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Gender, football and futsal influence subjective decision-making style

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Abstract | Introduction: Although research on decision-making in sport has grown, decisional style has been insufficiently addressed in football and futsal and could be relevant to psychological well-being and technical-tactical performance. **Aim:** This study aimed to analyse the decisional style of football and futsal players and to compare the results according to the players' sport and gender. **Method:** The design was descriptive, cross-sectional, comparative, and non-experimental, using the Decision-Making Style Questionnaire in Sport (DSQS). The sample comprised of 280 players from La Rioja region, Spain (207 males and 73 females, aged 10 years or older), 202 were football players (171 men and 31 women) and 78 were futsal players (36 men and 42 women). **Results:** The comparison of the multivariate effect of gender on the DSQS scales showed that women scored higher in Decision-Related Anxiety and Stress (DRAS), whereas men scored higher in Perceived Decision-Making Competence (PDC). Besides, there are differences according sport modality, since the value of PDC and Engagement in Learning Decisional (ELD) scales are higher in football, and the AAD value is higher in futsal. **Conclusions:** The player's sport and gender seem to influence the decision-making style, with practical implications highlighted, such as cognitive-behavioural strategies, cognitive-motor training, emotional and autonomy support, and guided feedback. The results open future research lines on both modalities and their comparison by gender.

Keywords: Decisional anxiety, football performance, futsal performance, perceived decision-making competence, self-perception

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Género, fútbol y futsal influyen en el estilo subjetivo de toma de decisiones

Resumen | Introducción: Aunque la investigación sobre la toma de decisiones en el deporte ha crecido, el estilo decisional ha sido abordado de manera insuficiente en el fútbol y el fútbol sala y podría ser relevante para el bienestar psicológico y el rendimiento técnico-táctico. **Objetivo:** Analizar el estilo decisional de los jugadores de fútbol y fútbol sala y comparar los resultados según el deporte y el género de los jugadores. **Método:** el diseño fue descriptivo, transversal, comparativo y no experimental, utilizándose el Cuestionario de Estilo de Toma de Decisiones en el Deporte (CETD). La muestra fue de 280 jugadores de la Comunidad Autónoma de La Rioja, España (207 hombres y 73 mujeres, mayores de 10 años), 202 eran jugadores de fútbol (171 hombres y 31 mujeres) y 78 de fútbol sala (36 hombres y 42 mujeres). **Resultados:** La comparación del efecto multivariante del género sobre las escalas del CETD mostró que las mujeres obtuvieron puntuaciones más altas en Ansiedad y Agobio al Decidir (AAD), mientras en los hombres la más alta fue en Competencia Decisional Percibida (CDP).

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Además, existen diferencias según la modalidad deportiva, ya que el valor de las escalas CDP y Compromiso en el Aprendizaje Decisional (CAD) es mayor en fútbol, y el valor de AAD es superior en fútbol sala. **Conclusiones:** El deporte y el género del jugador parecen influir en el estilo decisional, destacándose implicaciones prácticas, como estrategias cognitivo-conductuales, entrenamiento cognitivo-motor, apoyo emocional y a la autonomía, y *feedback* guiado. Los resultados sugieren futuras líneas de investigación sobre ambas modalidades y su comparación por género.

Palabras clave: Ansiedad decisional, rendimiento en fútbol, rendimiento en fútbol sala, competencia percibida en la toma de decisiones, auto percepción

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Decision-making is the cognitive ability to select the most appropriate game action among several options (Yuan et al., 2021), incorporating emotional and intuitive components (Soosalu et al., 2019). Accordingly, research on decision-making in sport has expanded substantially across multiple theoretical frameworks and paradigms (Johnson, 2025). In youth team sports, 34 studies have identified differences related to playing level, training interventions, and age (De Waelle et al., 2021; Glaude-Roy & Stoloff, 2019; Musculus et al., 2018; Panchuk et al., 2018; Silva et al., 2020; 2021). In adult athletes, decision-making appears to rely on the use of specific informational cues, frugal heuristics, and strong perception–environment coupling (Araújo et al., 2019, 2022; Ashford et al., 2021; Hinz et al., 2022; Raab et al., 2019).

In football, characterised by intermittent high-intensity actions interspersed with variable recovery periods (Barnes et al., 2014), research is more extensive than in futsal. Evidence shows that central midfielders and fullbacks cover greater total and high-speed distances (Sarmiento et al., 2024). In contrast, futsal is characterised by brief high-intensity actions, continuous accelerations and decelerations, and limited recovery (Yeemin et al., 2016), with wingers and pivots covering greater high-speed distances (Serrano et al., 2020). Despite these differences, only one study has examined both sports (Machado et al., 2023). Given that both involve complex motor actions requiring continuous decision-making, decisional demands are considered higher in futsal due to faster game dynamics, smaller playing areas, and fewer players (Álvarez Medina et al., 2018; Newell et al., 2003; Oppici et al., 2018).

To our knowledge, the explanatory model of the subjective dimension of decision-making (Ruiz & Graupera, 2005) has been applied only in volleyball (Lujan et al., 2019; Muñoz-Llerena et al., 2022), basketball (Klimenko et al., 2020), and high school students (Aguilar Sánchez et al., 2014), and has not yet been examined in football or futsal, thereby supporting the present hypotheses. This model has shown bidirectional relationships with performance (Lochbaum et al., 2022; Reinebo et al., 2023), decisional style relevance (García et al., 2009), mental health (Fossati et al., 2021; Rice et al., 2016), and health-related quality of life (Appelqvist-Schmidlechner et al., 2021; Snedden et al., 2019).

Additionally, this model, like decision-making research in general, should account for personal and social variables such as gender (Braidot, 2014; Carmichael et al., 2021; Hidalgo-Lopez & Pletzer, 2017; Jianakoplos & Bernasek, 1998; Preston et al., 2007), sex, sport type (Sil-

va et al., 2020), competitive level, age, federated status, and contextual factors. Failure to consider these variables limits the generalisability of the findings and requires cautious interpretation (Koopmann et al., 2020).

As a novel contribution, this study examines the decision-making style of football and futsal players according to sport, gender, and age, in athletes aged 10 years and older with competitive experience affiliated with the Rioja Football Federation. Accordingly, the aim of this study was to analyse and compare the subjective decisional style of football and futsal players by sport and gender. It was hypothesised that subjective decisional style differs as a function of both gender and the sport practiced.

Method

Design

The general design of this research is embedded in the associative paradigm (Thomas et al., 2005). In this methodological system, the design derives from covariation objectives formulated as relational statements. Hence, the design of this study is comparative and differential (Thomas et al., 2023) because it seeks to establish differences between sample groups (which serve as independent variables) in the dependent variables. In this research, the three Decision-Making Style Questionnaire in Sport (DSQS) scales (Perceived Decision-Making Competence, Decisional Anxiety and Distress, and Engagement in Learning Decisional) are the dependent variables, and gender and the two sports modalities (football and futsal) are the independent variables.

Participants

This descriptive and comparative study is carried out on a sample of 280 football and futsal Spanish players of both genders, from La Rioja region, Spain: 207 male (73.9%) and 73 female (26.1%). In particular, 202 practice football (171 male and 31 female) and 78 futsal (36 for men and 42 for women), aged 10 years old or older and organised according to the corresponding categories of both modalities, which are the following: Under 10/11 years-old (12.5%), Infant -12/13 years-old (4.6%), Cadet -14/15 years-old (27.9%), Youth -16/18 years-old (40.7%), and Senior/Third Division -more than 18 years-old (14.3%). The experience of years associated with federations was between 0 and 30 years old ($M = 7.83$; $SD = 4.39$) and the sample was obtained from 6 sports clubs that agreed to collaborate voluntarily, whose Weekly training ran-

ged from 2×1 h (U10/11, Infant, Cadet) to 4×1.5 h (Youth, Senior/3rd Division). Positions: football -striker 16.8%, midfielder 13.9%, goalkeeper 10.8%, fullback 5.0%, winger 4.3%, center back 2.9%-, futsal -wing-pivot 7.9%, winger 6.4%, universal 6.4%, fix 5.0%, fix-wing 4.7%, goalkeeper 4.6%, pivot 1.9%, wing-fix 1.8%, goalkeeper-player 1.1%, fix-pivot 0.7%-, "other categories" 5.8%.

The sample was collected randomly in different clubs following incidental sampling to ensure the replicability of the results obtained. The only exclusion criteria were to select football or futsal players who were not associated with federations.

Instruments

The DSQS has been utilised to analyse the decisional style of the players (Ruiz & Graupera, 2005). The "reliability and the validity of this instrument have meant the adequacy and representativeness of its use" (p. 17; Tenenbaum, 2009). This questionnaire comprises 30 items that are scored on a 4-point Likert scale ranging from 1-Totally disagree to 4-Totally agree. These 30 items are subdivided into 3 scales of 10 items: Perceived Decision-Making Competence -PDC- ($\alpha = .82$); Decisional Anxiety and Distress -DAD- ($\alpha = .83$); and Engagement in Learning Decisional -ELD- ($\alpha = .75$). The PDC and ELD scales have a positive character, and the DAD scale has a negative character. The psychometric characteristics of the DSQS allow this questionnaire to be considered suitable for evaluating athletes' psychological and emotional aspects when faced with decision-making (Álvarez Medina et al., 2018).

Procedure

The study was approved by the ethical committee of the Universidad Internacional de La Rioja, with approval code 005/2023. Hence, anonymity was preserved, and the work met the local authorities' criterion. Moreover, the Rioja Football Federation was contacted to consult the existing associated teams, and the number of categories that could participate in the research. Then, the nature and objectives of the present study were presented to the teams and players; as such, the sample was obtained from six sports clubs that volunteered to collaborate. Subsequently, the data collection dates were specified, coinciding with the corresponding training days. In this sense, permission to collect data was requested from the teams and from the parents or legal guardians of underage players, who signed voluntary informed consent. Likewise, the players were administered questionnaires in accordance with the principles of the Declaration of Helsinki on human research (World Medical Association, 2013), informing them of the voluntary nature of the study and that they could refuse to participate if they so wished.

The questionnaires were administered in September, coinciding with the start of the sports season. They were applied to each player collectively in the presence of the team coaches in the usual training places, specifically, in the changing rooms before preparing for training, and were administered once. Once data collection was completed, 7 questionnaires were eliminat-

ed for being incorrectly completed or incomplete, out of the total 287.

Data analysis

The data obtained were analysed with the statistical software SPSS in its version 22.0 and are available on request from the corresponding author. Firstly, the assumption of the variables' normality was verified with the Komolgorov-Smirnov test. Secondly, the descriptive analysis of frequencies of all the variables (gender, age, professional category, type of game, federated years) were carried out.

Thirdly, the relationships among the dimensions were analysed using Pearson's bivariate correlation. Also, a one-factor ANOVA was used to conduct a relational study of decisional style by gender and the sport practiced. The significance level was determined by the value $p \leq .05$. The Levene homogeneity test was used to check whether the homoscedasticity of the variances was the same. The effect size was calculated using Cohen's d (Cohen, 1992), with small = 0.20, medium = 0.50, and large = 0.80. Finally, to establish the contrasts between the groups, Multivariate Analyses (MANOVA) were performed, considering gender and sport modality as covariates.

Results

Decision-making style of football and futsal players, according to gender

Table 1 presents the comparative descriptive results for male and female football and futsal players, along with their corresponding confidence intervals. The two positive values in the mean difference (male-female) of the PDC and ELD scales (2.14 and .62, respectively) indicate higher averages in males. In contrast, in the DAD scale, a higher average is observed in females. On the other hand, there are significant differences in the PDC and DAD scales between male and female participants (.001 and .0001, respectively), with medium effect sizes (0.43 and 0.49, respectively).

Figure 1 shows that football and futsal players present different decisional styles, as evidenced by a higher PDC in men and a greater DAD in women, distancing themselves from the "V" style in the female gender.

A MANOVA was performed to examine whether gender VI influences the three DVs (the 3 DSQS scales: PDC, DAD, and ELD). Results showed that the requirements for this type of analysis are met, as the distributions of DVs in both genders are approximately normal. To verify this condition, the Kruskal-Wallis test was applied to all of them, and no multivariate heteroskedasticity was found, according to Box's M test ($F_{12,8} = 2.11, p = .06$), nor univariate, according to Levene's test (PDC: $F_{1,280} = .34, p = .853$; DAD: $F_{1,280} = .114, p = .736$; ELD: $F_{1,280} = .276, p = .600$).

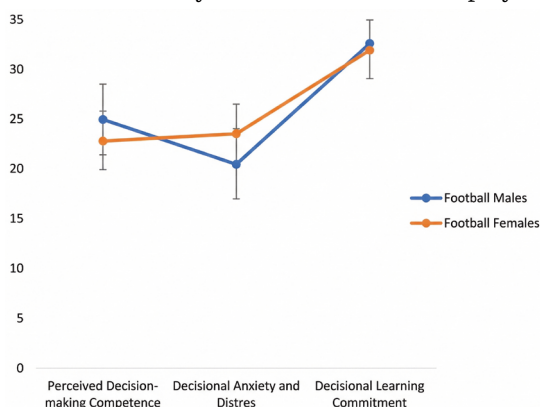
To calculate the contrast for the gender multivariate effect on the set of DSQS scales, the Wilks' λ statistic was used. The contrast of the multivariate effect of gender on the set of DSQS scales showed significant differences ($F_{1,280} = .90, p = .00, \eta^2 = .95$). Results indicated that the differences occurred in the PDC ($F_{1,280} = 10.56, p = .01$,

Table 1. Comparative descriptions, confidence intervals and effect sizes of the CEDT scales according to gender

CEDT Scales	Male (N = 207)		Female (N = 73)		Next.	Diff. means (male-female)	Standard error difference	CI for difference 95%		d
	Mean	Des. typical	Mean	Des. typical				lower	Upper	
PDC	24.94	4.81	22.79	4.95	.001	2.148	.661	.847	3.448	0.43
DAD	20.45	6.02	23.51	6.41	.000	-3.053	.834	-4.695	-1.411	0.49
ELD	32.60	3.78	31.97	3.49	.217	.626	.506	-.369	1.622	0.03

Note. PDC = Perceived decisional competence; DAD = Decisional anxiety distress; ELD = Engagement in learning decisional; Dev. = Deviation; Sig. = Significance; Diff. = Difference; CI = Confidence intervals; d = effect size.

Figure 1. Decisional style of football and futsal players



$\eta^2 = .37$) and DAD ($F_{1,280} = 13.39, p = .00, \eta^2 = .46$) scales and not in the ELD scale ($F_{1,280} = 1.53, p = .21, \eta^2 = .00$). These differences indicate that the male decisional style follows the original “V” layout of the graphic representations of the DSQS (Álvarez Medina et al., 2018) and the female decisional style was distanced from the layout.

Decision-making style of players, according to sport modality

Table 2 presents the comparative descriptive results for the football and futsal modalities, along with their corresponding confidence intervals. The two positive values in the average difference (male-female) of the PDC and ELD scales (1.47 and .69, respectively) indicate higher averages in the football sport modality. In contrast, in the DAD scale, a higher average is observed in futsal. On the other hand, there are significant differ-

ences in the PDC and DAD scales for the football and futsal modalities (.025 and .012, respectively), with small effect sizes (0.30 and 0.33, respectively).

Figure 2 shows the decisional style of the football players, which follows the “V” style in the graphical representations of the DSQS. In contrast, in futsal, the style is different due to the lower PDC and higher DAD.

A MANOVA was applied that includes the 3 DVs (PDC, DAD, ELD) and the sport modality as VI. To verify that the sample followed a normal distribution, the Komolgorov-Smirnov test was performed, and no heteroscedasticity was found; Multivariate, according to Box’s M test ($F_{8,541} = 1.40, p = .210$), nor univariate, according

Figure 2. Decisional style of the players, according to sport modality

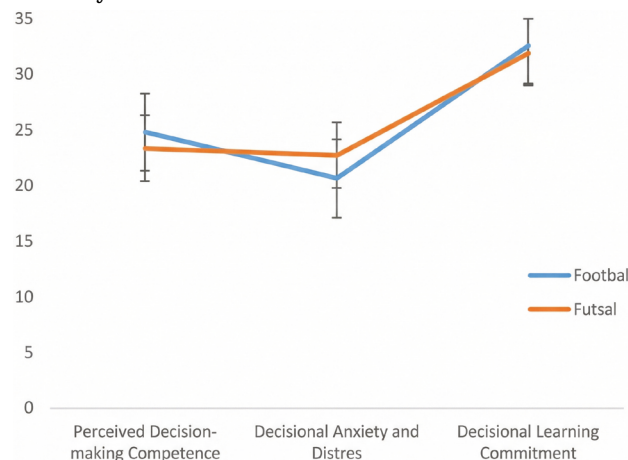


Table 2. Comparative descriptions, confidence intervals and effect sizes of the CEDT scales in football and futsal

CEDT Scales	Football (N = 202)		Futsal (N = 78)		Next.	Diff. of means (male- female)	Standard error difference	CI for difference 95%		d
	Mean	Des. typical	Mean	Des. typical				Lower	Upper	
PDC	24.79	4.935	23.32	4.80	.025	1.47	.65	.18	2.75	0.30
DAD	20.7	6.063	22.76	6.55	.012	-2.08	.82	-3.71	-.46	0.33
ELD	32.63	3.72	31.94	3.69	.163	.69	.49	-.28	1.66	0.04

Note. PDC = Perceived decisional competence; DAD = Decisional anxiety distress; ELD = Engagement in learning decisional; Dev. = Deviation; Sig. = Significance; Diff. = Difference; CI = Confidence intervals; d = effect size.

to Levene’s test (PDC: $F_{1,278} = 1.46, p = .70$; DAD: $F_{1,278} = .28, p = .59$; ELD: $F_{1,278} = .01, p = .89$).

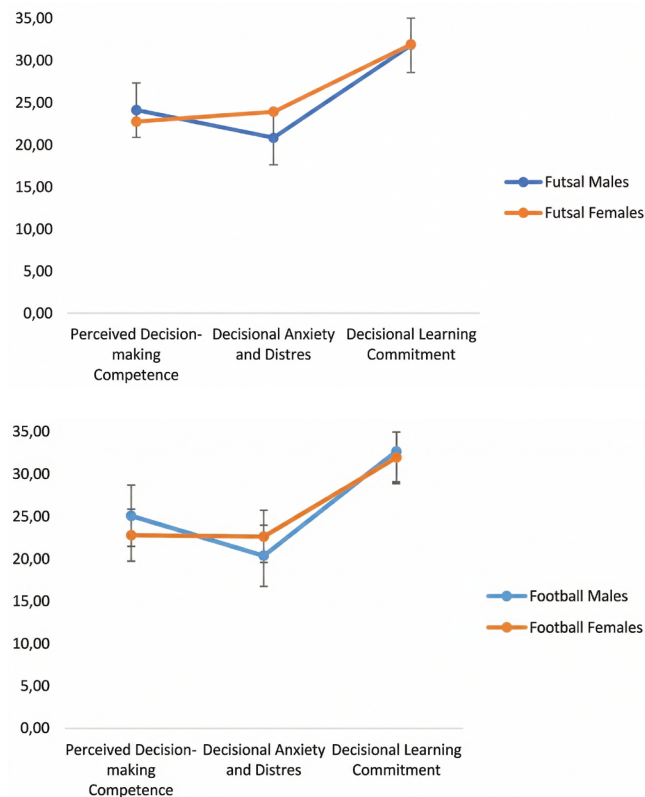
To calculate the contrast of the multivariate effect of the football and futsal modalities in the set of DSQS scales, the Wilks’ λ statistic ($F_{1,278} = .95, p = .03, \eta^2 = .04$), which indicates an appreciable relationship between the decisional style and the football modality, was applied. The results showed that the differences occurred in the PDC ($F_{1,280} = 5.07, p = .02, \eta^2 = .01$) and DAD ($F_{1,280} = 6.37, p = .01, \eta^2 = .02$) scales and not in the ELD scale ($F_{1,280} = 1.96, p = .16, \eta^2 = .07$). These differences in the PDC and DAD scales show that the decisional style in football follows the original “V” layout of the DSQS graphic representations (6) and in futsal it is distanced from the layout.

Decisional style, according to gender and sport modality

Table 3 presents the comparative descriptive results for the sport modality interaction and their corresponding confidence intervals. The two positive values in the mean difference FS (male-female) of the PDC and ELD scales (2.27 and .76, respectively) indicate higher averages in the male gender in the futsal sport modality. Otherwise, in the DAD scale, a higher average is observed in futsal among females. The two negative values in the difference between the football averages (male and female) for the DAD and ELD scales (-3.07 and -.10, respectively) indicate higher averages in the football sport modality for the female gender. On the other hand, in the PDC scale, the average is higher in football among males. Besides, there are significant differences in the DAD scale in relation to the football sport modality and gender (.04) and a trend towards significance on the same scale with respect to the futsal sport modality and gender (.07). Finally, the effect size is median for the PDC scale in relation to the Gender-Football and Gender-Futsal interactions (0.75 and 0.5, respectively) and for the DAD scale in relation to the Gender-Futsal interaction (0.54).

Figure 3 differentiates subjects by sport modality and gender. In particular, it shows that in futsal, the female exhibits a decisional style with higher DAD, while in football, the female also shows higher DAD, in addition to higher ELD. Therefore, in both sports modalities, the female gender shows a decisional style different from the original “V” layout (6).

Figure 3. Decisional style in the different sports modalities, according to gender



A MANOVA was applied that includes the three DVs (PDC, DAD, ELD) and the sport modality as VI. To verify that the sample followed a normal distribution, the Komolgorov-Smirnov test was performed, and no heteroskedasticity was found; Multivariate, according to Box’s M test ($F_{8,541} = 1.06, p = .38$), nor univariate, according to Levene’s test (PDC: $F_{1,278} = .16, p = .43$; DAD: $F_{1,278} = 1.53, p = .21$; ELD: $F_{1,278} = .03, p = .95$).

To calculate the contrast for the multivariate effect of the sports modality on the DSQS scales, the Wilks’ λ statistic was used ($F_{1,278} = 3.50, p = .00, \eta^2 = .03$), which indicates an appreciable relationship between decisional style and sports modality. The results showed that the differences occurred in the DAD scale ($F_{1,280} = 4.77, p = .03, \eta^2 = .04$) and not in the PDC ($-F_{1,280} = 3.84,$

Table 3. Comparative descriptions and confidence intervals of the CEDT scales, according to gender and sport modality

CEDT Scales	Sig. FS	Mean diff. FS (male female)	Standard error FS	CI for the difference 95% Futsal		Sig. Football	Mean diff. football (male-female)	Standard error football	CI for difference 95% football		d Gender-Football	d Gender-Futsal
				Lower	Upper				Lower	Upper		
PDC	.18	2.27	.98	.253	4.09	.23	1.34	1.10	-.86	3.55	0.75	0.5
DAD	.07	-2.27	1.24	-4.7	.08	.04	-3.07	1.48	-6.03	-.11	0.4	0.54
ELD	.30	.76	.73	-.1	2.15	.09	-.10	.86	-1.82	1.60	0.33	0

Note. PDC = Perceived decisional competence; DAD = Decisional anxiety distress; ELD = Engagement in learning decisional; Sig. FS = Futsal Significance; Diff. = Difference; CI = Confidence intervals; d = effect size.

$p = .10$, $\eta^2 = .04$) nor the ELD ($F_{1,280} = .97$, $p = .40$, $\eta^2 = .01$) scales. The differences in the DAD scale indicate that the decisional style in both sports modalities in the female gender is far from the original layout in “V” of the graphic representations of the DSQS (Álvarez Medina et al., 2018).

Discussion

This study aimed to analyse the decision-making styles of football and futsal players and to compare the results by sport and gender. Higher DAD values observed in futsal may be explained by smaller playing areas, fewer players per team (Oppici et al., 2018), and reduced time available to act (Ashford et al., 2021), which increases the mental load and requires faster cognitive processing (Travassos et al., 2013). In contrast, lower DAD values reported in secondary school students practicing both modalities (Aguilar Sánchez et al., 2014) may be associated with lower levels of experience, as greater experience has been linked to higher DAD. These findings suggest that decision quality and accuracy are influenced not only by age, experience, or acute factors such as fatigue (Silva et al., 2020), but also by the specific sport context (Vázquez-Ramos et al., 2022).

Conversely, higher ELD values in football indicate greater relative time available for perceptual–cognitive processing (Dambroz & Teoldo, 2023). From an applied perspective, these differences suggest that in futsal, training tasks should be designed under time pressure to accustom players to decision-making under stress (Brito et al., 2022), complemented by emotional support and guided feedback (Silva et al., 2020), as well as positive video feedback and low emotional-load simulations before progressively increasing task complexity (Roca & Williams, 2016). In football, however, training should prioritise the development of panoramic vision, long-distance anticipation (Brito et al., 2022), and more complex cognitive–tactical tasks to further optimise decision quality and speed (Kent et al., 2021).

Regarding gender, higher DAD (Aguilar Sánchez et al., 2014) and lower PDC (Gill, 1999) in women are associated with greater self-criticism and perfectionism, better behavioural regulation under stress, less risky decisions (Preston et al., 2007), and potentially limited decision-making (Rice et al., 2016). This may be attributed to menstrual cycle phases (Hidalgo-Lopez & Pletzer, 2017), with poorer performance reported during the early follicular and late luteal phases (Carmichael et al., 2021), which also affect emotion and behaviour (Braidot, 2014). Conversely, lower DAD and higher PDC in men may relate to risk-taking tendencies (Jianakoplos & Bernasek, 1998), higher resolution of proposed tactical situations, and a tendency towards better decisions (Vázquez Ramos et al., 2022). However, anticipatory stress depends on the individual and task nature (Preston et al., 2007), with no gender differences reported in volleyball (García et al., 2009), handball, athletics, volleyball, and Physical Education (Vázquez-Ramos et al., 2022). Thus, for women, coaches and psychologists may implement cognitive-behavioural strategies (e.g., decisional self-efficacy), anxiety management (Rice et al., 2016), cognitive–motor training (Lucia et al., 2023),

immersive technologies (Panchuk et al., 2018), virtual reality (Heilmann & Schubert, 2025), and autonomy support; for men, managing overconfidence and responsible team-oriented decision making (O’Connor et al., 2019), tactical-principles sessions and small-sided games (Machado et al., 2024), and multimodal neural feedback (Wang & Zhang, 2025).

Finally, performance optimisation, including psychological well-being, particularly in women’s futsal, may reduce DAD and increase PDC, thereby promoting mental health (Fossati et al., 2021). However, it may also limit performance and quality of life (Rice et al., 2016). Moreover, this holistic consideration of sports participation may be associated with a better quality of life (Appelqvist-Schmidlechner et al., 2021; Snedden et al., 2019). Thus, sport modality and gender appear to influence the players’ decision-making style, and futsal may enhance DAD and promote positive transfer from smaller to larger spaces.

Among the limitations are the sample size, gender imbalance, and emotional influence, as well as the focus on young, federated players, which limits generalisability (Koopmann et al., 2020). Future research should expand and balance samples by gender and modality and consider menstrual cycle phase (Carmichael et al., 2021). Questionnaire validation also showed gender imbalance (39.9% women), potentially affecting representativeness and data interpretation (Wysmulek, 2025). Including athletes from diverse societies, cultures, educational settings, and teams, and comparing decision-making styles across sports, is relevant. On the other hand, data collection at the start of the season (September) is a limitation that warrants replication across competitive periods (Parpa et al., 2024). Additionally, small effect sizes in some analyses require cautious interpretation (Murphy et al., 2025).

In conclusion, optimising exercise, training, and performance requires addressing both sport-specific and gender-related differences in players’ decision-making styles, while also considering sociocultural influences. Despite advances in equality, these factors may still shape women’s perceptions of their sporting competence. Therefore, more comprehensive and targeted decision-making training should be promoted at all levels, as it directly affects perceptual processes, emotional regulation, technical–tactical execution, and intra- and interpersonal communication. Furthermore, a thorough understanding of each individual, taking into account gender and psychological characteristics, is essential to explain decision-making and its links with cognitive, perceptual, emotional, physical, and technical–tactical variables. Finally, futsal and other small-sided sports can enhance the development of decision-making and related skills, supporting better anxiety control and positive transfer from smaller to larger playing spaces.

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Declaration of interest statement

The authors report there are no competing interests to declare.

Data availability statement

The data that support the findings of this study are available at:

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