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The relationship between personality traits and risky decisions in football: a study of conscientiousness and agreeableness

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Abstract. Although the study of personality has developed so much in recent times, little is known about how personality traits affect the risky decision-making of athletes. The main purpose of this research is to identify the possible influences of conscientiousness and agreeableness as personality traits on risky decision-making in soccer. The first research hypothesis is to verify whether there is a relationship between conscientiousness as a personality trait and the instrumental risk level of soccer players. The second hypothesis investigates whether there is a possible relationship between the level of agreeableness as a personality trait and the risk of stimulation. The data were examined within a sample of 60 soccer players (N=60). The information in the study is based on quantitative data collected from the two questionnaires used in the test, namely the Five-Factor Personality Inventory (FFPI) Questionnaire and the Romanian adaptation of the Makarowski Risk Factor Questionnaire. After analyzing and processing the data, a significant correlation between conscientiousness and instrumental risk was identified, these being negatively correlated at a significance level of (sig 0.007, $p > 0.05$). Also, a significant negative correlation (sig 0.013, $p > 0.05$) was observed between the level of agreeableness and the risk of stimulation. These findings highlight important insights into conscientiousness, agreeableness, and risky behaviors. Furthermore, the data provides valuable information for player development strategies and the management of risky behaviors in the game of soccer. However, more research is needed to explore these relationships further.

Keywords: personality, decision-making, football, risk,

1. Introduction

1.1. Personality in sport

One striking observation about individuals is the profound differences between them. For example, some are highly sociable, while others are more reserved. Some have an active and energetic temperament, whereas others are more sedentary. Additionally, some individuals are frequently anxious, while others rarely experience anxiety. Words like “active,” “sociable,” “quiet,” or “anxious” are commonly used to describe people around us, and in doing so, we are essentially referring to aspects of their personality (Brewer, 2019).



To introduce the early understanding of personality, we must travel back over 2,000 years to Ancient Greece, where philosophers theorized that various body fluids could influence personality in distinct ways (Ashton, 2022). For instance, the Greek philosopher Hippocrates identified four temperaments: sanguine, melancholic, phlegmatic, and choleric. These temperaments were later linked to personality traits in contemporary models, such as associating the sanguine temperament with emotional stability (Kabigting Jr., 2021).

The intuition of the ancients holds some truth, as modern research has significantly advanced our understanding of the biological foundations of personality. Through systematic scientific efforts, numerous studies have explored the relationship between personality and brain function, as well as the influence of various substances in the human body, such as hormones and neurotransmitters (Ashton, 2022).

To have a deeper understanding of this field, we will begin by examining some of its key characteristics, starting with the definition of personality. One definition describes personality as the combination of psychological traits that shape an individual's consistent and unique patterns of feeling, thinking, and behavior (Pervin & Cervone, 2010). Similarly, Allport defines personality as "a dynamic structure of psychophysical systems within a person that shapes their behavior, thoughts, and feelings" (Allport, 1961, p. 48). In other words, personality represents enduring individual differences through predispositions in cognition, emotion, and behavior (Wilson & Dishman, 2014).

Focusing on more recent history, the origins of the Big Five model trace back to the early 20th century when psychologists analyzed personality-related terms from various dictionaries and uncovered an inherent structure of personality traits. Factor analyses narrowed these traits into the five dimensions we recognize today: extraversion, agreeableness, conscientiousness, neuroticism, and autonomy (Babcock & Wilson, 2020). When the Big Five model emerged in the early 1990s, it was perceived as filling a gap left by the absence of a unified model. However, it faced significant opposition, particularly from Eysenck (1992), who argued that traits such as agreeableness, aggressiveness, conscientiousness, impulsiveness, and sensation-seeking are either subcomponents of extraversion, neuroticism or psychoticism or arise from combinations of these three traits (Zuckerman et al., 1993).

These personality dimensions have been associated with various individual attributes, such as the capacity to handle challenging situations and maintain emotional stability (Habib, Waris & Afzal, 2019). Many psychologists who study personality advocate for the five-factor model as a framework that effectively captures the fundamental individual differences in personality traits (Soto & Jackson, 2013). Moreover, it is proposed that while all individuals share the same core traits regardless of gender, culture, or age, the degree to which these traits manifest can vary (Novikova, 2013).

In the context of personality research in sport, studies suggest that athletes characterized by agreeableness are consistently willing to assist others, avoid conflicts, and prioritize maintaining harmonious relationships with teammates (Trninić, Trninić, & Penezić, 2016). These individuals display an attitude of prosocial behavior, finding joy in supporting fellow athletes (Caprara et al., 2010). Additionally, research indicates that individuals with higher levels of extraversion are more inclined to take risks, often opting for high-risk sports (Terwiel & Kritzler, 2021).

Research highlights differences in agreeableness between younger and senior team athletes. Seniors tend to exhibit higher levels of agreeableness, which is marked by traits such



as altruism, trust, cooperation, conflict avoidance, sincerity, modesty, and a prosocial orientation. These characteristics are particularly valuable in team sports, where collaboration and harmonious interactions are essential (Trninić, Trninić, & Penezić, 2016).

Throughout history, agreeableness has been explored, with Aristotle addressing its moral significance in *Nicomachean Ethics*. He viewed it as a virtue that can be cultivated for civic participation (Graziano & Tobin, 2017). Unlike other personality traits, such as extraversion or neuroticism, agreeableness initially received little attention due to a lack of deductive theorizing and its weaker connection to biological and observable processes, like anxiety. Unlike extraversion, agreeableness was not initially linked to specific psychological processes in the brain (Graziano & Tobin, 2017).

Agreeableness is typically associated with qualities such as compassion, politeness, empathy, conformity, and modesty (McAdams, Shiner & Tackett, 2018). Like the other traits in the Big Five model, agreeableness exists on a bipolar scale. Individuals who score low on agreeableness often exhibit tendencies toward aggression, manipulation, hostility, insensitivity, and opposition (McAdams, Shiner & Tackett, 2018). This trait encompasses a tendency to cooperate with others rather than being suspicious or antagonistic. Measuring agreeableness can indicate whether someone is generally temperate and trusting or not. It can also reveal the degree to which they are helpful and willing to trust others (Joshi & Bhardwaj, 2016).

Conscientiousness, another dimension of the Big Five personality model, is characterized by an individual's level of organization, persistence, and motivation in pursuing goal-directed behaviors (McCrae & John, 1992; Ansari, 2003). Words commonly used to describe conscientiousness include orderly, practical, prompt, neat, and meticulous (Barrick et al., 2002).

In the context of sports, conscientiousness reflects how disciplined athletes are in training, how focused they remain on tasks, and how well they adhere to rules. Numerous studies have shown a positive correlation between conscientiousness and success in sport (Allen & Laborde, 2014; Piedmont et al., 1999).

Conscientious individuals exhibit a high level of impulse control and are often described as responsible, goal-oriented, determined, reliable, consistent, and capable of completing their assigned tasks (Obrenovic et al., 2022). These individuals also possess strong self-discipline (Costa & McCrae, 1992b) and are highly likely to follow social rules and norms, which encourages cooperative behaviors when such norms prescribe them (MacCann et al., 2009).

Additionally, conscientiousness has been frequently linked to improved job performance and academic success (Poropat, 2014). It is also associated with more rational decision-making and reduced reliance on emotional coping mechanisms, such as guilt, amusement, or disengagement when facing everyday stressors (O'Brien & DeLongis, 1996).

Despite the advancements in physical training that allow athletes to achieve elite levels of performance, the psychological aspect remains a critical factor in competitive sports. When physical abilities are nearly equal between two athletes, personality often becomes the decisive element influencing sports performance (Piepiora, 2021). In summary, varying levels of personality traits profoundly shape the way individuals experience and express feelings, emotions, and behaviors (Nia & Besharat, 2009).

1.2. Risky decisions in sport

It is widely recognized that sports competitions represent unique events that place athletes under significant physical and psychological pressure due to financial and social reasons. These pressures increase the likelihood of problems, such as injuries, for those involved. Professional athletes face a constant risk of injuries or failures during competitions throughout their careers. The most serious risks include health deterioration or even death. Additionally, athletes often encounter the threat of losing their careers, which directly impacts their income and financial stability (Macarovski et al., 2021).

Makarowski et al. (2021) identified two types of risk: instrumental risk and risk as stimulation. Instrumental risk refers to the perception of risk as an opportunity for a positive outcome and is only undertaken when there is a chance of success. This type of risk involves rational decision-making and goal orientation, as athletes focus on securing victory by finding tools to increase their chances of success. On the other hand, risk as stimulation is characterized by seeking heightened sensations. Athletes with a high tendency toward sensation-seeking take various risks—physical, social, or financial—to experience intense emotions and pleasure. For these individuals, the result, whether a gain or loss, is less important than the thrilling experience itself (Paquette et al., 2018; Makarowski et al., 2021).

In recent decades, the study of mental states associated with risky behavior in sports has remained a central point for sport scientists. This research emphasizes that the willingness to take risks in sports varies widely among individuals, largely due to differences in personality traits (Raab & Johnson, 2004).

Rapid social changes have further increased the importance of studying risky behaviors, as these transformations affect thoughts, attitudes, and behaviors, while also influencing how people adapt to their environments. Risk-taking plays a crucial role in adaptation, helping individuals accelerate their transition from adjustment to assimilation. For athletes, this relationship between risk and adaptation can decrease emotional stress and motivate successful outcomes (Popovych et al., 2022).

Risky or non-precautionary behaviors significantly contribute to the occurrence of sport injuries (Stephan et al., 2009). For instance, runners who fail to adapt precautionary measures—such as skipping warm-ups, training excessively, neglecting recovery after an injury, or continuing intense routines despite signs of overuse—are more likely to suffer from severe health consequences (Hreljiac, 2004; Van Mechelen, 1992).

Interestingly, despite the high likelihood of physical or even severe injuries in contact sports, many athletes continue to choose them. While modifying rules in these sports could reduce risks, such changes would fundamentally alter the essence of the sport, which many athletes find unacceptable (Fuller, Junge, & Dvorak, 2012).

Athletes' ability to make independent judgments and take responsibility under challenging conditions demonstrates strong willpower. Determination plays a central role in the relationship between risk-taking and sports. This explains why extreme sports often attract individuals seeking adrenaline-fueled experiences. These athletes engage in dangerous activities to maximize excitement, often rejecting self-control and focusing less on long-term goals. For them, risk represents a perceived challenge or thrill (Popovych et al., 2022).

Professional athletes frequently face risky behaviors, which results in a higher tolerance for occupational risks compared to other professions (Chen, Buggy, & Kelly, 2019). Notably, even though the risks of injuries or health complications are higher in contact sports, a significant number of athletes still choose to participate in them (Fuller, Junge, & Dvorak, 2012).



2. Research methodology

2.1. The purpose of the study

The objective of this study is to identify a possible relationship between personality and risky decisions among athletes. More specifically, to identify the possible correlation between conscientiousness and agreeableness as personality traits and the preference for risky decisions of athletes.

2.2. Research hypotheses

H1: There is a significant relationship between conscientiousness as a personality trait and instrumental risk.

H: 2: There is a significant correlation between agreeableness as a personality trait and risk as stimulation.

2.3. Participants of the study

The sample for the present study consists of athletes engaged in organized sports. The participant group includes 60 male individuals (N = 60) with Romanian citizenship and an average age of 21.95 years. These participants are football players representing clubs competing in the Romanian football championships."

2.4. Research Instruments

Makarowski Risk-Factors Questionnaire

The Instrumental and Stimulation Risk Questionnaire is used to assess how people perceive and interpret risky behaviors. It distinguishes two types of risky behavior: risk as stimulation (S) and instrumental risk (I).

Risk as stimulation is a method of obtaining stimulation through additional physical stimulation. Focusing on activity and sensation seeking by finding highly stimulating situations that gives pleasure, regardless of the result, because the purpose of the activity is to generate a feeling of joy, whether it is won or lost, it does not matter.

Instrumental risk is seen as a chance to achieve a positive outcome. When there is a chance of gain, the risk is assumed. It doesn't matter the stimulation aspect of risk-taking because it is just winning matters. This type of risk requires rational thinking and single-minded focus because people seek tools to increase their probability of future success (Makarowski et al., 2021).

Five-Factor Personality Inventory (FFPI)

The Five-Factor Personality Inventory (FFPI), developed by Hendriks, Hofstee, and Raad (1999), is a personality inventory that was created at the University of Groningen, The Netherlands.

It is designed to assess five main factors of personality, which are Extraversion (E), Agreeableness (A), Conscientiousness (C), Emotional Stability (S), and Autonomy (D). The questionnaire contains 100 items consisting of concrete and short sentences.

It is structured into five scales, each containing 20 questions corresponding to one of the five personality traits. Responses are recorded using a 1-5 Likert scale, ranging from "I agree the least" to "I agree very much."



2.5. Data analysis and interpretation

The study was presented to physical football players at the training bases but also through social networks, where it was not possible to travel to the sports base. To collect data from the participants, a Google Form was created and distributed through different social networks.

Before completing the questionnaire, all participants were informed about the purpose of the study, its initiators, and the research method. Participants were also informed about the confidentiality of responses and contact information. Once the subjects' data were collected, data analysis was performed, for which used an established set of scoring criteria, generating a total score for each question and finally adding up a total score for each scale.

Microsoft Excel was used to record the scores obtained on each scale questionnaire into a table containing information about the participants. Statistical data processing was performed using the IBM SPSS Statistics 20 program.

H1) There is a significant correlation between conscientiousness as a personality trait and risk instrumental.

The mean values for Consciousness and Instrumental Risk are presented in Table 1. Table 2 contains only the significant correlations highlighted.

Table 1. *Descriptive Statistics – Instrumental Risk and Consciousness*

		Statistic	Std. Error
Consciousness	Mean	75,87	1,193
	Std. Deviation	9,242	
Instrumental Risk	Mean	13,63	,545
	Std. Deviation	4,222	

Table 2. *Spearman Correlation – results regarding Consciousness and Instrumental Risk*

			Consciousness	Instrumental Risk	
Spearman's rho	Consciousness	r	1,000	-,346**	
		Sig. (2-tailed)	.	,007	
	Instrumental Risk	r	-,346**	1,000	
		Sig. (2-tailed)	,007	.	
			N	60	60



The data analysis confirms a significant negative correlation between conscientiousness and instrumental risk ($p < 0.05$). This indicates that athletes with lower levels of conscientiousness are more likely to make impulsive, uncalculated, or risky decisions. Conversely, as conscientiousness increases, the tendency to take instrumental risks decreases. Athletes with higher conscientiousness levels approach decision-making more cautiously, carefully evaluating the potential consequences of their actions.

This finding aligns with other studies in the literature. For instance, Jackson and collaborators (2010) concluded that conscientious individuals tend to think carefully before acting. They are detail-oriented and rely on thoughtful deliberation to make beneficial decisions. Tedesqui and Young (2018) similarly revealed that athletes with higher conscientiousness utilize emotion-focused coping strategies more effectively. Similarly, Allen and collaborators (2013) found that conscientiousness plays a role in predicting levels of athletic involvement and the coping strategies athletes employ during competition.

Recent research by Bondár and collaborators (2022) highlights that emotionally stable and conscientious athletes are more mindful of the present moment, maintain a self-focused and non-judgmental attitude, and are more likely to experience positive psychosocial states linked to improved sports performance. Furthermore, a comparison by Piepiora (2021) between champion athletes and non-champions revealed significant differences in conscientiousness, extraversion, neuroticism, and agreeableness. This underscores the idea that success in sports is not solely dependent on physical attributes like genetics or strength but is also heavily influenced by mental skills and personality traits (Tomar & Singh, 2012; Murnieks et al., 2014).

An analysis by Tedesqui and Young (2020) on coaches' perceptions of conscientious athletes found that such athletes exhibit higher levels of self-regulation, including the ability to self-evaluate and self-correct. These findings are consistent with McCrae and Löckenhoff's (2019) perspective, which associates conscientiousness with superior self-regulation capabilities. Athletes with strong self-regulation can control their thoughts and impulses effectively to achieve their goals, aligning with Tedesqui and Young's (2015) concept of impulse control.

Additionally, a study applying the Big Five personality traits to the sport of parkour/free running (Merritt & Tharp, 2013) showed that conscientiousness and neuroticism significantly mediate self-efficacy and risk-taking. These findings emphasize how personality traits shape risk-taking behaviors in high-risk sports and offer valuable insights into understanding extreme sports participants' behaviors.

Athletes with higher conscientiousness levels generally adopt better preparation and coping strategies, minimizing risks and enhancing effectiveness (Rogowska, 2020). Moreover, there is a documented negative correlation between conscientiousness and health-risk behaviors, further demonstrating the protective nature of this trait in sports contexts (Rogowska, 2020).



H: 2: There is a significant correlation between agreeableness as a personality trait and risk as stimulation.

The mean values for Agreeableness and Risk as Stimulation are presented in Table 3. Table 4 contains only the significant correlations highlighted.

Table 3. *Descriptive Statistics – Agreeableness and Risk as Stimulation*

		Statistic	Std. Error
Agreeableness	Mean	75,88	1,089
	Std. Deviation	8,435	
Risk as Stimulation	Mean	13,63	,545
	Std. Deviation	4,222	

Table 4. *Spearman Correlation – results regarding Agreeableness and Risk as Stimulation*

			Consciousness	Instrumental Risk
Spearman's rho	Agreeableness	r	1,000	-,319
		Sig. (2-tailed)	.	,013
	Risk as Stimulation	N	60	60
		r	-,319*	1,000
		Sig. (2-tailed)	,013	.
		N	60	60

After analyzing and interpreting the data, it was found that there is a significant negative correlation ($p < 0.05$) between agreeableness and the risk of stimulation. This means that when agreeableness levels are low, athletes tend to take higher stimulation-related risks, making decisions that prioritize their own physical and psychological stimulation over consideration for others. Conversely, a higher level of agreeableness is associated with reduced risk-taking for stimulation, as such athletes are more cautious, carefully evaluate potential negative outcomes, and take into account the well-being of them and those around them.

These findings align with existing research about personality and risky decisions. For instance, Caprara and collaborators (2010) proposed that agreeableness, as a fundamental personality trait, promotes prosocial behaviors, directly and indirectly, by enhancing self-efficacy beliefs over time. Similarly, research by Trinic and collaborators (2016) emphasizes that agreeableness is essential for task facilitation and goal-oriented behavior. Athletes with



high agreeableness tend to assist others, avoid conflicts, and nurture harmonious relationships. In contrast, athletes with low agreeableness often display aggressive behaviors, provoke conflicts, and show selfish tendencies, relying on group dynamics to resolve disputes rather than fostering cooperation and harmony.

Further supporting this, Habib and collaborators (2019) found that agreeableness positively correlates with sports performance. Additionally, Zhang and collaborators (2019) demonstrated a significant positive relationship between agreeableness and self-control, suggesting that agreeableness forms the basis for achieving optimal performance and contributes to the overall well-being and healthy development of athletes.

Jackson and collaborators (2010) analyzed athlete-to-athlete relationships and found that athletes were more committed to their sports partnerships when they or their partners were perceived as agreeable, conscientious, or open to new experiences.

Agreeableness also plays a significant role in coach-athlete relationships. Jackson and collaborators (2011) revealed that both coaches and athletes demonstrated stronger bonds and greater engagement when they perceived themselves or each other as highly agreeable, conscientious, or extraverted.

Limits

One limitation of the study is the absence of other research methods, such as direct observation or recording of the participants' behaviors during competitions. Additionally, using structured interviews could have provided a deeper understanding of the relationship between personality traits and risky behaviors.

Another limitation is that some athletes completed the online questionnaire without guidance, which may have led to misunderstandings of the questions. Furthermore, since we were not present during the completion of the questionnaires, we cannot confirm the level of seriousness or attention with which the athletes approached the task.

Finally, involving additional stakeholders in the study, such as coaches, physical trainers, and others, could enhance the findings. Their contributions, whether through direct observations or structured interviews, could provide further clarity, as demonstrated in the work of Schwebel and collaborators (2007).

Conclusions

In general, certain personality traits, such as conscientiousness or agreeableness, appear to influence how individuals make risky decisions in sports activities.

Conscientiousness is associated with a more cautious approach to risky decisions, suggesting that athletes with this trait are more likely to make well-considered choices and avoid impulsive behaviors during competitions.

Similarly, higher levels of agreeableness are linked to a reduced tendency to engage in risky behaviors in sports. Athletes with strong agreeableness traits tend to make more careful decisions, thoroughly evaluating potential negative outcomes.

These findings highlight the importance of integrating psychological factors into sports training and management, as addressing these traits can help improve athletes' performance and enhance their overall experience in competitive settings.



Future research should examine these variables over extended periods, both before and after competitions. Additionally, incorporating a broader range of measurement tools could provide deeper insights by capturing more comprehensive data for analysis.

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