

Transitioning athletes to high-performance sport: the role of parenting and coaching environments across genders and sport types

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Abstract:

The transition from junior to high-performance sport is a critical phase in an athlete's career, often characterized by increased training demands, competitive pressure, psychological stress, and the risk of burnout. Effective parental support and coaching environments are essential for facilitating successful adaptation during this period. Previous studies have mainly focused on the psychological outcomes associated with motivational climates; however, limited research has explored gender-based and sport-specific differences in perceived support during career transitions. Therefore, this study aimed to (a) compare gender-based differences in perceptions of parental and coaching support, (b) examine sport-specific variations in support climates, and (c) identify the key support factors influencing athletes during the transition phase. A total of 120 national-level male and female athletes aged 16–20 years participated in this cross-sectional study, representing cricket, football, basketball, athletics, judo, and kalarippayattu. Parental involvement was assessed using the Parental Involvement in Sport Questionnaire (PISQ), while the coaching climate was evaluated using the Motivational Climate Scale for Youth Sports (MCSYS). Descriptive statistics and one-way ANOVA were used to analyze differences across gender and sport types. No statistically significant gender differences were observed across any parenting or coaching climate dimensions ($p > 0.05$). Female athletes reported slightly higher mean scores in Active Involvement and Directive Behavior, while male athletes showed marginally higher scores in Praise and Understanding and Mastery Initiative; however, these differences were not significant. In contrast, the sport-specific analysis revealed a significant difference in Mastery Initiative ($F = 3.008$, $p = 0.013$), with football athletes reporting the highest scores and judo and kalarippayattu athletes reporting lower values. The findings suggest a broad consistency in how parenting and coaching climates are perceived across genders, indicating that gender may not play a significant role in support experiences during athletic transitions. However, sport-specific differences in mastery-oriented climates point to the impact of coaching philosophies and training structures. These results highlight the importance of encouraging athlete-centered coaching approaches that prioritize skill development and intrinsic motivation, especially in sports where mastery climates are less evident. Future research should examine these relationships through longitudinal and multi-stakeholder approaches.

Keywords: athlete support systems, coaching behaviors, youth sport development, sport transitions, psychosocial environment, performance pathways

Introduction

Within the framework of social-ecological theory, adolescent development is understood as a dynamic and complex process shaped by multiple layers of environmental influence (Bronfenbrenner, 1998). In the sporting context, parents, coaches, and peers collectively contribute to young athletes' developmental outcomes; however, parents are widely recognized as the primary socializing agents influencing children's early involvement and continued participation in sport (Harwood et al., 2019). In addition to parental influence, coaches also play a pivotal role in supporting athletes' development by structuring training environments and fostering skill acquisition. Parents and coaches are especially influential during key developmental stages, such as the transition from junior to high-performance sport. Existing literature consistently highlights that parental commitment is essential to children's participation and success in sport, with parents often introducing children

to sport, supporting early skill development, and providing ongoing emotional and practical support throughout their athletic careers (Wuerth et al., 2004).

The progression of an athlete's career highlights the importance of significant others, particularly parents and coaches, in fostering sustained engagement in sport. Parental involvement is not static but changes across developmental stages, shifting from direct forms of support, such as enrolling children in sport, to more indirect roles, including emotional encouragement and logistical support (Jowett & Lavallee, 2007). These transitions align with normative developmental processes, in which parents initially provide both tangible and intangible support and gradually reduce their involvement as athletes develop autonomy and self-sufficiency (Pizzolato & Hicklen, 2011). During adolescence, which typically begins around age 13 and continues into early adulthood, athletes are expected to show greater commitment, train more intensely, and engage more actively in competition (Jowett & Lavallee, 2007). Parental involvement has been conceptualized as existing along a continuum from under-involvement to over-involvement, with moderate engagement identified as most supportive of positive sport development outcomes (Lisinskiene & Lochbaum, 2022).

Insufficient parental involvement may lead to a lack of emotional and practical support, increasing the risk of sport dropout, whereas excessive involvement may create pressure and negatively affect athletes' experiences. This imbalance in parental support has been linked to reduced enjoyment of sport, lower motivation, greater psychological stress, and difficulty coping with the growing demands of competitive sport. Therefore, achieving an appropriate balance of parental involvement is considered necessary to ensure athletes' well-being and sustained participation in sport. In such cases, other social agents, including coaches and teachers, may help compensate for the lack of adequate parental support. In addition to parental influence, coaches play a central role in shaping athletes' developmental trajectories. During the early sampling years, coaches are typically described as supportive, nurturing, and child-centered, whereas in the later specialization and investment stages, their roles become increasingly performance-oriented and technically focused (Chan et al., 2012; Alder et al., 2025; Mijđeci et al., 2026; Power et al., 2026). Coaches are responsible for designing effective training programs, providing individualized instruction, and fostering long-term athlete engagement (Barreiros et al., 2013). Empirical evidence suggests that the quality and frequency of coach-athlete interactions, particularly individualized feedback and instruction, distinguish athletes who sustain long-term participation from those who discontinue sport, as well as differentiating expert performers from non-experts (Fraser-Thomas & Côté, 2009; Fraser-Thomas et al., 2008; Zhao et al., 2026). Furthermore, positive coaching behaviors, including reinforcement, encouragement, goal setting, and confidence-building, are strongly associated with greater motivation, enjoyment, and overall positive sport experiences among athletes (Cushion et al., 2012; Mesquita et al., 2015). On the other hand, poor coaching practices can also lead to negative outcomes such as athlete dissatisfaction, low self-confidence, burnout, or early withdrawal from sport. Thus, the coaching climate becomes another important environmental factor that can either hinder or support athletes' development and success.

In recent years, growing scholarly attention has focused on talent development and career transitions in sport (Thomas et al., 2024). Contemporary research has moved from a narrow focus on career termination to a broader lifespan perspective, highlighting within-career transitions and their related challenges (Stambulova & Henriksen, 2025). These transitions are marked by increased demands in training, competition, communication, and lifestyle adjustments, all of which require effective coping strategies. One of the most challenging transitions in an athlete's life is the junior-to-senior transition (JST). This phase is characterized by heightened expectations regarding the athlete's performance, a greater training volume, more frequent competition, and increased responsibility. If an athlete is unable to cope with all of these changes, it may lead to a decline in performance, reduced motivation, psychological problems, burnout, or withdrawal from the sport. Understanding the factors that help individuals cope with these challenges during JST has become a central focus of research in the field of talent development. External factors, particularly social support from parents, coaches, and peers, play a critical role in facilitating successful adaptation during these periods. Athletes with strong support networks are better prepared to manage the stress and uncertainty associated with transitions, such as the JST, which involves advancing to higher levels of competition or joining senior teams (Di Rocco et al., 2025). Recent research indicates that a supportive parental climate can foster athletes' confidence, motivation, resilience, and persistence, while a positive coaching climate helps develop athletes' competence, self-determination, and commitment to sport. However, previous studies did not provide a thorough analysis of the relationship between parenting and coaching climates, instead examining them separately.

The developmental paths of young athletes are deeply influenced by the environments shaped by parents and coaches, commonly known as parenting and coaching climates. Despite extensive research on these influences, understanding remains limited regarding how these climates interact to affect career transitions, particularly in relation to gender differences. In addition, the literature shows a significant gap in how differences in parental and coaching support shape athletes' experiences during the transition from junior to high-performance sport. A thorough understanding of coaching and parenting climates is important because it can help coaches, parents, sport psychologists, and sports organizations develop interventions to support athletes through the developmental transition process. This may help reduce athlete dropout, improve athletes'

psychosocial well-being, enhance performance outcomes, and ensure the effectiveness of their long-term development. Therefore, this study aims to examine the effect of parenting and coaching climates on athletes' transition experiences in junior to high-performance sport settings and to explore any possible gender differences.

Purpose and Hypotheses

This study aims to examine gender-based differences in perceptions of parental and coaching support, explore sport-specific variations in support climates, and identify the key support factors that facilitate successful career transitions among young athletes.

Materials and Methods

Study Design

This study used a cross-sectional research design to examine and compare parenting and coaching climates among youth athletes by gender and sport type. A quantitative approach was used to obtain objective and generalizable data on athletes' perceptions of parental involvement and coaching environments.

Participants

A total of $n = 120$ youth athletes between the ages of 16 and 20 were purposively selected from multiple sporting disciplines in Kerala, India. The sample included participants from both team sports (e.g., cricket, football, and basketball) and individual sports (e.g., track and field, judo, and kalaripayattu), all of whom were actively competing at the national level, thereby ensuring appropriate representation of competitive youth athletes. Participants were included in the study if they met the following criteria: falling within the specified age range (16–20 years), participating in either individual or team sports, competing at the state or national level, and coming from diverse backgrounds.

Procedures

Data were collected using a structured questionnaire administered in printed format. Before participation, written informed consent was obtained from all athletes after the purpose and procedures of the study were clearly explained. To minimize language barriers and improve comprehension, the questionnaires were translated into the participants' respective regional languages. Participants were instructed to respond honestly, and the confidentiality of their responses was assured.

Instruments

Parental involvement was assessed with the Parental Involvement in Sport Questionnaire (PISQ), which evaluates four dimensions: Active Involvement (AI), Praise and Understanding (PU), Directive Behavior (DB), and Pressure (PR). The coaching climate was measured with the Motivational Climate Scale for Youth Sports (MCSYS), which assesses athletes' perceptions of the motivational environment created by coaches, including mastery-oriented and ego-oriented climates (Wuerth et al., 2004; Smith et al., 2008).

Statistical Analysis

All statistical analyses were performed using IBM SPSS version 27. Descriptive statistics, including the mean, standard deviation, variance, minimum, and maximum, were calculated for all subdimensions (Active Involvement, Praise and Understanding, Directive Behavior, Pressure, and motivational climate variables). For inferential analysis, one-way analysis of variance (ANOVA) (Fisher's F-test) was used to examine significant differences in perceived parental involvement and coaching climate by gender and type of sport. Statistical significance was determined at an appropriate alpha level.

Results

The study results are presented to examine gender-based differences and sport-specific variations in parenting and coaching climates among youth athletes. Descriptive statistics and one-way ANOVA were used to analyze the data, and the findings are presented in Tables 1–5.

Table 1. Descriptive statistics by group: comparison of parenting and coaching climate by gender

Variable	Gender	N	Mean	SD	SE
Active Involvement	Female	71	17.1	3.48	0.41
	Male	78	16.2	4.54	0.51
Praise and understanding	Female	71	14.0	3.30	0.39
	Male	78	14.3	3.80	0.43
Directive Behavior	Female	71	31.6	6.96	0.83
	Male	78	30.7	8.36	0.95
Ego Initiative	Female	71	17.5	4.48	0.53
	Male	78	17.3	4.76	0.54
Mastery Initiative	Female	71	20.8	4.95	0.59
	Male	78	21.8	5.83	0.66

*N = Number of athletes

As shown in Table 1, female athletes reported slightly higher AI ($M = 17.1$, $SD = 3.48$) than male athletes ($M = 16.2$, $SD = 4.54$). In contrast, male athletes showed marginally higher PU ($M = 14.3$, $SD = 3.30$) than female athletes ($M = 14.0$, $SD = 3.30$). Female athletes also perceived slightly greater DB ($M = 31.6$, $SD = 6.96$) than males ($M = 30.7$, $SD = 8.36$). Ego Initiative scores were nearly identical for female athletes ($M = 17.5$, $SD = 4.48$) and male athletes ($M = 17.3$, $SD = 4.76$). However, male athletes demonstrated slightly higher Mastery Initiative ($M = 21.8$, $SD = 5.83$) than female athletes ($M = 20.8$, $SD = 4.95$). Overall, these differences are minimal and suggest comparable perceptions across gender.

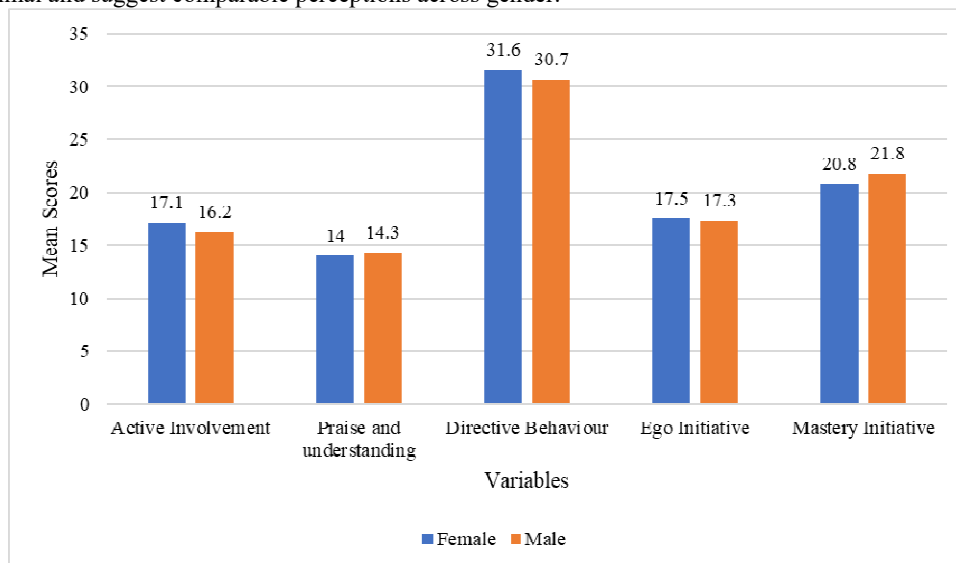


Figure 1. Comparison of mean scores for parenting and coaching climate by gender

Table 2. Descriptive statistics by group: comparison of parenting and coaching climate by sport

Variable	Sport	N	Mean	SD	SE
Active Involvement	Football	26	15.9	4.74	0.93
	Cricket	32	16.7	3.54	0.63
	Basketball	18	17.0	4.17	0.98
	Athletics	30	16.3	4.67	0.85
	Judo	22	18.1	2.96	0.63
	Kalari	21	16.4	4.07	0.89
Praise and Understanding	Football	26	14.5	3.81	0.75
	Cricket	32	14.1	3.72	0.66
	Basketball	18	14.5	3.43	0.81
	Athletics	30	15.0	2.74	0.50
	Judo	22	13.2	3.49	0.74
	Kalari	21	13.5	4.24	0.93
Directive Behavior	Football	26	29.9	9.24	1.81
	Cricket	32	30.7	7.31	1.29
	Basketball	18	32.2	6.84	1.61
	Athletics	30	31.0	8.43	1.54
	Judo	22	32.2	6.76	1.44
	Kalari	21	31.1	7.45	1.63
Ego Initiative	Football	26	15.8	5.02	0.98
	Cricket	32	18.5	3.33	0.59
	Basketball	18	19.2	4.05	0.95
	Athletics	30	17.1	4.71	0.86
	Judo	22	16.7	5.47	1.17
	Kalari	21	17.4	4.78	1.04
Mastery Initiative	Football	26	23.9	5.65	1.11
	Cricket	32	20.6	4.65	0.82
	Basketball	18	22.5	4.71	1.11
	Athletics	30	22.0	5.75	1.05
	Judo	22	18.9	6.19	1.32
	Kalari	21	19.8	4.16	0.91

*N = Number of athletes

Table 2 shows that AI was highest in judo ($M = 18.1$, $SD = 2.96$) and lowest in football ($M = 15.9$, $SD = 4.74$). PU was highest in athletics ($M = 15.0$, $SD = 2.74$) and lowest in judo ($M = 13.2$, $SD = 3.49$) and kalarippayattu

($M = 13.5$, $SD = 4.24$). DB was relatively similar across sports, with slightly higher values observed in basketball ($M = 32.2$, $SD = 6.84$) and judo ($M = 32.2$, $SD = 6.76$), while football had a lower mean ($M = 29.9$, $SD = 9.24$). Ego Initiative was highest in basketball ($M = 19.2$, $SD = 4.05$) and cricket ($M = 18.5$, $SD = 3.33$), and lowest in football ($M = 15.8$, $SD = 5.02$). Mastery Initiative was highest in football ($M = 23.9$, $SD = 5.65$), followed by basketball ($M = 22.5$, $SD = 4.71$) and athletics ($M = 22.0$, $SD = 5.75$), whereas judo ($M = 18.9$, $SD = 6.19$) and kalarippayattu ($M = 19.8$, $SD = 4.16$) showed the lowest values.

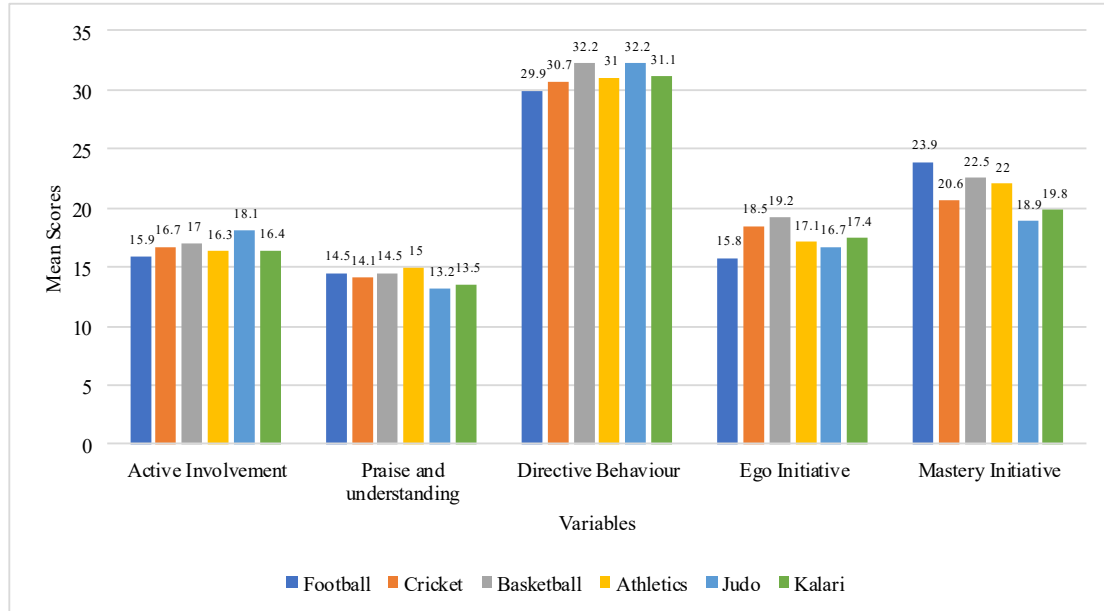


Figure 2. Comparison of mean scores for parenting and coaching climate across sports

Table 3. One-way ANOVA: gender differences in parenting and coaching climate

Variable	F	df1	df2	p
Active Involvement	1.86	1	147	0.174
Praise and Understanding	0.35	1	147	0.556
Directive Behavior	0.50	1	147	0.480
Ego Initiative	0.05	1	147	0.818
Mastery Initiative	1.14	1	147	0.287

The ANOVA results presented in Table 3 show no statistically significant gender differences across any of the variables. Specifically, Active Involvement ($F = 1.86$, $p = 0.174$), Praise and Understanding ($F = 0.35$, $p = 0.556$), Directive Behavior ($F = 0.50$, $p = 0.480$), Ego Initiative ($F = 0.05$, $p = 0.818$), and Mastery Initiative ($F = 1.14$, $p = 0.287$) all had p -values greater than 0.05. These findings suggest that gender does not significantly affect athletes' perceptions of parenting and coaching climates.

Table 4. One-way ANOVA: differences by sport

Variable	F	df1	df2	p
Active Involvement	0.826	5	143	0.533
Praise and Understanding	0.884	5	143	0.494
Directive Behavior	0.293	5	143	0.916
Ego Initiative	1.654	5	143	0.150
Mastery Initiative	3.008	5	143	0.013*

* Statistically significant at $p < 0.05$

As shown in Table 4, no statistically significant differences were found for AI ($F = 0.826$, $p = 0.533$), PU ($F = 0.884$, $p = 0.494$), DB ($F = 0.293$, $p = 0.916$), and Ego Initiative ($F = 1.654$, $p = 0.150$) because all p -values were greater than 0.05. However, a significant difference was found for Mastery Initiative ($F = 3.008$, $p = 0.013$). This suggests that the emphasis on a mastery-oriented climate varies across sports. Football had the highest mean ($M = 23.9$), whereas Judo ($M = 18.9$) and Kalarippayattu ($M = 19.8$) had lower values.

Table 5. Tukey post hoc test for mastery initiative

Comparison	Mean Difference	p-value
Football vs. Cricket	3.33	0.164
Football vs. Basketball	1.42	0.950
Football vs. Athletics	1.92	0.748
Football vs. Judo	5.06	0.014*
Football vs. Kalari	4.16	0.082

* Statistically significant at $p < 0.05$

The Tukey post hoc test (Table 5) showed that the significant difference in Mastery Initiative was mainly between football and judo, with a mean difference of 5.06 ($p = 0.014$), indicating that football athletes perceive a significantly more mastery-oriented climate than judo athletes. Although football also showed a relatively large difference compared with kalaripayattu (mean difference = 4.16), this was not statistically significant ($p = 0.082$). No significant differences were found between the other sports, including cricket, basketball, and athletics ($p > 0.05$), suggesting similar perceptions across these groups.

Discussion

This study investigated whether perceptions of parental support and coaching motivational climates vary by gender and sport type during the transition from junior to high-performance sport. The findings showed that gender did not significantly affect athletes' perceptions of parenting and coaching climates, whereas sport-specific differences were found only in the mastery-oriented climate.

The lack of significant gender differences suggests that male and female athletes experience broadly similar support environments during this transitional phase. This finding is consistent with previous research showing that when structured coaching systems and developmentally appropriate parenting practices are in place, athletes tend to report similar psychosocial experiences regardless of gender. Furthermore, studies examining parent- and coach-initiated motivational climates have shown that supportive environments contribute in similar ways to athletes' motivation and well-being across genders (O'Rourke et al., 2014; Habeeb et al., 2023; Knight & Holt, 2014). Compared with earlier literature suggesting that female athletes may perceive coaching behaviors as more emotionally supportive and less directive, the present findings indicate a more balanced and consistent approach.

This shift may reflect the increasing professionalization of coaching practices and the growing emphasis on equitable training environments, particularly in developing sports systems such as India (Prince Vishal Dixit & Dr. Munna Kumar Varun, 2025; Stewart, 2016). Regarding sport-specific differences, the study identified mastery initiative as the only dimension that varied significantly across sports. Football athletes reported higher mastery-oriented climates than those in judo and kalaripayattu. This finding can be interpreted in light of the structural and pedagogical differences between sports. Team sports such as football typically emphasize skill development, tactical adaptability, and continuous learning, which are key characteristics of mastery-oriented climates (Ruiz et al., 2019). In contrast, combat and traditional sports often adopt more hierarchical and performance-driven coaching approaches, which may place less emphasis on personal improvement and task mastery.

This supports the argument that motivational climate is shaped not only by the nature of the sport but also by coaching philosophy and instructional strategies. Although the other dimensions did not reach statistical significance, the observed descriptive trends offer additional insight into sport-specific environments. For example, higher perceived active involvement in judo may reflect the culturally embedded emphasis on discipline and close coach-athlete interaction in martial arts settings. Similarly, the relatively higher levels of praise and understanding in athletics point to a more supportive and individualized coaching environment, which aligns with prior findings that individual sports require greater emotional reinforcement because of their psychological demands (Eckardt et al., 2022). These observations show that, even without statistical significance, practical differences in coaching and parenting practices may still affect athletes' experiences.

This study's findings have several practical implications. First, the absence of gender differences suggests that current coaching and parenting approaches may be successfully fostering equitable developmental environments. Second, differences in mastery-oriented climates across sports highlight the need for targeted interventions in sports where such climates are less emphasized. Coaches should be encouraged to adopt athlete-centered approaches that prioritize skill development, autonomy, and intrinsic motivation. In addition, parental education programs may further strengthen supportive environments by aligning parental involvement with athletes' developmental needs. These efforts align with current perspectives on coaching effectiveness and long-term athlete development (Müjdeci et al., 2026; Khatun et al., 2024).

Despite these contributions, the study has some limitations. The relatively small sample size may limit the generalizability of the findings. In addition, the cross-sectional design constrains the ability to draw causal inferences or assess changes over time. Potential confounding variables, such as socio-economic status, competitive level, and regional differences, were not controlled for and may have affected the results.

Future research should address these limitations using larger and more diverse samples and by adopting longitudinal designs to monitor changes in perceptions across different stages of athletic development. Incorporating qualitative approaches could offer deeper insights into the lived experiences of athletes, parents, and coaches. In addition, future studies should investigate how different coaching philosophies, such as autonomy-supportive versus controlling styles, affect motivational climates and athlete outcomes. Intervention-based research focused on training programs for coaches and parents would also be valuable for enhancing athlete development during critical transition phases (Döşyılmaz & Şirin, 2021; Arı & Öz, 2023).

Conclusions

This study aimed to examine gender-based differences in perceptions of parental support and coaching motivational climates, as well as sport-specific variations during the transition from junior to high-performance sport. The findings indicate that there were no statistically significant gender differences across any of the measured dimensions, suggesting that male and female athletes perceive parenting and coaching climates in a generally similar manner during this transitional phase. Thus, this study adds to the growing body of research showing that the psychosocial environment created by parents and coaches has an equal impact on athletes regardless of gender, especially during certain developmental transitions. In contrast, the sport-specific analysis revealed a significant difference only in Mastery Initiative, with football athletes reporting higher levels than judo and kalarippayattu athletes. This finding suggests that the emphasis on skill development and mastery-oriented environments may vary depending on the nature of the sport and its coaching structure. However, given that the other dimensions did not show significant differences, these results should be interpreted with caution and not generalized beyond the scope of the sample. Nevertheless, the difference observed in Mastery Initiative suggests that the philosophy of sport-specific coaching and its training culture might influence athletes' motivational experiences. Therefore, it is important to create an environment that prioritizes the learning process, personal development, and the acquisition of competence.

Furthermore, from a theoretical perspective, the research expands existing knowledge about athlete development by showing that the motivational and developmental climate remains an important environmental factor during the junior-to-high-performance sport transition period. Thus, the results support ecological and developmental approaches, which state that the social environment plays an important role in shaping athletes' experiences, adaptation, and long-term participation in sport. Furthermore, the findings show that motivational climates are likely to differ depending on the features of a particular sport environment rather than on the athlete's gender, thus providing an interesting direction for future studies. From a practical standpoint, the findings emphasize the importance of promoting consistent, athlete-centered coaching practices across all sports, particularly in strengthening mastery-oriented climates.

Coaches and parents should focus on fostering skill development, autonomy, and supportive environments to facilitate successful transitions to high-performance levels. Finally, various sports organizations, sports academies, and federations may benefit from implementing educational programs that enable coaches and parents to create positive motivational climates. Such initiatives are likely to help increase athlete well-being, improve satisfaction with sport, support better performance development, and reduce the risk of sport dropout during critical transitional periods. Based on the findings, it may be hypothesized that sport-specific coaching philosophies, rather than gender, play a more influential role in shaping athletes' perceptions of motivational climates during transitional phases. The practical value of the study lies in the possibility of developing evidence-based practices in coaching and parental support aimed at optimizing athletes' development trajectories. Future research is needed to further examine this proposition using larger and more diverse samples, as well as longitudinal designs. Additional research is needed to examine the relationships between parenting climate, coaching climate, and other psychosocial variables, such as peer support, self-efficacy, resilience, and coping skills. Using longitudinal studies across all stages of athlete development would provide insight into how supportive climates influence transition success. This type of study may help develop new theories on athlete support and apply them in practice within the talent development system. In summary, this study emphasizes the importance of a positive social climate as a prerequisite for successful transitions in athletics.

Conflicts of interest

The authors declare that they have no conflict of interest.

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