relationship, needs satisfaction, well-being, psychological needs

Introduction

Due to the increasing effect of competition on mental, emotional and physical health of athletes, the well-being of athletes in sports has become an essential concern (Weng & Cheng, 2023). Athletes undergo extreme physical pressure on their bodies, which may lead to injuries, over-training syndrome and other related ailments (Ldokova et al., 2022). Several authors have asserted that dealing with

constant pressure to compete at higher levels harms the athletes' psychological well-being through contributing to anxiety, depression and burnout (Navarro et al., 2020; Thelwell et al., 2016). The quest for success produces unstable results and the fear of failure can intrude on emotional regulation, while the procedures of intensive training programmes entail social isolation that affects well-being negatively (Inoue et al., 2020). Despite the growing knowledge on such issues, there is a lack of understanding

on how needs satisfaction mediates between the coach-athlete relationship and the athletes' well-being. This study analyzes the impact of the nature of the coach-athlete relationship, including commitment, closeness and complementarity, on athletes' well-being. However, the specific mechanisms through which satisfaction of needs involve competence, autonomy and relatedness functioning as the mediators of the relations still lacks clarity.

Well-being is a multifaceted concept that includes subjective, psychological and social functioning. Athletes with a greater level of well-being demonstrate optimal performance in challenging conditions, overcome obstacles and experience prolonged and successful careers (Lundqvist, 2011; Thompson & Schary, 2020). Hence, the interaction between coaches and athletes has a significant impact on the athlete's overall well-being, since it can be a potential stressor to the athletes (Simons & Bird, 2022). In addition, Chu and Zang (2019) demonstrated that athletes who admit to dropping out of sports indicated a lack of substantial relationships and connection with their coaches. These athletes also reported experiencing heightened pressure and less support in comparison with athletes who continue to participate in sports activities. Participation in sport encompasses various psychosocial processes that influence athletes' well-being and physiological health (Gustafsson et al., 2017). Coaches have a significant impact on the social environment and might potentially affect the stress levels and development of fatigue in athletes (DeFreese & Smith, 2014; Isoard-Gautheur et al., 2016; Davis et al., 2019). Coaches that employ an authoritative coaching approach (e.g. provision of clear structure; high standards; emotional support; consideration of athletes' perspective) enhance athletes basic psychological needs (Balaguer et al., 2018). This approach improves the bond between athletes and coaches and amplifies the athlete's state of being (Weng & Cheng, 2023; Jowett et al., 2017). Conversely, coaches who fail to satisfy basic psychological needs – competence, autonomy and relatedness – are likely to negatively affect the nature of relationships between athletes and coaches, which is detrimental to athletes (Jowett, 2017). Thus, athletes' individual characteristics and macrosocial context can moderate the relationship between the coach's action and the athlete's outcomes (McManama O'Brien et al., 2021).

Self-determination theory (SDT) offers a comprehensive theoretical foundation for examining basic psychological needs; namely, the need for competence, autonomy, and relatedness (Deci & Ryan, 2000). In the context of sports, the satisfaction of psychological needs is essential for athletes' motivation and overall well-being. Autonomy refers to an athlete's sense of control over their actions, choices and personal development (Deci & Ryan 2012). For instance, when athletes feel their perspectives are valued, they are more likely to experience higher levels of in-

trinsic motivation (Bhavsar et al., 2020; Akbağ & Ümmet, 2017). Autonomy-supportive environments, where coaches encourage feedback and promote decision-making, help athletes cultivate a sense of ownership in their sport, increasing their confidence and engagement (Balaguer et al., 2018; Bhavsar et al., 2020). This, in turn, enhances athletes' persistence in training and increases satisfaction, as athletes are driven more by their own goals and values rather than external pressures. Consequently, commitment and relatedness further strengthen an athlete's psychological resilience and sense of belonging (Chu & Zhang 2019; De Francisco et al., 2020). Commitment within the coach-athlete relationship reflects mutual trust, support and a shared dedication to goals, which fosters a stable and encouraging environment (Davis et al., 2023; Longakit et al., 2024). Relatedness, or the connection with others in the team, satisfies athletes' need to belong and feel supported within a social context. Various studies have posited that a positive relationship with coaches and teammates helps athletes feel more integrated and valued, decreasing stress and potential burnout (Caruzzo et al., 2021; De Francisco et al., 2020; Trbojević & Petrović, 2020). Together, autonomy, commitment and relatedness create a supportive framework that enables athletes to thrive, both in terms of their mental health and performance in sports. When this need is met, an athlete's outcomes are most likely to be positive, which includes improved performance, self-determined motivation and better psychological health (Sheehan et al., 2018; Trbojević and Petrović 2020). Research reveals how coaches and teammates motivate and meet young athletes' basic psychological needs. Studies have revealed that higher levels of absolute satisfaction are directly related to a perceived motivational climate in terms of the value of the task, effort, learning and accomplishment (Davis et al., 2023; Esdar et al., 2016). Thus, an ego-centred environment in which primary goals are social competition and dominance over others may vitiate these primary needs (Trbojević and Petrović 2020; Jõesaar et al., 2011). Conversely, when an athlete perceives that basic psychological needs have been thwarted (i.e. feeling pressured/controlled by coaches; lack of confidence and ability; lack of social support), they are likely to report maladaptive consequences like burnout, dejection and poor performance (Sheehan et al., 2018).

Research has established that the fulfillment of an individual's psychological needs – autonomy, competence and relatedness – has a significant influence on their psychological well-being and health (Lafrenière et al., 2011; Van den Broeck et al., 2016; Trbojević & Petrović, 2020). To the extent that these needs are met within the sport and academic domains, student athletes are able to function optimally and thrive. The most significant interaction for student athletes is the coach-athlete relationship, since the social climate regulated by the coach is a basic necessity

that is either met or not (Lafrenière et al., 2011). Coaches who are able to establish a climate that motivates autonomy, competence and relatedness are also more likely to build positive relationships with athletes, thus enhancing their well-being and positive outcomes (Lafrenière et al., 2011; Standage & Ryan, 2020). Research indicates that happier individuals are likely to have their social, competence, achievement, power and intimacy needs met, which is essential for achieving good mental health (Sheehan et al., 2018). For athletes, the meeting of these basic psychological needs is defined by their sense of belonging and the positive effects it has on their sport, community or team (Deci & Ryan, 2012). Since sport is a primary socialisation factor for athletes and the immense importance of sport in their lives, self-reported results of athletes' well-being determined within a sports context can be seen as valid for overall assessment of their well-being in a specific sports environment (Lundqvist, 2011; Simons & Bird, 2022). Self-determination theory asserts that autonomy, competence and relatedness are the fundamental psychological needs that, when met, enhance psychological growth and well-being (Deci & Ryan, 2000; Esdar et al., 2016). However, all these psychological needs are very important in the lives of any athlete and mainly determine their well-being. Healthy relationships with coaches on the part of athletes enable them to feel secure, both physically and psychologically (i.e. during crises in their sporting careers or personal lives) (Wachsmuth et al., 2018; Davis et al., 2023).

Existing studies have investigated the significance of establishing the role of basic psychological needs satisfaction in the context of sports (Trbojević & Petrović, 2020), as well as the role of the coach-athlete relationship in improving the well-being and performance of athletes in sports (Hook & Newland, 2018). However, this study takes an exploratory approach to investigate the mediating role of needs satisfaction, as it remains unclear how

the constructs of competence, autonomy and relatedness function as mediators within this relationship. Given the novelty of examining needs satisfaction specifically as a mediator in the coach-athlete relationship and well-being, this approach enables a comprehensive examination of this mechanism to uncover potential insights that could guide future hypothesis-driven research.

Aims and Hypothesis

The purpose of the study was to examine the mediating role of needs satisfaction between the coach-athlete dynamic and the overall well-being of student athletes. Based on the references examined for this study, it seeks to answer the following hypotheses:

H₁: There is a significant relationship between the factors of the Coach-Athlete Relationship, Well-Being, and Needs Satisfaction;

H₂: Needs Satisfaction (i.e. competence, autonomy, relatedness) is a significant mediator between the Coach-Athlete Relationship and Athletes' Well-Being

Material & methods

Participants

Participants in the study were collegiate student athletes currently enrolled in the academic year 2024–2025 in Iligan City, Philippines. Participants in this study were chosen using the Purposive Sampling Technique. A total of 248 participating athletes (142 males and 106 females, with a 20.24 mean age and SD = 2.02) from various sports participated in the study. All responses were accepted after data cleaning. Additionally, the socio-demographic characteristics of the participants are shown in Table 1.

Table 1. Socio-demographic information of student-athletes

Variable		n	%	Mean	SD	Range
Gender	Male	142	57.26	20.60	2.29	18-26
	Female	106	42.74			
Age						
Level of Sports Participation	Division Meet	42	16.9			
	Regional Meet	120	48.4			
	National Meet	72	29			
	International Meet	14	5.6			
Type of Sports	Athletics	31	12.5			
	Badminton	15	6.05			

Variable		n	%	Mean	SD	Range
	Basketball	42	16.94			
	Football	45	18.15			
	Gymnastics	21	8.47			
	Martial Arts	27	10.89			
	Tennis	21	8.47			
	Volleyball	46	18.55			

Instruments

The connection between coaches and athletes was measured using the Coach-Athlete Relationship Questionnaire (CART-Q; Jowett & Ntoumanis, 2004). This is an 11-item scale in which four items measure closeness (e.g. “I trust my coach”), three items measure commitment (e.g. “I feel committed to my coach”) and four items measure complementarity (e.g. “When I am coached by my coach, I feel ready to do my best”). All items are rated on a 7-point scale ranging from 1 (not at all) to 7 (extremely) with high scores indicating a strong connection between coach and athlete. CART-Q has shown good internal validity and consistency in different populations (Foulds et al., 2019; Gu et al., 2023). Internal consistency coefficients for the current study indicated high levels of reliability for each subscale (closeness, $\alpha = .978$; commitment, $\alpha = .957$; complementarity, $\alpha = .980$). In this study, the scale has a Cronbach Alpha of .989.

The degree to which athletes’ feel satisfaction of needs was measured using the Basic Psychological Needs Satisfaction Scale (BPNSS; Deci & Ryan, 2000). This scale contains 20 items in which five are used to measure competence (e.g. “I have the ability to perform well in sport”), five items are for the relatedness dimension (e.g. “I have close relationships with people in sport”), and ten items assess the autonomy dimension (e.g. “I choose to participate in my sport according to my own free will”). The participants rated each item on a 7-point Likert scale (1=Not true at all, 7= Very true) with a higher value indicating the highest level of satisfaction. Internal consistency coefficients for the current study indicated high levels of reliability for each subscale (competence, $\alpha = .967$; autonomy, $\alpha = .91$; relatedness, $\alpha = .932$). This scale shows high internal validity and consistency with other studies (De Francisco et al., 2018; Olafsen et al., 2021). In this study, the scale has a Cronbach Alpha of .979.

The level of athletes’ psychological well-being was measured using the Sports Mental Health Continuum–Short Form (Sports MHC – SF; Foster et al., 2018). This scale consists of a 14-item tool developed to measure the level of well-being and has three dimensions: subjective well-being (e.g. “During the past month, how often did sport participation make you feel happy?”), social well-being (e.g. “During the past month, how often did you feel

you had something to contribute to your team/sports community?”) and psychological well-being (e.g. “During the past month, how often have you felt that you have a sense of direction/meaning within your sport?”). It was measured with a 6-point Likert scale ranging from 0 (never) to 5 (every day), with high scores indicating a greater level of well-being. This scale shows high internal validity and consistency with other studies (Donnelly et al., 2019; Yousefi Afrashteh & Janjani, 2023). Internal consistency coefficients for the current study displayed high levels of reliability for all subscales (subjective well-being, $\alpha = .90$; social well-being, $\alpha = .95$; psychological well-being, $\alpha = .96$). SMHC obtained a Cronbach Alpha of .97.

Data Collection

The researchers utilised a standardised questionnaire that best serves and suits the target respondents and fulfills the aims of the research questions. The cross-sectional survey is designed to use appropriate questions from the related studies, including the coach-athlete relationship questionnaire, basic needs satisfaction in sports scale, and sports mental health continuum -short form. Before gathering the data, the researcher ensured the questionnaires were correct and subject to validation schemes. Pilot testing was conducted, serving as a critical preliminary phase in the research process, offering the researchers invaluable insights into the feasibility, effectiveness and potential concerns of the research design and methodology. The researchers asked thirty (30) athletes who qualified to participate in the pilot testing of the study in a voluntary capacity. Additionally, the objective of the pilot test was made clear to the respondents, who were also informed that it could help the researchers and the development of the study.

In the actual data-gathering procedure, the researchers asked the respondents for permission to conduct a survey questionnaire using Google Forms to also ensure the accuracy of the information. Thus, the respondents are guaranteed that their identity remains confidential. The researchers verified that the respondents are legitimate athletes of Iligan City and have experience playing in a division up to international level as the inclusion criteria of the study. The data collected from this study were tallied based on which respondents checked the items. The data was pro-

cessed for interpretation and validated by a statistician, which was subject to quantitative analysis (this includes statistical testing and analysis) to investigate the innate relationship between the coach-athlete relationship and the well-being of the athletes and the potential mediating effect of needs satisfaction. Through this process, the researchers were able to interpret the results of the data, which contributed to the overall understanding of this research.

Statistical Analysis

The researchers analyzed and interpreted the data gathered from respondents through these statistical tools. The role of needs satisfaction in the coach-athlete relationship and well-being was examined through mediation analysis utilising PROCESS macro for SPSS 20.0 (Hayes, 2012). Before conducting mediation analysis, we resolved any missing values by employing an expectation-maximisation technique. The data were analyzed statistically using Cronbach Alpha to ensure the reliability and accuracy of the results. Preliminary data analyses were conducted. This included the analysis of measures of the instruments' reliability, frequency, mean and standard deviation on demographics. A correlation matrix was used to identify the relationship among variables of interest in this study: coach-athlete relationship (commitment, closeness, complementarity), well-being (subjective, psychological, social), and needs satisfaction (autonomy, competence, relatedness). The nonparametric bootstrapping procedure with 10,000 resamples was used to examine the indirect effect of the parallel mediators (Hayes, 2012).

Results and Discussions

The mean, standard deviations and correlations among the constructs are presented in Table 2. All factors related to needs satisfaction showed positive correlations with the factors of the coach-athlete relationship and athletes' well-being, with correlation coefficients ranging from $r = .26$ to $r = .96$. These high intercorrelations suggest that enhancing the coach-athlete relationship directly leads to improvement in psychological needs satisfaction, which has a considerable influence on well-being. For instance, relationship closeness and commitment show fairly moderate positive relationships with subjective well-being, suggesting that athletes with higher levels of perceived coaches' closeness and commitment would have higher levels of subjective well-being. Thus, the present research emphasises the importance of fostering strong, supportive coach-athlete relationships, as well as addressing psychological needs for optimal human functioning. The connection between the coaches and athletes is essential in determining the psychological and emotional well-being of young athletes (Trbojević and

Petrović, 2020; Francisco Palacios et al., 2018). Recent studies suggest that satisfaction of these basic needs depends on the kind of relationship that the coach has with the athlete (Caruzzo et al., 2021). The establishment of a task-oriented motivational environment by a coach, which caters to the athletes' need for competence, autonomy and relatedness, can have a beneficial impact on their overall well-being (Alvarez et al., 2012; Trbojević & Petrović, 2020). Athletes with higher levels of perceived relatedness within the team established higher levels of well-being in sports (Wayment & Walters, 2016). In contrast, poor quality connections between a coach and athlete are linked to negative measures of well-being (Isoard-Gautheur et al., 2016). Moreover, coaches and people in supporting roles for student athletes play a major role in the team's sport-specific well-being. The level of coaching support is also helpful in encouraging more active use of self-regulation processes rather than not being able to cope with stress, high pressure and intense training that impact one's health (Peng et al., 2020). In order to enhance their players or athletes' performance, the coaches of individual and team sports should strive to establish strong bonds with athletes, and the training climate should be socially supportive. Coaches should do this using properly recommended approaches that have been tried and tested successfully (Jowett & Meek, 2000; Simons & Bird, 2022). The strong positive relationship implies that interventions designed to facilitate the coach-athlete relationship have the ability to lead to significant improvement in athletes' quality of life (Chu and Zhang, 2019). Coaches should prioritise developing closeness, commitment and complementarity with their athletes in order to establish a nurturing environment. Furthermore, fostering athletes' sense of competence, autonomy and relatedness might additionally bolster athletes' well-being (Akbağ & Ümmet, 2017). This indicates that the idea of the existence of the coach-athlete relationship is intertwined with the athletes' well-being. Coaches who place a high value on the development of strong and healthy relationships with athletes, as well as good management of stress, are likely to foster a healthy climate of the physical, mental and perceived well-being of the athletes they train (Ogden et al., 2022). Sports programmes should educate coaches on how to build appropriate interpersonal relationships and deliver frameworks that meet athletes' psychological needs for enhanced mental health and high performance. These findings stress the need for an integrated approach of developmental processes in sports coaching and that regulating factors should be not only geared towards physical training or sports skills and talent acquisition but should also focus on the psychological and relational factors. Thus, based on the previously described findings, H_1 has been supported.

Table 2. Multivariate Correlational Analysis of the Variables

Variable	1	2	3	4	5	6	7	8	9
1. CM	--								
2. CL	0.93**	--							
3. CP	0.92**	0.96**	--						
4. SBW	0.35**	0.31**	0.29**	--					
5. SW	0.31**	0.27**	0.26**	0.83**	--				
6. PWB	0.32**	0.29**	0.28**	0.84**	0.90**	--			
7. CM	0.47**	0.41**	0.39**	0.41**	0.43**	0.32**	--		
8. AUT	0.50**	0.42**	0.40**	0.41**	0.37**	0.41**	0.92**	--	
9. REL	0.52**	0.47**	0.46**	0.39**	0.38**	0.40**	0.85**	0.90**	--
M	16.50	23.55	23.24	12.50	20.62	25.12	29.07	57.28	30.19
SD	5.19	6.97	6.95	3.19	5.33	6.26	6.43	12.03	6.14

Note: CM- commitment; CL- closeness; CP-complementarity; SBW- subjective well-being; SW- Social well-being; PWB- psychological well-being; CM- competence; AUT- autonomy; REL- relatedness. Correlations are significant at ** $p < .01$, * $p < .05$ level.

The mediation analysis in Table 3 reveals that needs satisfaction has a partial mediating effect on the association between the coach-athlete relationship and well-being ($\beta = 0.131$, 95% CI [0.074, 0.188]). Moreover, all factors of needs satisfaction (i.e. competence, autonomy and relatedness) were found to have a positive effect on the coach-athlete relationship and well-being. Self-determination theory (SDT) defines these three needs as essential to psychological growth, integrity and well-being (Ryan & Deci, 2017; Hook & Newland, 2018; Gillet & Vallerand, 2016). The significant indirect effect through each mediator shows that the positive effect of a strong relationship between coaches and athletes' well-being is partially mediated by the extent to which the relationship meets these psychological needs. A coaching style that encompasses the perspectives of autonomy, competence and relatedness has a major influence on an athlete's self-determined motivation and therefore on athletes' well-being and performance (Chin et al., 2012; Felton & Jowett, 2013; 2017). Athletes who experience the bulk of support from their coaches in meeting their basic psychological needs are likely to experience heightened self-regulation, which is known to have positive outcomes such as improved performance, tenacity and well-being (Gillet & Vallerand, 2016; Balaguer et al., 2018). In SDT, self-autonomy means people have to be in control of their own behaviours and the goals they want to achieve (Deci & Ryan, 2000; 2012; Akbağ & Ümmet, 2017). When athletes think that they have the freedom to make their decisions and nobody is forcing them, their self-motivation and positive psychological well-being will be boosted (Bhavsar et al., 2020). This is an important notion in sporting disciplines where there are times that pressure could threaten the perceived choice of an athlete (Balaguer et al., 2018). On the other

hand, if athletes experience the coaches' control and perceive the environment as unresponsive to their basic psychological needs, this results in controlled motivation, or even amotivation, which has negative consequences, including burnout, reduced well-being, and dropping out of sport (Trbojević & Petrović, 2020; De Francisco et al., 2020; Lopes & Vallerand, 2020). Moreover, relatedness has significant impacts on athletes' welfare because it is directly responsible for creating a feeling of togetherness in the team. Thus, coaches can enhance relatedness by making clear that athletes' feelings are respected and by promoting positive communication within the group (Longakit et al., 2023). The development of high levels of trust and emotional closeness between the coach and an athlete has a major positive influence on the mental health of an athlete (Wachsmuth et al., 2018; Sheehan et al., 2018; Davis et al., 2023). Furthermore, promoting the principles of athletes' collective support, care and encouragement in the course of training and performance reinforcement contributes to the development of positive peer relationships and a friendly atmosphere, which is essential for athletes' mental health and motivation (Leow et al., 2023; Saleem et al., 2023). Similarly, complementarity encompasses the notion that an athlete feels that he or she has certain qualities that fit well with the qualities of his or her teammates and can improve athletes' commitment and well-being (Saleem et al., 2023). When athletes conclude that their inputs are appreciated and they are a good match for the team, competence as well as relatedness increases, yielding positive psychological results. Athletes can have a positive self-schema when coaches adhere to the following recommendations: make positive comments, set challenging but realistic goals, and recognise the accomplishments of the players (McGee &

DeFreese, 2019). An example of this is offering correctional feedback that is encouraging to an athlete and highlights process over performance, which boosts an athlete's self-efficacy (Mohd Kassim, et al., 2020). Studies have established that self-generated competence experiences strongly predict intrinsic motivation for athletes (Ryan & Deci 2017; 2020). Moreover, creating an organisational climate in which athletes realise their skills improves those of their colleagues, thus contributing to increased individual and collective performance (Jowett et al., 2017). Members of the team equate working complementation

of skills and abilities with perceived value by other team members, resulting in the polarisation of competence and relatedness (Ryan & Deci, 2017; Saleem et al., 2023). This indicates that positive environments in sports produce many positive implications to athletes in both the physical and social aspects. Coaching and management in sports and all the current and future programmes will continue to prioritise athletes' overall development and therefore the reasons highlighted above strongly warrant the effort to cultivate and strengthen these relationships. Thus, H_2 is accepted.

Table 3. Multiple Mediation Analysis

IV	M	DV	Effect of IV on M (a)	Effect of M on DV (b)	Total Effect	Direct Effect (c)	Indirect Effect (ab)	SE	BC 95% CI	
									LL	UL
CAR	COM	WB	0.146**	0.871**	0.235**	0.108*	0.127**	0.049	0.140	0.330
CAR	AUT	WB	0.284**	0.403**	0.235**	0.120*	0.115**	0.028	0.061	0.169
CAR	REL	WB	0.160**	0.779**	0.235**	0.110*	0.125**	0.030	0.066	0.184
CAR	NS	WB	0.591**	0.222**	0.235**	0.104*	0.131**	0.029	0.074	0.188

Note: A total of 248 athletes participated in the study. IV= independent variable, DV= dependent variable, M= mediator, BC= bias-corrected, SE = standard error, CI= confidence interval, LL = lower limit, UL = upper limit, CAR= coach-athlete relationship, COM=commitment, AUT=autonomy, REL=relatedness, WB=well-being, Significant at * $p < .05$, ** $p < .01$ level.

Conclusion

The study showed a strong index of support towards the assertion that the nature of the coach-athlete relationship has a positive correlation with the well-being of the athlete and with their psychological needs being met. It also postulates that it is highly probable that creating and strengthening the bond between the athlete and the coach will only result in a positive and constructive change and development for the athlete. Just as the link between the athlete and the coach is one of the key factors that can contribute to the state of the athlete's well-being. The mediation analysis again strengthens the focus on the importance of the direct relationship between the coach and the athlete. The findings reveal that commitment, autonomy and relatedness all play roles as mediators in the relationship between coach-athlete communication and athletes' well-being. This highlights the fact that both the nature of interactions and the support from coaches are not only satisfactory with regards to the athletes' psychological state, but are also vital with regards to their well-being and sports achievements. Thus, these studies call attention to the necessity of building and sustaining the proper, supportive and positive manner of

the coach-athlete relationship. Indeed, such efforts serve a useful purpose in enhancing the physical, psychological and social aspects of athletes' personalities, thus increasing their performance and satisfaction in their sports activities. However, the empirical result should be considered in light of its limitations. First, it is salient to note that the study relied on self-report measures, so the responses had weaknesses in terms of social desirability. Future research might employ social desirability scales to partly control for potential bias in the data analysis. Moreover, this study was only limited to the specific athletes in Iligan City. It is therefore crucial to conduct similar studies in other cities or regions to enrich the understanding of this issue. However, a qualitative follow-up study can be carried out to obtain quantitative data and elucidate on the experiences of other athletes. The study presents ideas to coaches that will enable them to identify some of the qualities of great sports-related events and ways of fostering environments that have a maximum positive influence on the athlete. It aids in increasing understanding in relation to the notion of an athlete's needs satisfaction, contributing to their quality of life. Moreover, future research should examine the impact of individualised coaching interventions tailored to criteria

such as gender, type of sport and cultural background. Exploring these areas may reveal particular needs of athletes, allowing coaches to implement personalised tactics that improve well-being and performance. Additionally, longitudinal research investigating the lasting influence of positive coach-athlete relationships on athlete results could also shed light on the importance of stable support structures in athletic resilience and long-term success. Future research should look into specific coaching strategies that promote autonomy, commitment and relatedness, as identifying the most effective approaches could lead to improved training procedures with proven psychological advantages. This study could offer important insights into how supportive coaching interventions address the developmental and motivational needs of athletes by drawing on Self-Determination Theory (SDT), which highlights the significance of meeting these basic psychological needs to promote intrinsic motivation and well-being. Ultimately, cross-regional and cross-cultural research examining coach-athlete relationships in various locales would enhance the existing understanding, offering a global perspective on the impact of relationship dynamics on athletic performance and psychological well-being.

Ethics approval and informed consent

The respondents were required to provide their consent by agreeing to the statement attached in the Google Forms. Additionally, respondents were advised about the objectives of the study, its instruments, and the variables being measured for the study. Minor risks answering the online survey were also enumerated. Respondents are free to withdraw from the study or to ask for debriefing at any time.

Competing interests

No competing interest.

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References

- Akbağ, M., & Ümmet, D. (2017). Predictive Role of Grit and Basic Psychological Needs Satisfaction on Subjective Well-Being for Young Adults. *Journal of Education and Practice*, 8(26), 131–132. <https://files.eric.ed.gov/fulltext/ED577838.pdf>
- Alvarez, M. S., Balaguer, I., Castillo, I., & Duda, J. L. (2012). The Coach-Created Motivational Climate, Young Athletes' Well-Being, and Intentions to Continue Participation. *Journal of Clinical Sport Psychology*, 6(2), 166–179. <https://doi.org/10.1123/jcsp.6.2.166>
- Balaguer, I., Castillo, I., Cuevas, R., & Atienza, F. (2018). The Importance of Coaches' Autonomy Support in the Leisure Experience and Well-Being of Young Footballers. *Frontiers in Psychology*, 9(840). <https://doi.org/10.3389/fpsyg.2018.00840>
- Bhavsar, N., Bartholomew, K. J., Qusted, E., Gucciardi, D. F., Thøgersen-Ntoumani, C., Reeve, J., Sarrazin, P., & Ntoumanis, N. (2020). Measuring psychological need states in sport: Theoretical considerations and a new measure. *Psychology of Sport and Exercise*, 47, 101617. <https://doi.org/10.1016/j.psychsport.2019.101617>
- Caruzzo, N. M., Vissoci, J. R. N., Contreira, A. R., Caruzzo, A. M., & Fiorese, L. (2021). Leadership, Mental Toughness, and Attachment Relationship in the World Beach Volleyball Context. *Sustainability*, 13(19), 10748. <https://doi.org/10.3390/su131910748>
- Chin, N.-S., Khoo, S., & Low, W.-Y. (2012). Self-Determination and Goal Orientation in Track and Field. *Journal of Human Kinetics*, 33(1), 151–161. <https://doi.org/10.2478/v10078-012-0054-0>
- Chu, T. L. & Zhang, T. (2019). The roles of coaches, peers, and parents in athletes' basic psychological needs: A mixed-studies review. *International Journal of Sports Science & Coaching*, 14(4), 569–588. <https://doi.org/10.1177/1747954119858458>
- Davis, L., Jowett, S., Sörman, D., & Ekelund, R. (2023). The role of quality relationships and communication strategies for the fulfilment of secure and insecure athletes' basic psychological needs. *Journal of Sports Sciences*, 40(21), 1–13. <https://doi.org/10.1080/02640414.2022.2162240>
- Davis, L., Stenling, A., Gustafsson, H., Appleby, R., & Davis, P. (2019). Reducing the risk of athlete burnout: Psychosocial, sociocultural, and individual considerations for coaches. *International Journal of Sports Science & Coaching*, 14(4), 444–452. <https://doi.org/10.1177/1747954119861076>
- De Francisco, C., Parra, F. J., Arce, C., & Vilchez, M. D. P. (2018). Preliminary Empirical Validation of the “Basic Needs Satisfaction in Sport Scale” With a Sample of Spanish Athletes. *Frontiers in Psychology*, 9(1057), 2–3. <https://doi.org/10.3389/fpsyg.2018.01057>
- De Francisco, C., Sánchez-Romero, E. I., Vilchez Conesa, M. D. P., & Arce, C. (2020). Basic Psychological Needs, Burnout and Engagement in Sport: The Mediating Role of Motivation Regulation. *International Journal of Environmental Research and Public Health*, 17(14), 4941. <https://doi.org/10.3390/ijerph17144941>
- Deci, E. L., & Ryan, R. M. (2000). The “What” and “Why” of Goal pursuits: Human Needs and the self-determination of Behavior. *Psychological Inquiry*, 11(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01
- Deci, E. L., & Ryan, R. M. (2012). Motivation, Personality, and Development Within Embedded Social Contexts: An Overview of Self-Determination Theory. *The Oxford Handbook*

- of Human Motivation, 84–108. <https://doi.org/10.1093/oxford-hb/9780195399820.013.0006>
- DeFreese, J. D., & Smith, A. L. (2014). Athlete Social Support, Negative Social Interactions, and Psychological Health across a Competitive Sport Season. *Journal of Sport and Exercise Psychology*, 36(6), 619–630. <https://doi.org/10.1123/jsep.2014-0040>
- Donnelly, A., O'Reilly, A., Dolphin, L., O'Keeffe, L., & Moore, J. (2019). Measuring the performance of the Mental Health Continuum-Short Form (MHC-SF) in a primary care youth mental health service. *Irish Journal of Psychological Medicine*, 36(3), 201–205. <https://doi.org/10.1017/ipm.2018.55>
- Esdar, W., Gorges, J., & Wild, E. (2016). The role of basic need satisfaction for junior academics' goal conflicts and teaching motivation. *Higher Education*, 72(2), 175–190. <http://www.jstor.org/stable/24756976>
- Felton, L., & Jowett, S. (2013). Attachment and well-being: The mediating effects of psychological needs satisfaction within the coach–athlete and parent–athlete relational contexts. *Psychology of Sport and Exercise*, 14(1), 57–65. <https://doi.org/10.1016/j.psychsport.2012.07.006>
- Felton, L., & Jowett, S. (2017). Self-Determination Theory Perspective on Attachment, Need Satisfaction, and Well-Being in a Sample of Athletes: A Longitudinal Study. *Journal of Clinical Sport Psychology*, 11(4), 304–323. <https://doi.org/10.1123/jcsp.2016-0013>
- Foster, B. J., & Chow, G. M. (2018). Development of the Sport Mental Health Continuum—Short Form (Sport MHC-SF). *Journal of Clinical Sport Psychology*, 13(4), 1–16. <https://doi.org/10.1123/jcsp.2017-0057>
- Foulds, S., Hoffmann, S., Hinck, K., & Carson, F. (2019). The Coach–Athlete Relationship in Strength and Conditioning: High Performance Athletes' Perceptions. *Sports*, 7(12), 244. <https://doi.org/10.3390/sports7120244>
- Francisco Palacios, C. de, Arce Fernández, C., Sanchez-Romero, E. I., & Vilchez, P. (2018). The mediating role of sport self-motivation between basic psychological needs satisfaction and athlete engagement. *Dspace.usc.es*, 30(4). <https://doi.org/10.7334/psicothema2018.117>
- Gillet, N., & Vallerand, R. J. (2016). Les effets de la motivation sur la performance sportive au regard de la théorie de l'autodétermination : vers une approche intra-individuelle. *Psychologie Française*, 61(4), 257–271. <https://doi.org/10.1016/j.psfr.2014.01.001>
- Gu, S., Peng, W., Du, F., Fang, X., Guan, Z., He, X., & Jiang, X. (2023). Association between coach-athlete relationship and athlete engagement in Chinese team sports: The mediating effect of thriving. *PLOS ONE*, 18(8), p16. <https://doi.org/10.1371/journal.pone.0289979>
- Hayes, J. R. (2012). Modeling and Remodeling Writing. *Written Communication*, 29(3), 369–388. <https://doi.org/10.1177/0741088312451260>
- Hook, R., & Newland, A. (2018). A basic needs coaching paradigm for coaches of intercollegiate and high school athletes. *Journal of Sport Psychology in Action*, 9(3), 182–195. <https://doi.org/10.1080/21520704.2018.1463328>
- Inoue, Y., Sato, M., & Filo, K. (2020). Transformative Sport Service Research: Linking Sport Services With Well-Being. *Journal of Sport Management*, 34(4), 285–290. <https://doi.org/10.1123/jsm.2020-0102>
- Isoard-Gauthier, S., Trouilloud, D., Gustafsson, H., & Guillet-Descas, E. (2016). Associations between the perceived quality of the coach–athlete relationship and athlete burnout: An examination of the mediating role of achievement goals. *Psychology of Sport and Exercise*, 22, 210–217. <https://doi.org/10.1016/j.psychsport.2015.08.003>
- Jõesaar, H., Hein, V., & Hagger, M. S. (2011). Peer influence on young athletes' need satisfaction, intrinsic motivation and persistence in sport: A 12-month prospective study. *Psychology of Sport and Exercise*, 12(5), 500–508. <https://doi.org/10.1016/j.psychsport.2011.04.005>
- Jowett, S. (2017). Coaching effectiveness: the coach–athlete relationship at its heart. *Current Opinion in Psychology*, 16(1), 154–158.
- Jowett, S., & Meek, G. A. (2000). The Coach-Athlete Relationship in Married Couples: An Exploratory Content Analysis. *The Sport Psychologist*, 14(2), 157–175. <https://doi.org/10.1123/tsp.14.2.157>
- Jowett, S., Adie, J. W., Bartholomew, K. J., Yang, S. X., Gustafsson, H., & Lopez-Jiménez, A. (2017). Motivational processes in the coach-athlete relationship: A multi-cultural self-determination approach. *Psychology of Sport and Exercise*, 32(32), 143–152. <https://doi.org/10.1016/j.psychsport.2017.06.004>
- Lafrenière, M.-A. K., Jowett, S., Vallerand, R. J., & Carbonneau, N. (2011). Passion for coaching and the quality of the coach–athlete relationship: The mediating role of coaching behaviors. *Psychology of Sport and Exercise*, 12(2), 144–152. <https://doi.org/10.1016/j.psychsport.2010.08.002>
- Ldokova, G., Volkova, K., & Razzhivin, O. (2022). Stress Sources of Powerlifters Aged 14–23. *BIO Web of Conferences*, 48, 1–8. <https://doi.org/10.1051/bioconf/20224801006>
- Leow, S., Leow, K., & Cheng, C. (2023). Satisfaction of basic psychological needs and eudaimonic well-being among first-year university students. *Cogent Social Sciences*, 9(2). <https://doi.org/10.1080/23311886.2023.2275441>
- Longakit, J., Toring-Aque, L., Aque, F. J., Sayson, M., & Lobo, J. (2024). The role of coach-athlete relationship on motivation and sports engagement. *Physical Education of Students*, 28(5), 268–278. <https://doi.org/10.15561/20755279.2024.0503>
- Longakit, J., Rodriguez, D., Aque Jr., F., Alag, Y., & Lemana II, H. E. (2023). The Mediating Role of Sports Emotions in Coach-Athlete Relationship and Athletes' Sports Engagement. *Psychology and Education: A Multidisciplinary Journal*, 7(6), 1–10. <http://doi.org/10.5281/zenodo.7714172>
- Lopes, M., & Vallerand, R. J. (2020). The role of passion, need satisfaction, and conflict in athletes' perceptions of burnout. *Psychology of Sport and Exercise*, 48, 101674. <https://doi.org/10.1016/j.psychsport.2020.101674>
- Lundqvist, C. (2011). Well-being in competitive sports—The feel-good factor? A review of conceptual considerations

- of well-being. *International Review of Sport and Exercise Psychology*, 4(2), 109–127. <https://doi.org/10.1080/1750984x.2011.584067>
- McGee, V., & DeFreese, J. D. (2019). The Coach-Athlete Relationship and Athlete Psychological Outcomes. *Journal of Clinical Sport Psychology*, 13(1), 152–174. <https://doi.org/10.1123/jcsp.2018-0010>
- McManama O'Brien, K. H., Rowan, M., Willoughby, K., Griffith, K., & Christino, M. A. (2021). Psychological Resilience in Young Female Athletes. *International Journal of Environmental Research and Public Health*, 18(16), 8668. <https://doi.org/10.3390/ijerph18168668>
- Mohd Kassim, A. F., Wan Abdullah, W. F. I., Md Japilus, S. J., & Azanuar Yusri, A. S. (2020). Coach-Athlete Relationship and Coaching Effectiveness in Team Sports Athletes. *Enhancing Health and Sports Performance by Design*, 451–462. https://doi.org/10.1007/978-981-15-3270-2_46
- Navarro, K., Greviskes, Dr. L., Edwards, Dr. L., Witte, Dr. K., Pittelkow, L., & Scherer, J. (2020). Toward an Understanding of Critical Success Factors for Student-Athlete Mental Health and Wellness, Academic Success, and Athletic Performance at the NCAA Division III Level. *Journal of Higher Education Athletics & Innovation*, 6, 82–104. <https://doi.org/10.15763/issn.2376-5267.2019.1.6.82-104>
- Ogden, D. J., Coates, J. K., Plateau, C. R., & Barker, J. B. (2022). UK professional male cricketers' mental health and support experiences: A qualitative exploration. *Journal of Applied Sport Psychology*, 35(3), 1–20. <https://doi.org/10.1080/10413200.2022.2040652>
- Olafsen, A. H., Halvari, H., & Frølund, C. W. (2021). The Basic Psychological Need Satisfaction and Need Frustration at Work Scale: A Validation Study. *Frontiers in Psychology*, 12(697306). <https://doi.org/10.3389/fpsyg.2021.697306>
- Peng, J., Zhang, J., Zhao, L., Fang, P., & Shao, Y. (2020). Coach–Athlete Attachment and the Subjective Well-Being of Athletes: A Multiple-Mediation Model Analysis. *International Journal of Environmental Research and Public Health*, 17(13), p1–11. <https://doi.org/10.3390/ijerph17134675>
- Ryan, R. M., & Deci, E. L. (2017). *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*. Guilford Press. <https://doi.org/10.1521/978.14625/28806>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and Extrinsic Motivation from a self-determination Theory perspective: Definitions, theory, practices, and Future Directions. *Contemporary Educational Psychology*, 61(1), 1–11. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Saleem, M., Javaid, H., & Nisar, T. (2023). Basic Psychological Need Satisfaction and Students' Well-being: The Mediating Role of Subjective Vitality. *Iranian Rehabilitation Journal*, 21(3), 543–552. <https://doi.org/10.32598/irj.21.3.1920.1>
- Sheehan, R. B., Herring, M. P., & Campbell, M. J. (2018). Associations between Motivation and Mental Health in Sport: A Test of the Hierarchical Model of Intrinsic and Extrinsic Motivation. *Frontiers in Psychology*, 9(707). <https://doi.org/10.3389/fpsyg.2018.00707>
- Simons, E. E., & Bird, M. D. (2022). Coach-athlete relationship, social support, and sport-related psychological well-being in National Collegiate Athletic Association Division I student-athletes. *Journal for the Study of Sports and Athletes in Education*, 17(3), 1–20. <https://doi.org/10.1080/19357397.2022.2060703>
- Standage, M., & Ryan, R. M. (2020). Self-Determination Theory in Sport and Exercise. *Handbook of Sport Psychology*, 1, 37–56. <https://doi.org/10.1002/9781119568124.ch3>
- Thelwell, R. C., Wagstaff, C. R. D., Chapman, M. T., & Kenttä, G. (2016). Examining coaches' perceptions of how their stress influences the coach–athlete relationship. *Journal of Sports Sciences*, 35(19), 1928–1939. <https://doi.org/10.1080/02640414.2016.1241422>
- Thompson, B. A., & Schary, D. P. (2020). Well-Being Therapy: An Approach to Increase Athlete Well-Being and Performance. *Journal of Sport Psychology in Action*, 12(1), 1–10. <https://doi.org/10.1080/21520704.2020.1750516>
- Trbojević, J., & Petrović, J. (2020). Satisfaction of basic psychological needs of young Serbian female athletes: the role of coach and teammates. *Exercise and Quality of Life*, 12(1), 37–45. <https://doi.org/10.31382/eqol.200605>
- Van den Broeck, A., Ferris, D. L., Chang, C.-H., & Rosen, C. C. (2016). A Review of Self-Determination Theory's Basic Psychological Needs at Work. *Journal of Management*, 42(5), 1195–1229
- Wachsmuth, S., Jowett, S., & Harwood, C. G. (2018). Managing conflict in coach–athlete relationships. *Sport, Exercise, and Performance Psychology*, 7(4), 371–391. <https://doi.org/10.1037/spy0000129>
- Wayment, H. A., & Walters, A. S. (2016). Goal orientation and well-being in college athletes: The importance of athletic social connectedness. *Journal of Sports Sciences*, 35(21), 2114–2120. <https://doi.org/10.1080/02640414.2016.1257147>
- Weng, Y., & Cheng, C. (2023). Associations among coach–athlete relationships, psychological safety, and psychological well-being in college athletes. *Social Behavior and Personality*, 51(11), 1–8. <https://doi.org/10.2224/sbp.12771>
- Yousefi Afrashteh, M., & Janjani, P. (2023). Psychometric properties of the mental health continuum-short form in Iranian adolescents. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1096218>



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