FUTURITY OF SOCIAL SCIENCE

DOI: https://doi.org/10.57125/FS.2025.06.20.05

How to cite: Yusiphova, N. E. (2025). Psycho-educational factors in athletes' performance and interpersonal relationships. *Futurity of Social Sciences, 3*(2), 97–117. https://doi.org/10.57125/FS.2025.06.20.05

Psycho-Educational Factors in Athletes' Performance and Interpersonal Relationships

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Received: January 22, 2025 | **Accepted:** May 6, 2025 | **Published:** May 31, 2025

Abstract: In the modern era, psychology holds an increasingly vital role in athlete preparation. Its principles are widely integrated across social practices, especially sports. Psychological strategies significantly influence performance. Therefore, exploring psychology's role in addressing diverse training challenges remains a key concern in contemporary athletic development and competitive success. The study aimed to examine how psychological factors and interpersonal relationships affect gymnasts' success, focusing on achievement motivation, mental states, and team dynamics through quantitative and qualitative analysis methods. An observational study was conducted using surveys administered to 110 gymnasts based in Baku. Quantitative and qualitative methods were employed to analyze the impact of interpersonal relationships on performance. Data were processed using SPSS 26 to ensure reliability. Ethical

approval was obtained, and informed consent was secured from all participants. The study analyzed psychological and interpersonal factors among 110 gymnasts aged 7–25 (87.8% female). Achievement motivation levels were predominantly high (49.1%) or extreme (27.3%), with an average score of 18.56. Mental states exhibited moderate aggression (M = 9.42) and rigidity (M = 9.27), while anxiety (M = 8.69) and frustration (M = 6.98) were lower. Significant positive correlations existed among anxiety, frustration, aggression, and rigidity ($p<0.01$). A negative correlation was found between achievement motivation and anxiety ($r = -0.234$, $p < 0.001$), as well as between motivation and negative interpersonal relationships ($r = -0.185$, $p = 0.006$). Additionally, increased negative interpersonal attitudes were strongly linked with higher anxiety and aggression levels ($r>0.63$, $p=0.000$). The study concludes that high achievement motivation and positive interpersonal relationships significantly enhance gymnasts' performance, while anxiety and negative team dynamics hinder it. This study provides novel insights into the psychological profiles of gymnasts in Azerbaijan, an underexplored context. Addressing psychological well-being and fostering supportive environments is crucial for optimizing athletic success and emotional resilience.

Keywords: gymnast's psychology, interpersonal relationship, coaching, personality characteristics, educational programs.

Introduction

Sports psychology plays a crucial role in developing and organizing the educational and training process, specifically focusing on the mental and emotional aspects that influence athletes' preparation for competitions. This study explores how socio-psychological factors, particularly interpersonal relationships, influence gymnasts' performance in competitive settings (Bafirman et al., 2024). The mental state of athletes has become increasingly important, with research showing that up to 35% of athletes experience significant mental health challenges, which can directly impact their performance (Reardon et al., 2019). Understanding and addressing these psychological elements is crucial, particularly in gymnastics, where both individual and team dynamics significantly contribute to success.

Success in technical, physical, and tactical training is only achievable by properly addressing the psyche of athletes. It is impossible to train athletes successfully without considering the psychology of the individual and the team (Martín-Rodríguez et al., 2024). This is particularly true in gymnastics, where the pressure to perform under high stress is immense.

The reasons athletes attribute to their success or failure can differ. Some athletes believe their success or failure is due to internal factors, such as their talent or effort, while others attribute it to external factors like the difficulty of the task or luck. The concept of locus of control and attribution theory explains this dichotomy (Graham, 2020). Locus of control refers to one's general predisposition to perceive control, or lack thereof, across various situations. The extent to which one attributes valued outcomes or reinforcement to either internal or external circumstances

reflects the dimension of locus of control (Locus of Control, 2020). Attribution theory, a framework under social learning theory, emphasizes how individuals interpret and explain their successes or failures (Ajzen, 2002).

Social learning theorists argue that behavior is influenced by the connection between an individual's actions and the reinforcement they receive (Ribes Iñesta & Bandura, 2025). In this context, gymnasts may view their performance as a result of their own abilities or as something determined by external forces such as luck, the environment, or even external expectations (Thornton & Argoff, 2009). Athletes with an internal locus of control tend to believe their successes and failures are due to their own efforts and abilities, while those with an external locus of control attribute outcomes to external factors like chance or difficult circumstances (Amar et al., 2023; Holden et al., 2019).

A coach or trainer can enhance self-confidence and self-efficacy in their athletes by encouraging them to make positive attributions for both success and failure. Athletes who underwent attribution training showed significant reductions in fear of failure and self-criticism, thereby decreasing their negative emotions, enhancing their positive emotions, and improving their self-efficacy during sports performance (Huang et al., 2025). Athletes who experience success should be encouraged to attribute it to stable internal factors, thereby reinforcing their pride and confidence. In contrast, athletes who encounter failure should be guided to attribute it to unstable and internal causes, helping them understand that failure is not a permanent outcome. It is crucial not to support the constant use of external and unstable attributions (such as luck) for failure, as this can lead to a mindset where athletes feel powerless and externalize their challenges, which may prevent them from improving (Rees et al., 2005). This nuanced understanding of attribution theory, along with its application to the psychology of gymnasts, is crucial for enhancing performance and promoting mental well-being in competitive settings.

Research Problem

The existing body of research demonstrates that various methods of managing situational anxiety significantly influence the psychological preparation of gymnasts, particularly in reducing stress experienced during competition. However, despite these findings, several research gaps remain unaddressed.

Firstly, while psychological skills training (PST) techniques such as relaxation, cognitive restructuring, and energizing have shown effectiveness in managing competitive anxiety and enhancing performance, there is limited research on the development and implementation of comprehensive socio-psychological intervention programs explicitly tailored for gymnasts to improve their adaptation to competitive environments and social dynamics within teams. Most studies focus on isolated psychological skills rather than integrated intervention models that encompass social and psychological aspects simultaneously.

Secondly, the differential impact of anxiety management techniques on various subgroups of gymnasts, such as differences by competitive level, gender, and age, remains underexplored.

For instance, research indicates that female gymnasts may experience higher competitive anxiety than males, and that anxiety levels vary between compulsory and optional level gymnasts. Yet, targeted interventions addressing these distinctions are scarce.

Thirdly, the role of social psychological factors such as teamwork organization, social relations, and athletes' self-assessment of psychological qualities in mediating the effectiveness of anxiety management strategies has not been sufficiently investigated. Existing studies emphasize individual psychological skills but often omit how social interventions can enhance these skills and overall athlete well-being.

This paper aims to fill these gaps by developing and evaluating social psychological intervention programs that not only address situational anxiety through psychological skills training but also foster socio-psychological preparedness. It aims to create conditions for improved environmental adaptation, enhanced teamwork, and more effective social interactions among gymnasts, thereby enhancing their competitive performance and psychological resilience. By integrating social psychological dimensions with anxiety management, this research advances beyond prior studies that predominantly focus on individual psychological techniques.

In summary, the research problem addressed is the lack of comprehensive socio-psychological intervention programs specifically designed for gymnasts that combine anxiety management with social adaptation and teamwork enhancement. This study contributes to closing this gap by proposing and testing integrative programs, thereby supporting gymnasts' holistic psychological preparation.

Research Focus

The primary purpose of the study is to assess the impact of social psychological factors on athletes' achievement.

Research Aim and Questions

The purpose of this research was to identify the social psychological factors that influence the success of gymnasts using psychological methods. The following hypotheses were formulated in response to the research questions.

H0- Is there any relation between the success of gymnasts in sports competitions and the psychological awareness, characteristics of coaching?

H1- There is a positive relation between the success of the gymnasts and effective socio-psychological relationships, interpersonal relationships in the team, family and among peers.

Literature Review

Personality Traits and Athletic Success

The literature highlights the complex relationship between personality traits and athletic success, emphasizing the Big Five factors: extraversion, agreeableness, conscientiousness, neuroticism, and openness. Studies suggest these traits, alongside motivation, resilience, and self-efficacy, influence sports performance. Understanding these dynamics aids in developing targeted coaching strategies and psychological interventions to optimize athlete selection, training, and mental preparation(Kumbar, 2024). Research consistently highlights personality traits such as self-confidence, motivation, and resilience as key psychological factors influencing athletic performance. A study emphasizes self-confidence as a critical determinant, enabling athletes to manage competitive pressure effectively and enhance performance outcomes (Antonio, 2023). Research further explored multidimensional perfectionism, revealing complex interactions between perfectionistic tendencies and performance, suggesting that personality traits can both facilitate and hinder success depending on context (Pang et al., 2020). However, many studies rely on small or homogeneous samples, which limits their generalizability. For example, Redmond (2023) focused on the negative impacts of coaching but had a limited sample diversity, which constrains the applicability of the findings across different sports and cultures. This gap underscores the need for broader, more inclusive research designs (Redmond, 2023).

Mental Health Challenges in Athletes

The Mental Health Model (MHM) of sport performance asserts that mental health challenges are negatively associated with athletic success, emphasizing that psychological disorders, such as depression, anxiety, and disordered eating, can significantly hinder performance. The American Medical Society for Sports Medicine supports this view, emphasizing the importance of integrated psychological care within athletic teams. Their evidence-based guidelines recommend collaborative efforts among team physicians, athletic trainers, and mental health professionals to address personality factors, injury-related psychological responses, and broader environmental influences such as bullying, sexual misconduct, and identity issues. By identifying and managing conditions like overtraining syndrome, sleep disturbances, and ADHD, these best practices aim to safeguard athlete well-being and optimize performance outcomes, in alignment with the MHM framework (Chang et al., 2020a). Contemporary studies emphasize the importance of emotional intelligence, including self-awareness, self-regulation, and empathy, in fostering mental resilience and well-being, which in turn supports athletic performance (Josh, 2024)—introduced the concept of an athlete thriving, which combines high well-being with sustained performance, facilitated by supportive interpersonal relationships and positive coaching environments (Purcell et al., 2022). Yet, much of this research is concentrated in Western contexts, with limited exploration of how cultural factors, such as those in Azerbaijan, influence mental health and performance dynamicsThis study explores how sports participation influences academic motivation among Bahraini university students, emphasizing resilience as a key mediator. Using Self-Determination

Theory and structural equation modelling, results show sports indirectly enhance motivation through resilience. Findings support the integration of sports into education to foster resilience and improve academic outcomes (Ahmed et al., 2018).

Socio-Psychological Factors and Interpersonal Relationships

Interpersonal relationships, particularly those between athletes and coaches, have a significant impact on motivation, mental health, and performance. Supportive coaching styles that promote autonomy, competence, and relatedness align with Self-Determination Theory and enhance intrinsic motivation and well-being (Longakit et al., 2024). Conversely, emotionally abusive coaching behaviors are associated with increased student-athletes' willingness to cheat and diminished perceptions of team inclusion and satisfaction, highlighting significant ethical concerns. In contrast, ethical leadership positively influences athletes' college choice satisfaction and perceptions of an inclusive team climate, reinforcing the importance of supportive team dynamics in fostering motivation and psychological well-being (Yukhymenko-Lescroart et al., 2014). However, distinctions between individual and team sports contexts remain underexplored, as initial research suggests that they involve differing stressors and coping mechanisms.

Motivation, Concentration, and Psychological Skills

Motivation, both intrinsic and extrinsic, is a fundamental driver of athletic performance. Intrinsically motivated athletes engage more deeply with training and persist through challenges, while extrinsic motivators can provide additional incentives. Concentration and mental toughness are also crucial, enabling athletes to maintain focus and recover from setbacks (Alexander et al., 2023). Psychological training incorporating goal setting, mental imagery, relaxation, and positive self-talk has been shown to enhance these skills, yet integration of such psycho-educational interventions into routine training remains inconsistent (Abou Elmagd, 2019). Moreover, many foundational studies date back several decades; recent research (post-2015) has begun to refine these constructs with more nuanced, culturally sensitive approaches (Borrego et al., 2025).

Howell and others investigated the relationship between weight concerns and gymnasts' quality of life (Howell et al., 2023). They examined the anxiety level of the gymnasts, and the 73 participants were between 8 and 18 years old. They were members of the gymnastics clubs. They also completed the Generalized Anxiety Disorder (GAD-7) questionnaire. 15% of the participants reported worrying about their weight based on the survey material (GAD-7). The authors highlighted the association between age, anxiety, and weight concerns in child and adolescent gymnasts. The recommendations were for the healthcare providers to screen for weight concerns and increased anxiety in older gymnasts, and consider this point in their programs (Little et al., 2023).

In Azerbaijan, a study explored the psychophysiological state of the athletes. According to the authors, general psychological preparation is the basis in sports and is valued in many other types of human activity. Specific psychological preparation involves focusing on the development of athletes' mental qualities and personality traits, enabling them to achieve success in

specialized, specific conditions of sports activity (Shakhtakhtinskaya et al., 2021). Based on the analysis of the conducted studies, we can conclude that the relationship between psychological characteristics and gymnasts' performance may depend on other factors, such as gender, age, and cultural background. Therefore, studying these relationships can be a practical approach for future research.

It is impossible to disagree that demonstrating social support for gymnasts by coaches, team members, and spectators can be important in their personal development. However, the competitive environment they create can create a one-way process of personal development that can lead to gymnasts leaving the arena prematurely (White & Bennie, 2015). According to the analysis of the scientific and methodological literature on the problem of socio-psychological preparation of gymnasts, it became clear that the foundations for the establishment of specific psychological preparation for a particular competition in artistic gymnastics have not been sufficiently clarified.

Research Methodology

General Background / Research Design

The study was observational in nature, focusing on the impact of interpersonal and intra-team relationships on the performance of gymnasts from various sports academies in Baku, as well as members of the National team. Data was collected through surveys and analyzed to understand how these relationships influence success. The study employed both quantitative and qualitative methods, enabling a comprehensive exploration of the factors at play.

Participants / Sample

The sample consisted of 110 gymnasts from different sports academies in Baku, including members of the National team. Participants were selected using a convenience sampling method, which involved choosing individuals from readily accessible groups. The sample included a wide age range (7–25 years) and had a gender distribution of 87.8% female participants. The inclusion of such a broad age range enabled an analysis of how interpersonal dynamics may vary across different developmental stages. The gender imbalance may influence the results, as it could skew the findings towards female experiences in gymnastics, which is a predominantly female-dominated sport. It may not fully represent the male gymnast experience.

Data Collection

Data was collected using a structured questionnaire designed to assess various parameters, including motivation for success, mental states, and the athletes' attitudes toward upcoming competitions. The questionnaire was structured to ensure consistency in the responses and facilitate statistical analysis, allowing for a comparison of responses across different participants.

Data Analysis

Data analysis involved both quantitative and qualitative methods. Quantitative data was analyzed using SPSS 26 software, where various statistical tests were conducted, including Pearson correlations to identify relationships between variables and t-tests to compare groups. These methods were chosen to assess the strength of the relationships between interpersonal factors and performance outcomes in gymnasts. The adequacy of results was evaluated using standard statistical tests, which helped determine the reliability and validity of the findings. The analysis was conducted to ensure that the results were meaningful and applicable to the broader population of gymnasts.

Ethical Considerations

Ethical considerations were a crucial aspect of the study. Informed consent was obtained from all participants, and the relevant ethics board approved the study. The participants were assured that their responses would remain confidential and that their participation was voluntary. Additionally, the study adhered to ethical guidelines to ensure that no harm was caused to the participants and that their well-being and privacy were protected throughout the research process.

Limitations

Several limitations were noted. The sample was restricted to Baku-based National team gymnasts, limiting broader representation. Future studies should include athletes from other cities and regional clubs to provide a more comprehensive understanding of the phenomenon. Additionally, the study focused solely on social relationships, overlooking other factors like training methods, physiology, and environment, which merit further exploration.

Results

Motivation for Success

The study measured the achievement motivation of the gymnasts using a scoring system, which revealed varying levels of motivation among the respondents. Table 1 presents the distribution of motivation levels among the respondents. The results indicated that none of the respondents had low achievement motivation. The majority of respondents exhibited high to extremely high motivation, with 49.1% (54 participants) showing high motivation and 27.3% (30 participants) demonstrating extremely high motivation. The average score for achievement motivation was 18.56 points, with a range from 11 to 24 points.

Table 1

Distribution of Gymnasts' Motivation for Success as a Psycho-Educational Factor in Athletic Performance

Success Indicators	Frequency	Percent	Valid Percent	Cumulative Percent

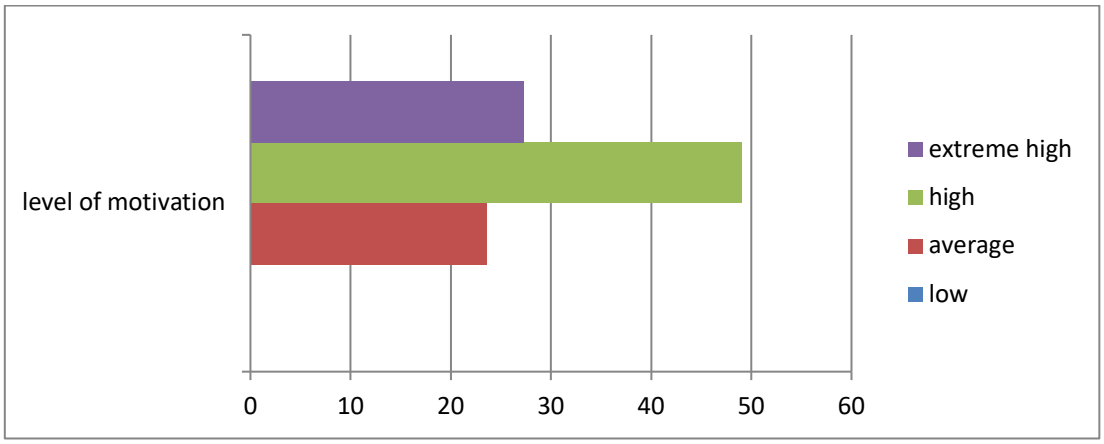
Average	26	23.6	23.6	23.6
High	54	49.1	49.1	72.7
Extreme High	30	27.3	27.3	100.0

Source: Author's own development.

The distribution of motivation levels is shown in Figure 1, illustrating a clear tendency toward high and extreme motivation among gymnasts. The level of motivation was measured at 4 levels: weak, medium, high, and extremely high. None of the respondents had low achievement motivation. The participants' achievement motivation was at medium, high, and extremely high levels. While 23.6% (26 people) of the participants had an average level of motivation for success, 49.1% (54 people) had a high level of motivation, and 27.3% (30 people) had an extremely high level of motivation.

Figure 1

Levels of Motivation as a Psycho-educational Factor Influencing Athletes' Performance and Interpersonal Relationships



Source: Author's own development.

Mental States

Table 2 presents the distribution of aggression levels among participants. The majority, 58 individuals (52.7%), exhibited a medium level of aggression. A lower level of aggression was observed in 38 participants (34.5%), while the smallest group, comprising 14 individuals (12.7%), demonstrated the highest level of aggression. The cumulative percent column shows the progressive total, indicating that 87.3% of participants fall within low to medium aggression levels. This suggests that most individuals in the sample display manageable aggression, with only a minority reaching high levels. The table effectively highlights the prevalence of different aggression intensities in the studied population.

Table 2

Distribution of Aggression Levels Among Athletes

Level of Aggression	Frequency	Percent	Valid Percent	Cumulative Percent

Low	38	34.5	34.5	34.5
Medium	58	52.7	52.7	87.3
High	14	12.7	12.7	100.0

Source: Author's own development.

Correlation Between Mental States

Table 3 presents the Pearson correlation coefficients among four key psycho-educational variables: anxiety, frustration, aggression, and rigidity in athletes (N = 110). The results indicate significant positive correlations between anxiety and frustration ($r = .545$, $p < .01$), anxiety and rigidity ($r = .550$, $p < .01$), as well as frustration and rigidity ($r = .292$, $p < .01$). Aggression also shows significant but weaker correlations with anxiety ($r = .140$, $p < .05$), frustration ($r = .146$, $p < .05$), and rigidity ($r = .405$, $p < .01$). These findings highlight the interconnected nature of emotional and behavioural traits influencing athletes' performance and relationships.

Table 3

Correlation Between Anxiety, Frustration, Aggression, and Rigidity as Psycho-educational Variables in Athletes

		Anxiety	Frustration	Aggression	Rigidity
Anxiety	Pearson Correlation	1	.545**	.140*	.550**
	Sig. (2-tailed)		.000	.039	.000
	N	110	110	110	110
Frustration	Pearson Correlation	.545**	1	.146*	.292**
	Sig. (2-tailed)	.000		.030	.000
	N	110	110	110	110
Aggression	Pearson Correlation	.140*	.146*	1	.405**
	Sig. (2-tailed)	.039	.030		.000
	N	110	110	110	110
Rigidity	Pearson Correlation	.550**	.292**	.405**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	110	110	110	110
**. p< 0.01					
*. p<0.05 (2-tailed)					

Source: Author's own development.

Interplay Between Achievement Motivation, Psychological States, and Interpersonal Relationships in Athletes

Table 4 illustrates the Pearson correlation between achievement motivation and negative interpersonal relationships among athletes (N = 110). The results reveal a significant negative correlation ($r = –.185$, $p < .01$), suggesting that higher levels of achievement motivation are

associated with fewer negative interpersonal interactions. This inverse relationship underscores the potential of achievement-driven attitudes to foster more constructive and harmonious social dynamics in athletic settings. The findings support the role of psychological motivation not only in enhancing performance but also in promoting healthier interpersonal relationships, which are essential for team cohesion and overall athletic success.

Table 4

Correlation Between Achievement Motivation and Negative Interpersonal Relationships Among Athletes

		Achievement motivation	Negative interpersonal relationship
Achievement motivation	Pearson Correlation	1	-.185**
	Sig. (2-tailed)		.006
	N	110	110
Negative interpersonal relationship	Pearson Correlation	-.185**	1
	Sig. (2-tailed)	.006	
	N	110	110
** p< 0.01			

Source: Author's own development.

Discussion

Motivation for Success

A significant portion of the gymnasts exhibited high to extreme achievement motivation. Specifically, 49.1% of the participants displayed high motivation, while 27.3% demonstrated extremely high motivation. The average achievement motivation score was 18.56, with scores ranging from 11 to 24 points. Notably, none of the participants reported low achievement motivation, suggesting that the athletes in this study were generally driven and committed to success. This finding highlights the strong internal drive present among the athletes, which is essential for excelling in competitive sports like gymnastics. Similarly, another study found that high achievement motivation is directly correlated with better performance among elite gymnasts, supporting the current study's implication that motivation is a key factor in athletic excellence (Sriwahyuniati et al., 2025). Recent research on world-class gymnastics coaches highlights the crucial role of motivation and goal setting in athlete development. Coaches who excel identify athletes' needs and transform them into motivation, using tailored goal-setting strategies to align with each athlete's abilities (Liu et al., 2024). Amotivated athletes showed significantly higher scores in prohibited substances past use and intentions for future use compared to the intrinsically motivated and extrinsically motivated athletes. Mastery-oriented

athletes showed significantly lower in prohibited substances past use and intentions for future use compared to performance-approach and avoidance-oriented athletes. No differences in prohibited substances past use and intentions for future use were found between athletes with high and low sportspersonship levels (Barkoukis et al., 2011).

Mental States

The mental states of the athletes, including anxiety, aggression, frustration, and rigidity, were assessed in the study. Anxiety levels were relatively low, with an average score of 8.69, indicating that most gymnasts did not experience high levels of anxiety. On the other hand, aggression (M = 9.42) and rigidity (M = 9.27) were observed at higher levels, indicating a more tense and potentially competitive mindset. Frustration levels were lowest, with 64 participants exhibiting no frustration, reflecting high self-confidence. However, some athletes did report moderate levels of frustration and aggression, which may reflect challenges in managing emotions in high-pressure environments. Another study shows that aggression may sometimes enhance performance by increasing arousal, competitiveness, and persistence, which can be beneficial in specific sports contexts. For example, anger induction has been found to improve performance in some physical tasks by activating motivational states (Bibi et al., 2023). However, aggression often undermines performance by causing distraction, increasing stress, anxiety, and impulsivity, and interfering with attentional control. Aggressive behavior can lead to penalties, injuries, and misbehavior, which negatively impact achievement levels, especially in team and individual sports (Iftikhar et al., 2021). Rigidity, characterized by inflexible thinking and behavior, can contribute to a tense and competitive mindset. This may limit an athlete's ability to adapt to changing circumstances during competition, potentially impairing performance. While specific studies on the direct impact of rigidity on performance are less detailed, its association with tension and reduced emotional flexibility suggests challenges in coping with stress and pressure, which are crucial for optimal performance (Patrícia et al., 2019). While moderate aggression can sometimes boost motivation and physical output, excessive aggression and rigidity tend to impair performance by increasing stress, reducing focus, and elevating injury risk. Effective emotional regulation and coping strategies are crucial for harnessing the positive aspects of these traits without succumbing to their adverse consequences (Tossici et al., 2024).

Correlation Between Mental States

A strong relationship was observed between the mental states of anxiety, frustration, aggression, and rigidity, as evidenced by significant correlations ($p<0.01$). This suggests that these psychological factors are interconnected and influence one another. Additionally, a negative correlation between achievement motivation and anxiety was found ($r=-0.234$, $p=0.000$), meaning that as gymnasts' motivation to succeed increased, their anxiety levels tended to decrease. This inverse relationship supports the idea that athletes who are more motivated to succeed are better able to manage anxiety, which is crucial for peak performance in competitive sports. These findings align with a recent study on aesthetic group gymnastics (AGG) athletes, which found that younger gymnasts experienced higher competitive anxiety, while greater

optimism was linked to lower anxiety levels, reinforcing the inverse relationship between motivation/optimism and anxiety. The study also noted that higher team cohesion corresponded with higher optimism, which may buffer anxiety and enhance performance. Conversely, ego involvement was associated with lower cohesion and optimism, potentially increasing anxiety and negative mental states (Armada Martínez et al., 2021). Furthermore, former gymnasts tend to report better quality of life and lower anxiety and depression levels than non-athletes, suggesting long-term benefits of sport participation on mental health and resilience, which may relate to improved management of anxiety and frustration (Dimitriadou et al., 2022).

Interpersonal Relationships and Achievement Motivation

The study also examined the role of interpersonal relationships on the motivation of gymnasts. A negative correlation was found between achievement motivation and negative interpersonal relationships ($r = -0.185$, $p = 0.006$), indicating that athletes with more negative attitudes towards their teammates tended to exhibit lower levels of motivation. This finding highlights the significance of positive team dynamics in fostering individual motivation. Furthermore, negative interpersonal relationships were linked to higher levels of anxiety, frustration, aggression, and rigidity, suggesting that poor team cohesion can exacerbate negative psychological states. The results emphasize that fostering positive, supportive relationships within teams is crucial for optimizing athletes' mental and emotional well-being. Studies show that poor social interactions and hostile relationships contribute to heightened psychological distress, including increased anxiety, frustration, anger, and depression. A narrative review on anger and psychological health highlights that persistent negative emotions like anger often lead to social isolation and loneliness, which exacerbate anxiety and frustration. Individuals with sustained anger tend to experience antagonistic social environments, reinforcing negative emotional states and increasing vulnerability to mental disorders such as generalized anxiety, depression, and social phobia. This cycle of negative interpersonal interactions and emotional distress creates a feedback loop that worsens mental health outcomes (Palop-Larrea, 2024). Moreover, anger, anxiety, and depression frequently co-occur, forming a cluster of negative affectivities. This triad perpetuates maladaptive behaviors and psychological disorders, with anger playing a central role in exacerbating anxiety and frustration. Studies have also linked poor anger regulation and frustration with increased risk behaviors and poorer adherence to healthy lifestyle practices, further impacting mental and physical health. Additional research during the COVID-19 pandemic further underscores the impact of social stressors and negative relationships on mental health, reporting significant increases in anxiety and frustration worldwide due to isolation and disrupted social support (Xiong et al., 2020). Research highlights the crucial role of social support from family, friends, and significant others in mitigating stress and enhancing mental health outcomes. Emotional support provides a sense of care and security, instrumental support offers practical help, and informational support gives guidance to manage stressors effectively. These forms of support reduce perceived stress, which mediates the relationship between social support and lower anxiety and depression levels. Mental health interventions that actively engage

social networks tend to be more effective in fostering positive affect and reducing emotional distress (Acoba, 2024).

Impact of Psychological Factors

The study highlighted the significant influence of psychological factors, including anxiety, frustration, aggression, and rigidity, on athletes' success. These factors not only affected individual performance but also influenced team dynamics. The strong correlations between negative mental states and poor interpersonal relationships suggest that psychological well-being is key to both individual and team success. Therefore, coaches and trainers need to address these mental factors by fostering positive psychological environments, providing emotional support, and focusing on both individual and team motivation to improve overall performance. A 2024 study on Nepalese athletes found that motivation, dedication, and satisfaction are positively correlated with sports performance, while stress and anxiety hurt it. Interestingly, group dynamics showed no significant direct effect on performance, though psychological well-being remains crucial. This complements the original study's emphasis on addressing mental factors to improve outcomes (Acharya, 2025). Research on athletic mental energy (AME) published in 2024 reveals that emotional components, such as vigor, calmness, and tirelessness, have a positive relationship with both performance and psychological well-being. AME helps athletes manage stress and burnout, supporting the idea that positive psychological states enhance both individual performance and well-being (Giles et al., 2020; Singh et al., 2024). Reviews of psychological complexities in sports emphasize the multifaceted impact of mental states on performance and well-being, highlighting anxiety, self-esteem, and motivation as key factors influencing athletic outcomes (Baniasadi & Salehian, 2021). Studies also underline the importance of psychological skills training to help athletes cope with stress, manage emotions, and maintain motivation, which in turn improves performance and mental health (Chang et al., 2020b).

Implications of the Study

Theoretical Implications

This study expands the theoretical understanding of how socio-psychological factors, particularly interpersonal relationships and mental states (such as anxiety, frustration, aggression, and rigidity), influence athletic success. The observed inverse correlation between achievement motivation and anxiety reinforces and extends the concepts of Attribution Theory and Self-Determination Theory in the context of competitive gymnastics. By empirically validating the link between internal psychological states and external performance outcomes, the study contributes to a more nuanced understanding of athlete development, supporting integrative models that combine cognitive-behavioural and social-learning frameworks.

Practical Implications

For practitioners such as coaches, sports psychologists, and athletic trainers, the findings highlight the importance of fostering a psychologically supportive environment. The significant

role of team dynamics, emotional regulation, and positive interpersonal interactions suggests that beyond technical training, coaches must also act as mentors who cultivate emotional resilience. Intervention programs targeting motivation enhancement, anxiety reduction, and team cohesion could substantially improve performance outcomes and mental well-being.

Policy Implications

At a policy level, these results support the integration of psychological services into youth sports academies and national training centres. Institutional policies may mandate periodic psychological assessments, training in emotional intelligence, and ongoing evaluations of the coach-athlete relationship. Additionally, policies that ensure mental health literacy among staff and encourage multidisciplinary collaboration between psychologists, coaches, and medical teams could help mitigate psychological distress and promote sustainable athletic development.

Advancement in the Field

The study is among the few that bridges cultural specificity (in the Azerbaijani context) with broader psychological frameworks. By doing so, it contributes localized empirical evidence to the global discourse on sports psychology, particularly in underrepresented regions. It also proposes an integrative model of intervention combining social, emotional, and motivational components—a direction that previous research has often approached in isolation.

Limitations

One of the primary limitations of this study is the sampling method. Participants were selected using convenience sampling from Baku-based sports academies and the National Team, limiting the generalizability of the results. As such, regional variations in coaching styles, team culture, and access to psychological support outside Baku were not accounted for, which may skew the findings toward the experiences of elite urban athletes.

The research tools primarily focused on social relationships and basic psychological metrics (e.g., motivation, anxiety, aggression), but did not incorporate physiological or environmental variables that also significantly affect athletic performance. Tools assessing coach behavior, parental involvement, or stress biomarkers would have enriched the multidimensional understanding of the gymnasts' experiences.

With over 87% of the participants being female, the findings are largely representative of female gymnasts experiences, which may not be directly transferable to male athletes. Additionally, the influence of cultural norms and stigma surrounding mental health in Azerbaijan may have affected the honesty or depth of responses, particularly in self-reporting tools.

Due to the study's urban, predominantly female, and elite-level participant pool, the generalizability of the findings is limited. Coaches and policymakers should exercise caution when extrapolating these results to recreational gymnasts, athletes from rural areas, or those involved in different sports disciplines without further validation.

Conclusions

The study revealed that gymnasts' motivation for success was distributed across three levels: medium, high, and extremely high, with a significant portion of the participants exhibiting high and extreme motivation. Regarding mental states, aggressiveness and rigidity were found to be at higher levels (M=9.42 and M=9.27), while anxiety (M=8.69) and frustration (M=6.98) were relatively low. Notably, 58.18% of gymnasts demonstrated no frustration and high self-confidence, while 1.85% exhibited high frustration and low self-confidence. A direct relationship was identified between the four mental states (anxiety, frustration, aggression, and rigidity), and the correlations between these variables were statistically significant at the 0.01 and 0.05 levels.

The study also highlighted an inverse relationship between achievement motivation and anxiety (r=-0.234, p=0.000), indicating that higher motivation is associated with lower anxiety levels. This suggests that enhancing athletes' motivation may help in reducing anxiety, potentially improving performance.

This research offers valuable insights into how psychological factors impact gymnasts' performance, highlighting the importance of addressing both mental and emotional aspects in training. For athletes, coaches, and sports psychologists, the findings underscore the importance of cultivating positive mental states and self-confidence while mitigating frustration and anxiety. By promoting healthy interpersonal relationships and motivation, coaches can help athletes improve both individual performance and team dynamics. This study contributes to the field by shedding light on the significant role of psychological factors in sports, offering practical applications for optimizing athlete well-being and success in competitive environments.

Suggestions for Future Research

The findings of this study underscore the significance of socio-psychological factors, including communication, interpersonal relationships, and coaching style, in influencing gymnasts' psychological readiness and performance outcomes. Future research should explore in greater depth how different coaching approaches and peer dynamics influence the development of self-efficacy and emotional resilience in gymnasts. Additionally, longitudinal studies are needed to assess how sustained exposure to positive or negative sports environments affects athletes' psychological health over time.

There is also a need for interdisciplinary approaches that integrate psychological, pedagogical, and sociological perspectives to better understand the complex system of relationships surrounding gymnasts. Such approaches could analyse individual and situational responses in competition settings, contributing to a more holistic model of psychological preparation.

Furthermore, future research could investigate how communication strategies—used by both coaches and peers—serve as predictors of mental well-being and performance under pressure. Exploring these variables across different levels of competition and cultural contexts

may provide valuable insights into the development of effective training environments. Understanding how socio-psychological support impacts both individual achievement and team cohesion will be essential for designing athlete-centered coaching practices and improving mental health outcomes in sport.

Acknowledgements

The research was conducted at Baku State University, Faculty of Social Science and Psychology. The author expresses her gratitude to the faculty, department staff, and participants.

Funding

None.

Conflict of Interest

The author declare that they have no conflict of interest. Each participant signed the consent form.

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