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RESEARCH ARTICLE

Stress Factors Among South Korean Youth Soccer Players: An Analysis of Club and Pro Youth Teams

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Abstract
This study aimed to analyze stress factors among South Korean youth soccer players, focusing on differences between Pro Youth and Club Team players. Surveys were conducted with 284 players registered with the Korea Football Association in 2024, examining various stress dimensions including performance, training, interpersonal, and game-related stress factors. Statistical analyses included t-tests and ANOVA to determine differences across demographics. Results revealed that Pro Youth players experienced significantly higher levels of performance stress (M = 2.88, SD = 0.73, p = 0.012) and training stress (M = 2.75, SD = 0.72, p = 0.021) compared to Club Team players. Positional analysis indicated midfielders reported relatively high stress levels in performance stress (M = 2.86, SD = 0.67), influenced by their dual offensive and defensive responsibilities, though statistical significance with other positions was limited. Less experienced players (less than one year) showed elevated interpersonal stress (M = 2.60, SD = 0.68). These findings highlight the intense psychological demands placed on youth soccer players, particularly in highly competitive environments. Tailored stress management interventions, including role-specific support and psychological skills training, are recommended to mitigate these challenges and promote sustainable athlete development.

Keywords
Youth Soccer, Stress Factors, Competitive Sports, Psychological Support, South Korea

INTRODUCTION

Youth soccer plays a critical role in the physical and emotional development of young athletes, providing a platform to build teamwork, discipline, and resilience. However, unmanaged stress in youth sports has been linked to significant physical and psychological issues, such as increased injury risk, burnout, and long-term mental health problems. Recent studies underscore the importance of balancing physical activity with psychological wellbeing to maximize the benefits of youth sports while mitigating risks. For example, participation in sports is shown to reduce anxiety and depression when managed positively, but excessive or high-intensity training can elevate cortisol levels, leading to stress and reduced performance (Negara et al., 2022; Scales et al., 2023). In particular, South Korea's youth soccer system is characterized by an intense focus on success, where young players must navigate the dual pressures of athletic performance and academic achievement. Unlike in many Western contexts, where recreational participation is emphasized, South Korean youth athletes often face the added burden of societal and familial expectations, which can exacerbate stress levels. This unique cultural context underscores the necessity for targeted stress management strategies that address the specific challenges faced by these young athletes.

Importance of Stress Management in Youth Sports

Unmanaged stress in youth athletes can result in both physical and mental health problems,

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including higher injury rates, loss of motivation, and withdrawal from sports (Reilly & Ekblom, 2005; Scanlan et al., 2005; Côté et al., 2007).

The high-pressure environment of South Korean youth soccer, combined with cultural expectations for academic and athletic success, further heightens these risks. This makes the development of effective stress management interventions a crucial component of youth athlete development.

Objectives and Literature Gap

While previous research has explored stress in youth sports, a significant gap remains in understanding how these stressors uniquely affect South Korean youth soccer players. Most studies have focused on Western athletes, with limited attention to the stress experiences of Asian youth athletes. A study highlights stress as a key factor in athlete exhaustion among South Korean youth athletes (Kim & Cho, 2023). This study examines distinct stress factors in fluencing South Korean youth soccer players, providing evidence-based recommendations for tailored interventions catering to their specific needs.

Theoretical Framework

The study is grounded in the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984), which posits that stress results from an individual's appraisal of the demands placed upon them and their perceived ability to cope. This model is particularly relevant in the youth sports context, where players constantly evaluate their performance, training demands, and social interactions (Vealey et al., 2016).

MATERIALS AND METHODS

This research adhered to ethical standards for studies involving human participants. Ethical approval was obtained from the Jeonju University Institutional Review Board (Approval No. jjIRB-240215-HR-2023-1110). All participants were informed of the study's purpose, and written consent was obtained prior to participation. The confidentiality and rights of all participants were strictly protected throughout the research process.

Participants

This study included 284 youth soccer players registered with the Korea Football Association in 2024. Out of 300 participants, 16 responses were excluded due to unreliable or insincere answers.

The participants were categorized based on grade level, years of experience, team type, and playing position (See **Table 1**). Specifically, 29.6% were in the 4th grade, 19.0% in the 5th grade, and 51.4% in the 6th grade. Regarding experience, 48.9% had less than 1 year of experience, 37.0% had 1-3 years, 9.5% had 3-5 years, and 4.6% had more than 5 years of experience. In terms of team type, 56.7% were part of Club Teams, while 43.3% were Pro Youth players. Position-wise, 47.2% were Forwards (FW), 30.3% were Midfielders (MF), 18.7% were Defenders (DF), and 3.9% were Goalkeepers (GK).

Table 1. Demographic characteristics of participants

Characteristics	Categories	Percentage(%)
Grade Level	4th Grade	29.6
	5th Grade	19.0
	6th Grade	51.4
Experience	Less than 1 year	48.9
	1-3 years	37.0
	3-5 years	9.5
	More than 5 years	4.6
Team Type	Club Team	56.7
	Pro Youth	43.3
Position	Forward(FW)	47.2
	Midfielder(MF)	30.3
	Defender(DF)	18.7
	GoalKeeper(GK)	3.9

Procedures

The data was collected using self-administered surveys, employing a convenience sampling method. Both the researcher and research assistants conducted the surveys directly to ensure data reliability. Participants were instructed to complete the survey independently without external influence.

Survey Questionnaire

The questionnaire used in this study was based on established scales for assessing stress factors in youth sports, with refinements by Lee (2006) to assess stress factors in youth sports. The final version was specifically tailored to the context of youth soccer and included 33 items scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

To ensure the validity and reliability of the questionnaire, a factor analysis was conducted, which confirmed the constructs of the instrument. Items with low factor loadings were removed, enhancing the precision of the tool. The final version of the questionnaire was reviewed and validated by experts in sports science and statistics. The internal consistency of the questionnaire was measured using Cronbach's alpha, with reliability coefficients as follows: Pre-Game Stress (.822), Game Outcome Stress (.786), Performance Stress (.863), Interpersonal Stress (.678), Leisure Stress (.682), Training Stress (.611), In-Game Stress (.709), and Social Stress (.691). These results indicate that the questionnaire reliably measured the intended stress factors, confirming its overall robustness.

Data Analysis

Collected data were analyzed using SPSS Version 26.0. Analytical methods included factor analysis, reliability analysis, frequency analysis, t-tests, one-way ANOVA, and post-hoc analysis using the Scheffé test. Each analysis was conducted systematically to align with the study's objectives and hypotheses (See **Table 2**).

Table 2. Analysis techniques and purposes

Analysis Technique	Purpose
Factor Analysis	To validate the survey instrument's constructs
Reliability Analysis	To assess the internal consistency of items
Frequency Analysis	To describe demographic characteristics
T-test	To compare stress levels between 2 groups
One-Way ANOVA	To examine differences across multiple groups
Scheffe Test	To identify specific group differences

RESULTS

Descriptive Statistics of Stress Factors

The highest stress levels were noted in match outcome stress (M = 2.89, SD = 0.74) and in-game stress (M = 2.66, SD = 0.71), reflecting the intense pressures associated with competitive play. Performance stress also ranked high (M = 2.88, SD = 0.73), indicating that the pressures to perform well significantly impact young athletes. In contrast, leisure stress (M = 2.50, SD = 0.70) and interpersonal stress (M = 2.60, SD = 0.68) were ranked lower, suggesting these factors, while still impactful, contribute less to overall stress levels (See **Table 3**). These findings underscore the significant psychological demands placed on youth soccer players, particularly during high-stakes matches, which can contribute to performance anxiety and overall stress. Understanding the hierarchy of stress factors can inform targeted interventions, prioritizing high-impact areas like outcome and performance stress.

Table 3. Descriptive statistics of stress factors

Stress Factor	Mean (M)	Standard Deviation (SD)	Rank
Outcome Stress	2.89	0.74	1
Performance Stress	2.88	0.73	2
In-game Stress	2.66	0.71	3
Interpersonal Stress	2.60	0.68	4
Leisure Stress	2.50	0.70	5
Training Stress	2.75	0.72	6

Stress Variation by Demographics

Significant differences in stress levels were observed based on team affiliation, grade, experience, and position (p-values ranging from 0.01 to 0.04). Pro Youth players experienced significantly higher stress levels than Club Team

players, particularly in performance and training stress (p = 0.012) (See **Figures 1-2**). Effect size analysis revealed moderate to large effects (Cohen's d ranging from 0.5 to 0.8), indicating that the differences are not only statistically significant but also practically meaningful.

Position-Specific Stress Differences

The analysis revealed significant differences in stress levels among different playing positions. Specifically, midfielders (MF) exhibited notably high stress levels in Pre-Game Stress (M = 2.81, SD = 0.64) and Performance Stress (M = 2.86, SD = 0.67), which can be attributed to their dual role in both offense and defense, requiring constant decision-making and physical exertion. Defenders (DF) showed distinctive stress patterns, particularly recording the highest levels of Interpersonal Stress (M = 2.75, SD = 0.62), likely reflecting the intensive collaborative demands of defensive coordination. Forwards (FW) demonstrated consistent stress levels across categories, with notably elevated Game Outcome Stress (M = 2.63, SD = 0.69), reflecting the pressure to score goals. Goalkeepers (GK), although fewer in number, generally experienced lower stress levels across most categories (ranging from M = 2.35 to M = 2.50), but their role's critical nature suggests intense pressure during key game moments.(See **Table 4**).

Effect Sizes and Practical Significance

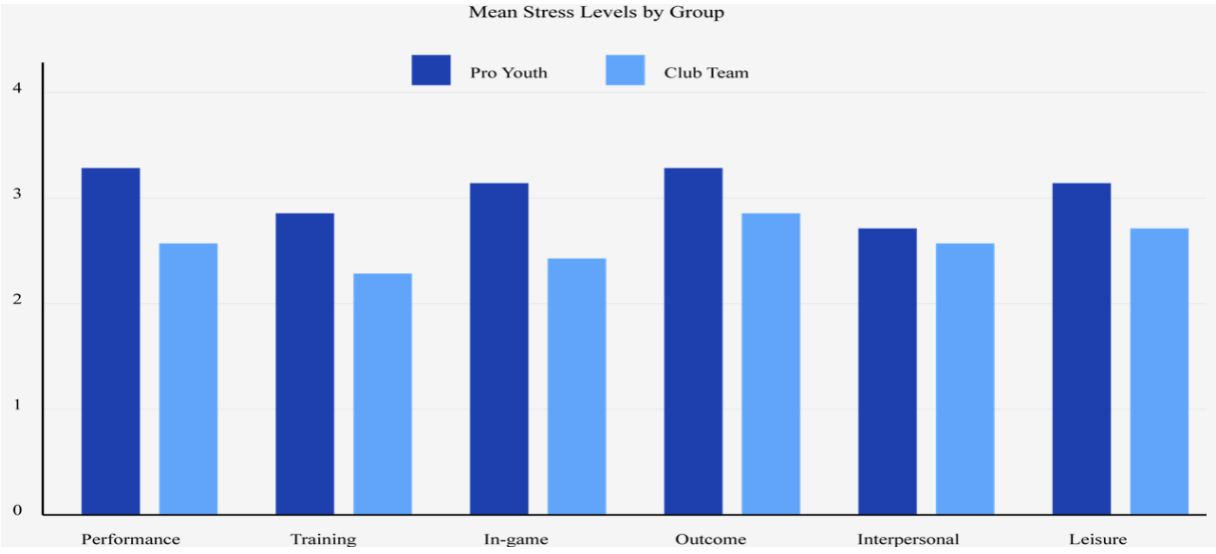

Figure 1. Mean stress levels by group (Pro Youth vs. Club Team); This bar graph shows the differences in stress levels between Pro Youth and Club Team players across various stress factors.

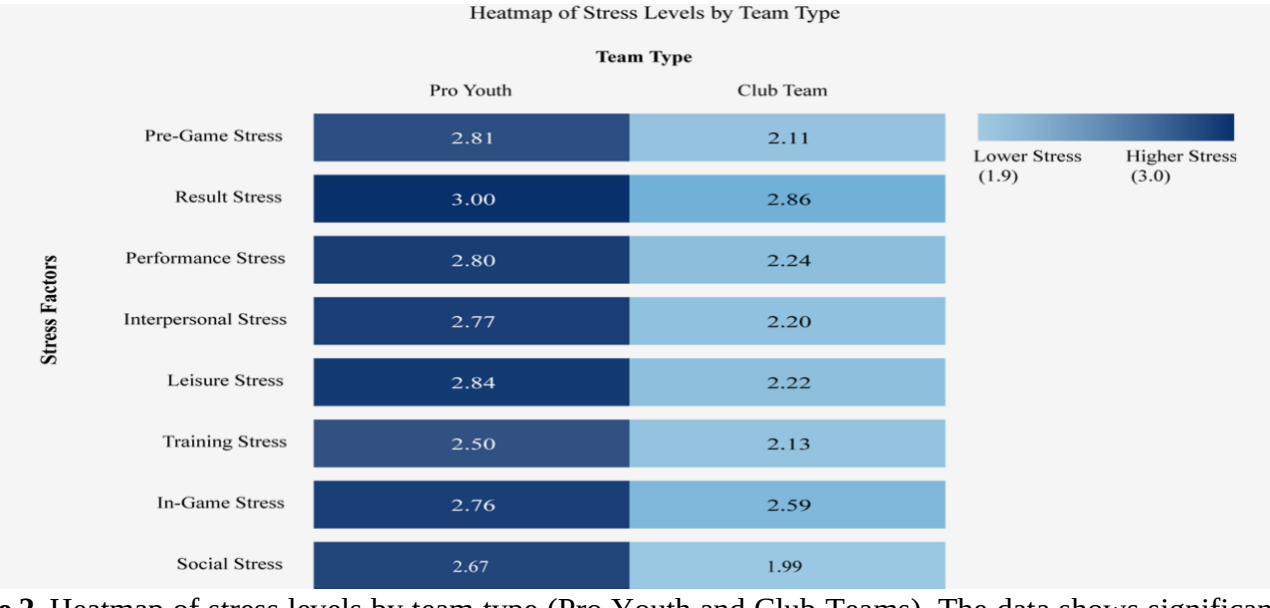

Figure 2. Heatmap of stress levels by team type (Pro Youth and Club Teams). The data shows significant differences in stress factors between team types, particularly in result and performance stress.

Table 4. Position-specific stress levels

	Position	Pre-Game Stress (M±SD)	Performance Stress (M±SD)	Interpersonal Stress (M±SD)	Game Outcome Stress (M±SD)
1	Midfielder	2.81±0.64	2.86±0.67	2.55±0.58	2.45±0.59
2	Defender	2.45±0.58	2.63±0.60	2.75±0.62	2.30±0.57
3	Forward	2.70±0.65	2.55±0.68	2.60±0.59	2.63±0.69
4	Goalkeeper	2.50±0.59	2.45±0.60	2.35±0.58	2.40±0.62

Effect sizes were calculated to provide insight into the practical significance of the findings beyond statistical significance. A Cohen's d value of 0.76 between Pro Youth and Club Team players suggests that the competitive environment significantly impacts stress levels.

Positional differences also showed large effect sizes, particularly for midfielders (Cohen's d = 0.81), indicating that their dual role in defense and offense contributes to higher stress levels (See **Figure 3**).

Stress Analysis by Experience

The analysis revealed that players with less than one year of experience reported higher levels of interpersonal and leisure stress compared to more experienced players, with a moderate effect size (Cohen's d = 0.65) (See **Figure 4**). This indicates that newer players face notable adjustment challenges in youth soccer, which can heighten stress levels due to unfamiliarity with competitive demands and social dynamics. Additionally, analysis by experience level showed varying patterns of stress across different factors, with notably higher stress levels in certain domains for less experienced players (See **Figure 5)**.

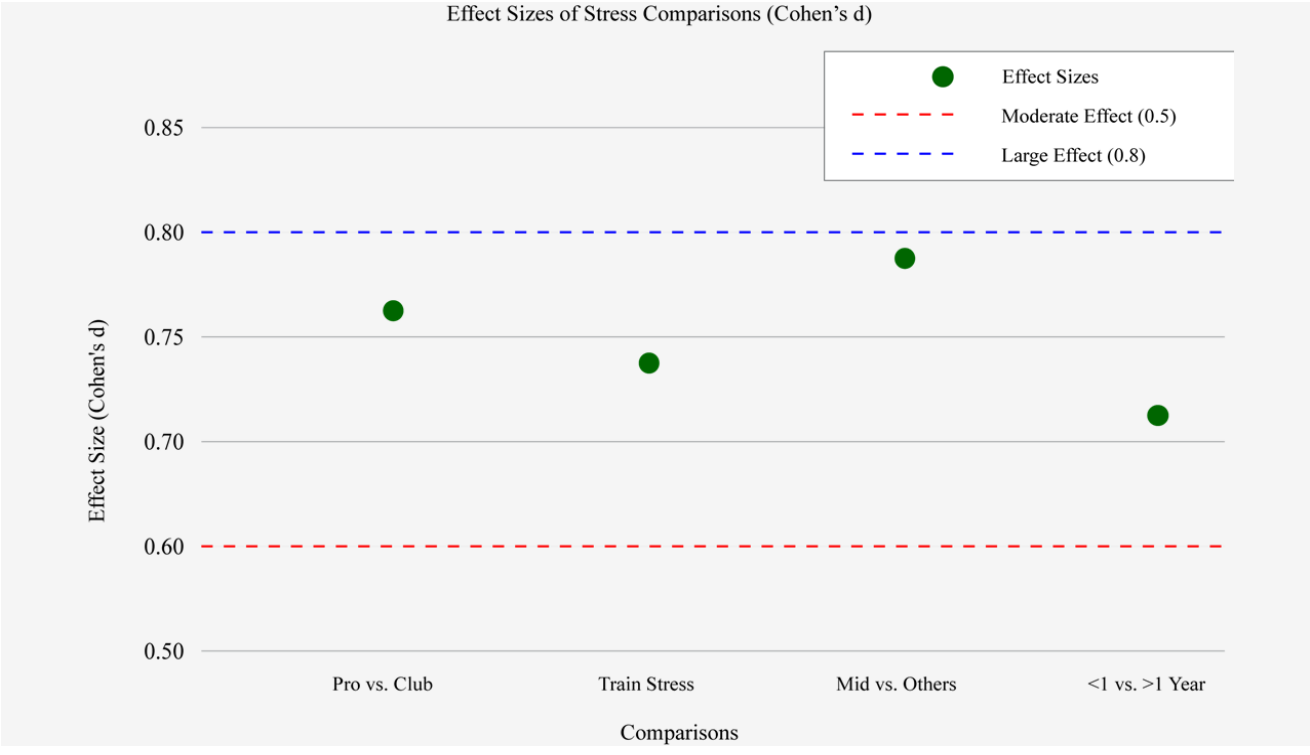

Figure 3. Effect sizes of stress comparisons (Cohen's d); This scatter plot highlights the effect sizes of stress comparisons, illustrating the substantial differences among groups

Figure 4. Stress Levels by Experience; A line plot showing how stress levels change with experience, emphasizing the need for tailored support for less experienced players.

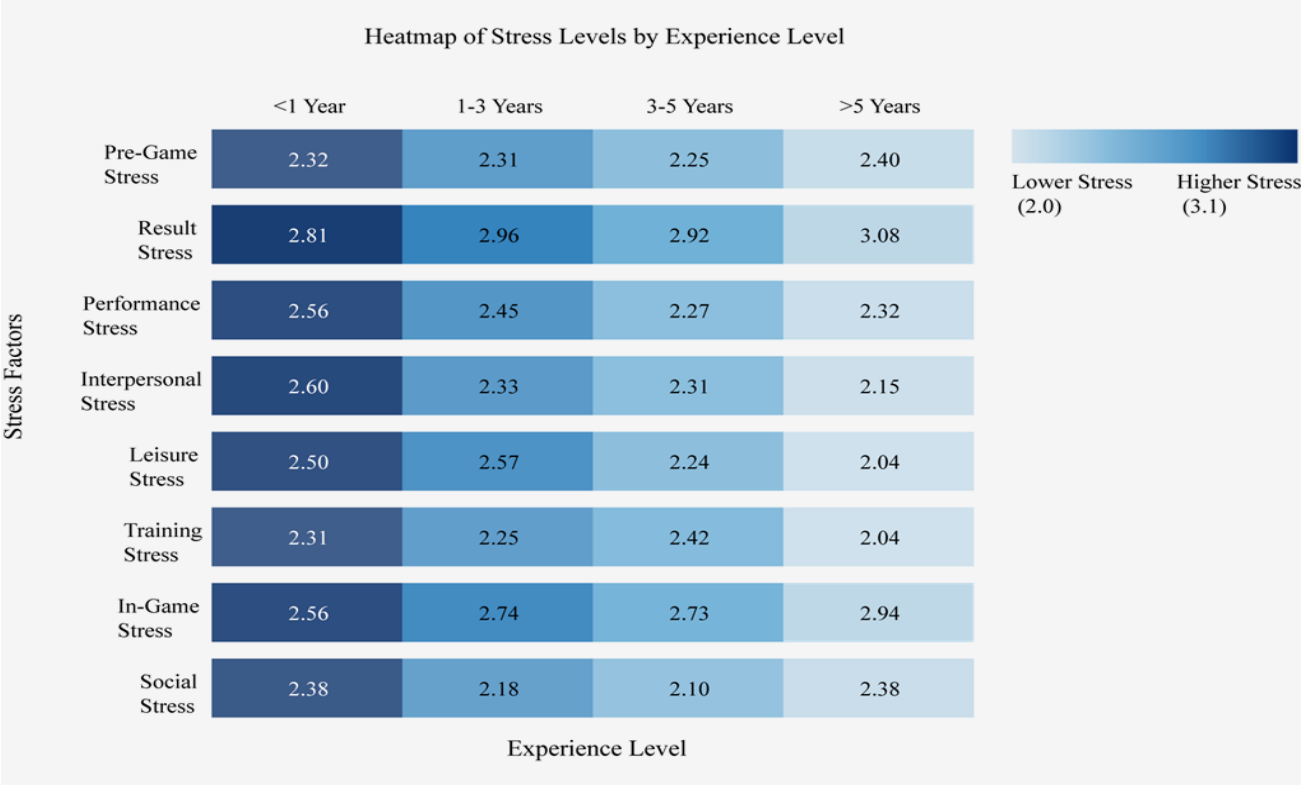

Figure 5. Heatmap of stress levels by experience level. The data shows varying patterns of stress factors across different experience groups.

DISCUSSION

Implications of Stress Factors on Youth Athletes

The results of this study highlight the significant impact of various stress factors on youth soccer players in South Korea. Specifically, Pro Youth players exhibited higher stress levels related to performance (M = 2.88, SD = 0.73) and training (M = 2.75, SD = 0.72), aligning with findings from previous studies that emphasize the pressures associated with competitive youth sports (Gould et al., 1993; Olmedilla et al., 2019). These elevated stress levels suggest that the increased demands of competitive training and high expectations

contribute significantly to the overall stress burden on young athletes. A study by Nobari et al., (2021) on youth soccer players further supports this, showing significant stress differences across playing positions.

The high stress observed in midfielders can be attributed to their critical role in both defense and offense, requiring constant decision-making, physical exertion, and strategic play. This dual responsibility places them under continuous psychological and physical strain, which aligns with findings in similar contexts where positional roles contribute significantly to stress variation (Smith et al., 1990).

Comparison with Existing Literature

The findings of this study are consistent with the broader literature on youth sports, which indicates that performance anxiety, interpersonal conflicts, and training pressures are prevalent stressors among young athletes (Scanlan et al., 1991). However, this study uniquely identifies how these stress factors are amplified within South Korea's competitive youth soccer culture. The cultural emphasis on success and performance in South Korea likely amplifies the psychological burden on young athletes, necessitating culturally sensitive stress management approaches.

Practical Implications and Interventions

Given the identified stress factors, several tailored interventions are recommended to help manage stress among youth soccer players. Relaxation training, cognitive-behavioral techniques, and structured leisure activities have been shown to be effective in reducing performance anxiety and overall stress (Hanton et al., 2005; Gledhill et al., 2017). Coaches should receive training to recognize signs of stress in their players and incorporate stress-reducing practices into their coaching strategies, such as modifying training intensity and providing positive reinforcement.

Role-specific support mechanisms are also crucial, particularly for high-stress positions like midfielders. Individualized psychological support tailored to specific positional demands can help mitigate the heightened stress levels observed among these players. Integrating psychological skills training into routine practices can empower players with tools to manage competitive pressures effectively.

Long-Term Impacts and Future Directions

The implications of stress on youth athletes extend beyond immediate performance issues. Chronic exposure to high stress levels can lead to burnout, dropout from sports, and long-term mental health issues (Côté et al., 2007). Therefore, implementing consistent and long-term stress management strategies is essential for sustaining youth athletes' engagement and well-being. Future research should consider longitudinal studies that examine the effectiveness of these interventions over time and explore how sustained support can improve both performance and mental health outcomes.

Critical Evaluation and Limitations

Despite the valuable insights provided by this study, several limitations should be acknowledged. The use of self-reported data may introduce biases, such as social desirability bias, which can affect the accuracy of the reported stress levels. Moreover, the convenience sampling method limits the generalizability of the findings to all youth soccer players. Future research should employ more rigorous sampling methods and consider a broader demographic to validate the findings. Additionally, exploring the cross-cultural applicability of the proposed interventions could provide further insights into how stress management strategies might be adapted for different contexts.

Conclusion

This study provides valuable insights into the stress factors affecting youth soccer players in South Korea. By identifying the specific stressors and their impacts, this research underscores the need for targeted stress management interventions tailored to the unique needs of youth athletes in highly competitive environments.

Recommendations

Stress Management Training: Implement educational programs for players, coaches, and parents to recognize and manage stress effectively.
Psychological Support Programs: Provide access to mental health professionals specializing in sports psychology to help players cope with performance-related stress.

Structured Leisure Time: Incorporate leisure and relaxation periods into training schedules to allow players to recover physically and mentally.
Role-Specific Support: Develop tailored support mechanisms based on player positions and experience levels to address specific stressors unique to each role.

Future Research Directions

Future studies should explore the longitudinal effects of stress on youth athletes and assess the

efficacy of different intervention strategies through randomized controlled trials. Additionally, examining the role of cultural factors in shaping stress perceptions and responses among young athletes in different regions could provide further insights.

Conflict of Interest

We declare that the article we have written is not involved in any conflict of interest.

Ethical Statement

This research adhered to ethical standards for studies involving human participants. Ethical approval was obtained from the Jeonju University Institutional Review Board (Approval No. jjIRB-240215-HR-2023-1110).

Author Contribution

Study design, CC and YH; Data collection, CC and YH; Statistical analysis, IC and DK; Data interpretation, CC, IC and DK; Literature search, CC, YH and IC. All authors have read and approved the published version of the manuscript.

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