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Comparative Tactical Paradigms in Football: Insights From Scandinavian, Baltic, and Turkish Coaching Models

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Abstract

The goal of this study was to compare the tactics expertise paradigms and game-reading skills of elite football coaches with different geographical and cultural backgrounds, based on empirical data. In total, ten elite football coaches participated in the study. All participants had at least 10 years of coaching experience and had either UEFA Pro or A license. Coaches came from the following football federations: Scandinavian ($n = 4$), Baltic ($n = 3$), and Turkish ($n = 3$). In order to gather empirical data regarding the knowledge of coaches about theory and methods in crisis situation (tacit knowledge), we used the interview form comprising of 25 questions. The Kruskal–Wallis H test results indicated significant differences between groups ($p < 0.05$) in all aspects of tactical expertise paradigm examined: strategic planning, offensive organization, defensive transitions, crisis management, and methodological fidelity. Effect sizes calculated for each aspect proved that the membership of the coaches' group (geographical and cultural school) accounted for significant percentage of variance in their tactical expertise ($n^2 = 0.777$–0.860). The results obtained showed that Scandinavian School of coaching prioritized structural discipline and collective intelligence principles, obtaining the highest ratings in strategic planning (4.43) and methodological fidelity (4.77). Turkish School demonstrated its advantage in crisis management (4.59); however, Turkish coaches were characterized by the lowest rate in methodological fidelity (2.94). As the result, ability of Turkish coaches in tactical improvisation and intuitive expertise conflicts with system-oriented approach. Despite obtaining the best score in defensive transitions (4.76), the Baltic School demonstrated its reactivity in regards to offensive organization and strategic planning. To conclude, this study showed that tactical expertise is not only a set of technical knowledge, but also the specific cognitive scheme that includes geographic and cultural code elements. It can be concluded that distinctive feature of Scandinavian rationalism and Turkish dynamism provides useful theoretical background for hybrid coach models in contemporary football.

Keywords: Tactical Expertise, Game Reading, Football Coaching, Scandinavian Football, Turkish Football, Decision Making.

1. INTRODUCTION

According to modern football literature, coaching not only includes the aspects of physical preparations and organizing training sessions, but is also a highly sophisticated decision making procedure that requires managing a variety of tactical, psychological and contextual elements. The tactical dimension of contemporary football is largely related to coaches' abilities to read games and take appropriate measures in response to changing situations. Game-reading abilities include the skill to anticipate various events on the pitch, understand opponent teams' strategies, detect changes in the rhythm of the game and alter its flow with immediate interventions [1]. Thus, in modern football, the coach should be an expert in making tactical decisions rather than organizing players' training routines.

As the term indicates, tactical expertise does not refer only to knowledge about various game formations and tactics. The ability to use complex knowledge to make adequate decisions during the competition is also considered to be tactical expertise [**?**]. According to Ericsson and Smith, who introduced the concept of expertise paradigms, experts in any field have the ability to detect patterns of relations that cannot be identified by less experienced specialists [2]. In the context of football, it means that tactical expertise should also involve identification of various connections between the position, movements and other tactical elements that affect the game.

Tactics is one of the areas where decision making plays a crucial role since coaches often need to make decisions during a short amount of time and in high-pressure environments. The recognition-primed decision-making model helps to explain the process of making tactical decisions by revealing its basis in experts' experiences, stored patterns and situational recognition [3]. The importance of tactical expertise and decision-making becomes evident in specific situations when a coach needs to react to the situation in case of a score deficit, numerical inferiority, pressing of the opponent team, unstable defence and many others.

National football cultures greatly contribute to the formation and application of tactical expertise. For example, Scandinavian and Baltic schools of football are traditionally characterized by the focus on disciplined zonal defending and organizational principles, while Turkish football often implies a hybrid approach with the accent on high-intensity transition and vertical play [4, 5]. Therefore, tactical knowledge is never neutral and can greatly vary depending on football culture, national traditions and coach education systems.

Geographical features significantly influence football players' and coaches' game philosophies. While Scandinavian football, which includes Denmark, Sweden, Norway and Finland, is typically characterized by tactical periodization and collective organization based on a systematic approach, Baltic football has evolved from more defensive models to transitional football in the contemporary era [6]. Contrary to rational and disciplined approaches, Türkiye is known for combining high pressing and intense emotions, as well as rapid change in attacking directions. Such features allow for comparing regional tactical knowledge.

In addition, there are significant differences in how coaches belonging to different geographical football cultures interpret certain match situations. While Scandinavian and Baltic coaches rely primarily on data-informed analysis, pre-planed scenarios and tactical rules when interpreting particular situations during the match, Turkish football coaches tend to give priority to situational intuition and emotional states of the game [7]. Analyzing the development models of coaches in the Baltic countries, one can notice that they focus more on tactics loyalty and organizational skills, thus making the process of interpreting situations more methodological.

Tactical expertise in terms of physical results appears to be reflected in coaches' ability to ensure team's compactness and proper spacing between lines. The feature typical of the Scandinavian school of football is the focus on area control and the idea that it represents spatial superiority [8]. As far as the Baltic approach goes, it is more about numerical superiority and defensive positioning than area control. Finally, in the Turkish football tradition, it is typical to observe rapid changes in the direction of attack and creation of dynamic space, although literature mentions that such strategy can lead to deviations from tactical discipline [9].

There is also a great difference between how representatives of these regions transfer their knowledge and strategies to players. Apart from tactical knowledge, coaches' intelligence in relation to the football game is expressed in their training methods and pedagic approaches to working with players. In relation to Scandinavian coaches, their understanding of game-based learning and the importance of autonomous actions contributes to their tactical expertise and decision-making practices. In contrast, Baltic football schools usually involve greater amounts of coaches' interference during the game.

The comparison of how coaches of different geographical football traditions transfer their expertise to players becomes more complicated due to the difference in the hierarchy of Turkish coaches. The ability to compare the tactical paradigm and game reading skills of high-level coaches in these regions becomes possible due to the lack of comparative analysis of the mentioned differences. However, as it will be explained later, coaches' game philosophies are essential for understanding the difference between national football development models [10].

The majority of literature sources in the sphere of football discuss the features of football in some of the biggest European leagues. As a result, there are limited studies that compare the tactical interactions between the Scandinavian

rationalism, Baltic discipline and Turkish dynamism of football [11]. There is little scientific literature devoted to comparative research on how regional differences affect coaches' tactical paradigms, methodological practices, abilities to read the game and preferred decision-making principles. Since coaches' approaches and their implementation of tactical periodization principles are among the factors causing differentiation in national football visions, this topic deserves further investigation.

The aim of the article is to compare tactical paradigms, game reading skills and other aspects of football coaches' expertise in Scandinavian, Baltic and Turkish regions by using a structured interview based on a set of 25 questions. The study will include coaches at the highest level who represent all three football cultures. Structured interviews were chosen as an alternative to the existing approach based on quantitative analysis of football matches, as the latter focuses only on visible outcomes without considering coaches' tacit knowledge. Football is regarded as not only a physical contest, but also a complex cognitive game involving many decision-making procedures.

In order to achieve the stated goal, the following research questions will be explored in the article: How do the features of the Scandinavian, Baltic and Turkish geographical football traditions affect the tactical paradigms of elite football coaches? To what extent does coaches' strategic flexibility influence the ability to interpret particular situations in football matches? What methods do coaches use for preparing players for certain types of games? What is the correlation between the hierarchy of football coaches in Turkey and their methods?

The 25-question interview form will include questions about game planning and analysis, offence and defense, transitions and crisis management. The questions related to the tactical paradigm and game-reading skills of coaches will reveal how regional football traditions influence the choice of decision-making strategies in crisis situations. The hierarchy of coaches in the Turkish region compared to the tactical methods of representatives of the other two regions will help to establish the correlation between these two criteria.

The central purpose of the paper is to evaluate the strategic approaches and abilities of high-class football coaches within the framework of the football culture existing in Scandinavia, Baltic countries, and Turkey. Analyzing discrepancies in strategic adaptability, tactical rigor, intuitive reasoning, and methodical approach, the article attempts to formulate the comparative pattern which could be useful for the international football science. At the theoretical level, there are two key objectives which can be stated, namely the reevaluation of the desirable characteristics of the football coach and their interrelationship within the context of Scandinavian rationality, Baltic rigor, and Turkish dynamism.

2. MATERIALS AND METHODS

2.1. PARTICIPATION CRITERIA AND SAMPLE GROUP

This research project was carried out for analyzing the strategic competence and game reading ability of top coaches from different geographical areas and cultural backgrounds. Sampling of the research participants was based on the principles of criterion sampling, which is a type of purposive sampling used in cases requiring the involvement of specialists with professional expertise and qualification levels in particular. Based on the stated criteria, a total of 10 coaches meeting all the requirements were selected to participate in the experiment. The following inclusion criteria were considered when determining the sample group:

- *International representation:* The selection of coaches was performed among active or experienced coaches who had been working in the Scandinavian ($n = 4$), Baltic ($n = 3$), or Turkish ($n = 3$) football associations.
- *Professional expertise and licensing:* The coaches selected for this project needed to have either a UEFA Pro License or a UEFA A license, implying that they had reached advanced levels in coach education and had received high levels of tactical training.
- *Experience:* Each of the coaches needed to have at least 10 years of experience in coaching in either professional leagues or elite academies. This criterion allowed selecting coaches having matured tactical expertise and game reading ability, resulting from working under conditions of high-level football.
- *Instrument of data collection and cognitive competencies:* The structured interview form containing 25 questions was created to assess their command of tactical terminologies, analytic thinking, and decision-making abilities. The form not only assessed the knowledge of the respondents in theory, but also their tactical intuition, including knowledge gained in cases of crises situations, such as disadvantaged score lineups, unstable defense, inferior numbers, and sudden change of tactics in the match.

Thus, in total, this study involved top coaches belonging to three different tactical schools: Scandinavian school characterized by its methodological rationalism, Baltic school with defensive disciplines development tradition, and Turkish football culture known for transition game style.

Distribution of the sample group by regional football school is demonstrated in Table 1.

Table 1. *Distribution of the sample group by regional football school*

Regional football school	*Number of coaches*	*Main tactical association*
Scandinavian school	4	Structural discipline and collective organization
Baltic school	3	Defensive discipline and tactical loyalty
Turkish school	3	Dynamic transition play and tactical improvisation
Total	10	Comparative elite coaching sample

2.2. DATA ANALYSIS AND STATISTICAL METHODS

When analyzing the obtained structured interviews, non-parametric statistical analysis methods were chosen due to the nature of the sample (expert-based sampling), limited number of observations ($N = 10$) and the nature of data distribution. Since the research is dedicated to elite-level coaching expertise rather than any generalizations concerning the population at large, the statistical analysis was supplemented with the depth of participants' professional background. The analysis was conducted based on the following premises:

- *Prevalence of non-parametric tests:* With the limited sample size that was less than the required threshold in terms of applying parametric tests due to lack of data normal distribution, the Kruskal-Wallis H test and Mann-Whitney U test were applied. The first one was used to detect any discrepancies between three groups, while the second one was employed for further pairwise testing if needed.

- *Sample features and qualitative depth:* While the size of the sample might seem too small, considering the goals of the research, the experts included in it were holders of the highest licenses available (UEFA Pro and UEFA A). Thus, the sample may be seen as a unique set of experts rather than population samples. Value of the data lies in its qualitative depth and professional experience of the coaches involved.

- *Level of statistical significance and type II error:* Statistical significance was assumed to be significant when $p < 0.05$. However, due to the small sample size, a risk of type II error, or a false negative finding, exists since the post-hoc Mann Whitney U test results were higher than alpha level ($\alpha = 0.017$) as mentioned by Cohen [12]. This problem may be associated with low statistical power due to low sample size and, thus, was accounted for during the results analysis.

- *Analysis of effect size:* Since the reliance on p value alone in case of a small sample size may yield biased results, calculating effect sizes became a necessity in this case. η^2 and r values were determined to evaluate magnitude of differences. Existence of extremely large effect sizes with $r > 0.80$ implies that the tactical difference between groups is not coincidental, which helps confirm the significance of results found.

- *Central tendency and dispersion:* The results were analyzed using medians, arithmetic means, and standard deviations. To evaluate central tendency of groups whose distribution shows relatively high dispersion, such as Turkish coaches, median values were compared to arithmetic means to account for outliers.

- *Tools used for statistical analysis:* All data was analyzed in the SPSS 25.0 statistical program.

Thus, statistical analysis of results obtained was combined with an expert level analysis of the data received. This method allowed comparing not only the existence of regional differences between the coaches, but their actual magnitude as well in terms of tactics, offensive and defensive play, crisis management and fidelity to training methodology.

3. RESULTS

The results will be explained according to five phases. Firstly, the descriptive statistics will be provided about each of the tactical expertise dimensions. Secondly, tactical profile differentiation will be carried out between the best and weakest dimensions of each regional coaching group. Thirdly, the results of Kruskal-Wallis H test will be provided to highlight group differences. Fourthly, the rank statistics will be explained to indicate the direction of these group differences. Finally, the Mann Whitney U tests results will be evaluated in light of effect size and sample limitations.

Table 2 shows the descriptive statistics about five tactical expertise dimensions including strategic planning, offensive organization, defensive transition, crisis management, and methodology faithfulness.

Table 2. *Descriptive statistics for the dimensions of tactical expertise*

Dimension	*Group*	*N*	*Mean*	*SD*	*Min.*	*Max.*	*Median*
Strategic Planning	Scandinavian	4	4.43	0.28	4.23	4.84	4.33
Strategic Planning	Baltic	3	3.47	0.30	3.12	3.69	3.59
Strategic Planning	Turkish	3	3.92	0.25	3.63	4.09	4.03
Offensive Organization	Scandinavian	4	4.16	0.15	3.93	4.25	4.22
Offensive Organization	Baltic	3	2.86	0.17	2.69	3.03	2.85
Offensive Organization	Turkish	3	3.74	0.20	3.52	3.91	3.78
Defensive Transitions	Scandinavian	4	3.99	0.20	3.82	4.26	3.93
Defensive Transitions	Baltic	3	4.76	0.19	4.57	4.95	4.75
Defensive Transitions	Turkish	3	3.25	0.38	2.93	3.67	3.15
Crisis Management	Scandinavian	4	3.69	0.23	3.40	3.91	3.73
Crisis Management	Baltic	3	2.89	0.23	2.67	3.13	2.88
Crisis Management	Turkish	3	4.59	0.17	4.47	4.79	4.51
Methodological Fidelity	Scandinavian	4	4.77	0.18	4.60	4.98	4.75
Methodological Fidelity	Baltic	3	4.36	0.20	4.13	4.49	4.45
Methodological Fidelity	Turkish	3	3.22	0.74	2.09	3.41	3.30

As presented in Table 2, the coaching group from Turkey retained its dominant role in the sphere of crisis management and earned the highest mean score of 4.59. At the same time, the Turkish coaching group had the lowest result in methodological fidelity. One of the peculiarities of this group lies in the great dispersion of results concerning methodological fidelity. The median was significantly higher than the arithmetic mean; moreover, the standard deviation in the case under discussion turned out to be much greater than that in the Scandinavian and Baltic regions. It suggests that there were significant differences in views regarding this aspect in the Turkish group: while some coaches valued the importance of system fidelity, others preferred improvisation and tactics. As to the Baltic and Scandinavian regions, their results were rather uniform.

Table 3 presents the tactical profile differentiation matrix. This matrix provides a direct comparison of the mean scores for each regional coaching group across the five dimensions.

Table 3. *Tactical profile differentiation matrix*

Group	*Strategic Planning*	*Offensive Organization*	*Defensive Transitions*	*Crisis Management*	*Methodological Fidelity*
hline Scandinavian	4.43	4.16	3.99	3.69	4.77
Baltic	3.47	2.86	4.76	2.89	4.36
Turkish	3.92	3.74	3.25	4.59	2.94

Based on the values provided in Table 3, it is clear that the Scandinavian school focuses on methodology fidelity, the Baltic school focuses on defensive transition, and the Turkish school focuses on crisis management. The methodology fidelity of Baltic coaches was higher compared to that of Turkish coaches, while Turkish coaches received the highest ranking in crisis management. Such numerical analysis provides empirical support to the theoretical differentiation of Turkish football culture based on crisis moment dynamism and the Nordic and Baltic schools based on system discipline.

In Table 4, groups were ranked according to their tactical dimensions, where the rank of 1 denotes the top-ranked group, whereas the rank of 3 denotes the bottom-ranked group.

Table 4. *Intra-group ranking across tactical expertise dimensions*

Group	*Strategic Planning*	*Offensive Organization*	*Defensive Transitions*	*Crisis Management*	*Methodological Fidelity*
Scandinavian	1	1	2	2	1
Baltic	3	3	1	3	2
Turkish	2	2	3	1	3

The following Table 4 reveals the complementarity between the tactics. The Scandinavians were first-ranked in strategic planning, attack, and tactical methodology. The Baltics scored first in transition defense tactics, whereas the Turks scored highest in managing crises. This ranking pattern is consistent with the notion that each football culture has its own distinctive tactical capability.

The following Table 5 presents the best and worst tactical components of each group along with their profile range for each coach culture.

Table 5. *Group profile analysis*

Group	*Strongest Dimension*	*Weakest Dimension*	*Profile Range*
Scandinavian	Methodological Fidelity (4.77)	Crisis Management (3.69)	3.69–4.77
Baltic	Defensive Transitions (4.76)	Offensive Organization (2.86)	2.86–4.76
Turkish	Crisis Management (4.59)	Methodological Fidelity (2.94)	2.94–4.59

Inferable from Table 5, there exist complementary strategic maps among the three cultural groups. Specifically, the Scandinavian strategy is based on high methodological integrity and limited crisis adaptation, while the Baltic strategy relies on high defensive discipline and low offensive creativity. The Turkish strategy is based on high crisis management and low methodological integrity. It should be noted that the intersection of the dimensions of greatest strength for one culture group and the areas of development for another allows explaining the typical features of regional schools. On the basis of the consideration of profile range values, the most evenly distributed specialization profiles were found for the Scandinavian culture group, while the most unevenly distributed profile was detected for the Baltic culture group.

Since the expert sample is rather small and the data are not parametric, the inferential analysis was carried out by applying the Kruskal–Wallis H test. Table 6 contains test statistics for the five dimensions of tactical expertise.

Table 6. *Kruskal–Wallis H test statistics for tactical expertise dimensions*

Statistic	*Strategic Planning*	*Offensive Organization*	*Defensive Transitions*	*Crisis Management*	*Methodological Fidelity*
Chi-square / H	7.436	8.018	8.018	8.018	8.018
df	2	2	2	2	2
Asymp. Sig.	0.024	0.018	0.018	0.018	0.018

Note. Chi-square refers to the Kruskal–Wallis H statistic; df = degrees of freedom; Asymp. Sig. = asymptotic significance, two-tailed.

According to Table 6, statistically significant differences were found among the Scandinavian, Baltic, and Turkish coaching groups in all five dimensions of tactical expertise at the $p < 0.05$ level. These results indicate that regional football school membership is associated with different tactical expertise profiles.

Table 7 presents the detailed Kruskal–Wallis H test and rank statistics, including group means, mean ranks, sum of ranks, and effect size values.

Table 7. *Kruskal–Wallis H test and rank statistics*

Statistic	*Strategic Planning*	*Offensive Organization*	*Defensive Transitions*	*Crisis Management*	*Methodological Fidelity*
Scandinavian mean	4.43	4.16	3.99	3.69	4.75
Baltic mean	3.47	2.86	4.76	2.89	4.45
Turkish mean	3.92	3.74	3.25	4.59	3.25
H	7.436	8.018	8.018	8.018	8.018
df	2	2	2	2	2
p	0.024	0.018	0.018	0.018	0.018
η^2	0.777	0.860	0.860	0.860	0.860
Effect size	Large	Large	Large	Large	Large
Scandinavian mean rank	8.50	8.50	5.50	5.50	8.50
Baltic mean rank	2.33	2.00	9.00	2.00	5.00
Turkish mean rank	4.67	5.00	2.00	9.00	2.00
Scandinavian sum of ranks	34.00	34.00	22.00	22.00	34.00
Baltic sum of ranks	7.00	6.00	27.00	6.00	15.00
Turkish sum of ranks	14.00	15.00	6.00	27.00	6.00

The rank statistics in Table 7 clarify the direction of the group differences. The Scandinavian group achieved the highest mean ranks in strategic planning, offensive organization, and methodological fidelity. The Baltic group achieved the highest mean rank in defensive transitions, and the Turkish group achieved the highest mean rank in crisis management. Effect size values ranged from $\eta^2 = 0.777$ to $\eta^2 = 0.860$, indicating a large degree of tactical divergence among the groups. These values suggest that cultural group membership explained a substantial proportion of the variance in tactical expertise scores.

Post-hoc Mann–Whitney U tests were conducted to examine pairwise comparisons between the regional coaching groups. The results are presented in Table 8.

Table 8. *Post-hoc Mann–Whitney U test results for pairwise comparisons*

Dimension	*Comparison*	*U*	*Z*	*p*	*r*	*Interpretation*
Strategic Planning	Scandinavian vs. Baltic	12.0	2.121	0.057	0.802	Not significant; very large effect
Strategic Planning	Scandinavian vs. Turkish	12.0	2.121	0.057	0.802	Not significant; very large effect
Strategic Planning	Baltic vs. Turkish	1.0	-1.528	0.200	0.624	Not significant
Offensive Organization	Scandinavian vs. Baltic	12.0	2.121	0.057	0.802	Not significant; very large effect
Offensive Organization	Scandinavian vs. Turkish	12.0	2.121	0.057	0.802	Not significant; very large effect
Offensive Organization	Baltic vs. Turkish	0.0	-1.964	0.100	0.802	Not significant; very large effect
Defensive Transitions	Scandinavian vs. Baltic	0.0	-2.121	0.057	0.802	Not significant; very large effect
Defensive Transitions	Scandinavian vs. Turkish	12.0	2.121	0.057	0.802	Not significant; very large effect
Defensive Transitions	Baltic vs. Turkish	9.0	1.964	0.100	0.802	Not significant; very large effect
Crisis Management	Scandinavian vs. Baltic	12.0	2.121	0.057	0.802	Not significant; very large effect
Crisis Management	Scandinavian vs. Turkish	0.0	-2.121	0.057	0.802	Not significant; very large effect
Crisis Management	Baltic vs. Turkish	0.0	-1.964	0.100	0.802	Not significant; very large effect
Methodological Fidelity	Scandinavian vs. Baltic	12.0	2.121	0.057	0.802	Not significant; very large effect
Methodological Fidelity	Scandinavian vs. Turkish	12.0	2.121	0.057	0.802	Not significant; very large effect
Methodological Fidelity	Baltic vs. Turkish	9.0	1.964	0.100	0.802	Not significant; very large effect

Note. Bonferroni-corrected significance level: $\alpha = 0.017$.

From the data provided in Table 8, it is clear that the post-hoc Mann–Whitney U tests were non-significant following Bonferroni correction. Still, some pairwise comparisons exhibited very high effect sizes. This suggests that the differences among groups are practically large while the sample was simply too small to detect any statistical differences. Thus, the non-significance of the results does not mean that there are no actual differences. On the contrary, it should be interpreted as the non-significance of pairwise comparisons coupled with large practical differences.

As Cohen [12] explains, failure to reject the null hypothesis due to high effect size is a Type II error probability. In the current research, this means that while the results failed to reach statistically significant differences, they demonstrated practically large tactical differences with the help of the effect size matrix. Further work is expected to confirm this tendency by increasing the sample size ($N \geq 30$, $n \geq 10$ per regional group).

4. DISCUSSION AND CONCLUSION

This research empirically compared the tactical expertise and game-reading skills of coaches in terms of football schools of thought in order to find the effect of regional football cultures on coaching paradigms. According to the results, the studied coaches' groups are statistically differentiated in relation to the dimensions of strategic planning, crisis management, and methodological fidelity.

Based on the analyzed data, there is a clear correlation between the tactical expertise profiles of the coaches in question and the football philosophy of the respective schools of thought in their regions. Thus, statistical findings prove that tactical expertise not only refers to technical aspects of the coaching activity but also is a cognitive schema formed by cultural codes, regional traditions, coach education, and game interpretation.

Evaluating the study results, one should take into account its small sample size ($N = 10$). The reason why some p values were close to 0.05 in the conducted analyses was due to the numerical limitations. However, the effect size coefficients show that differences in the tactical approach adopted by Scandinavian, Baltic, and Turkish coaches are not accidental but significant. Moreover, these differences will be demonstrated even more clearly on the playing field. Future studies need to validate the differences on a greater scale and with large samples.

Tactical discipline and strategic planning. It is logical that Scandinavian coaches scored the highest result in strategic planning (Mean = 4.43) and methodological fidelity (Mean = 4.77) because of the regional tactical characteristics of football based on structural discipline and collective intelligence. The approach of calculating the role of every player mathematically explains the preference of Scandinavian coaches to be loyal to the methodological framework despite all the chaotic moments of the game. It means that Scandinavians use the theory of spatial superiority on the field in terms of geometric discipline and collective organization.

The Baltic school demonstrated a reactive feature because the lowest mean value in offensive organization was obtained by Baltic coaches (Mean = 2.86). Meanwhile, the high scores of the same group in defensive transitions (Mean = 4.76) show that this school strives to join modern transition tactics. The fact that tactical expertise is determined by numerical superiority and defensive positioning in the Baltic school suggests that coaches of this school pay more attention to reactive features rather than proactive ones.

Cultural differences in game reading and crisis management. One of the most impressive features of this research is the difference in crisis management and game-reading approaches of the coaches in the analyzed groups. While Scandinavian

and Baltic coaches showed the presence of analytical game reading and data analytics, Turkish coaches proved their preference of intuitive approach and situational change of the state of mind during crisis management procedures. One could say that the high emotional intensity in the Turkish culture and tendency to fast transition play [5] influenced coaches' decision-making mechanisms, making them intuitive and proactive.

The fact that Turkish coaches occupy the first place in crisis management dimension (Mean = 4.59) means that the recognition-primed decision-making model [3] works effectively in such an environment. However, low scores in methodological commitment (Mean = 2.94) imply that tactical improvisation abilities of these coaches are incompatible with systematic approaches. It means that Turkish coaches work effectively in unstable environments; however, the intuitive approach makes the implementation of system-based actions less predictable.

Methodological fidelity versus tactical flexibility. These findings support the idea that the process of training Baltic coaches involves tactical fidelity rather than tactical flexibility. On the contrary, hybrid approaches of Turkish coaches in moments of crisis reveal their ability to apply the recognition-primed decision-making model [3] in a dynamic environment.

Although the group of Turkish coaches got the lowest mean value (2.94) in methodological fidelity dimension, it is important to notice that the same group showed a high level of standard deviation (SD = 0.74) and median value (3.31), which was higher than the average. This means that the in-group variance is much higher than the variance in other schools of thought (SD $<$ 0.20). The fact that median was higher than arithmetic mean proves that the data points are clustered in the upper interval, whereas the few outlier data points with low scores (Min = 2.09) affect the mean value negatively. Unlike the Scandinavian (SD = 0.18) and Baltic (SD = 0.20) groups characterized by homogeneity and uniformity, this observation shows how polarized Turkish football has become in relation to the dilemma between conservatism with systematic discipline and pragmatic approach with tactical improvisation.

Comparative analysis of cognitive schemas. One of the key factors influencing coaches' decision-making on the field is the balance between methodological commitment to the predefined game strategy and tactical flexibility according to changes in game situations. Based on the research findings, it is possible to conclude that methodological fidelity scores of Scandinavian coaches (Mean = 4.77) are higher than those of Turkish (Mean = 2.94) and Baltic (Mean = 3.12) samples. Thus, tactical preparation of this group of coaches could be described in terms of structural determinism because they treat the game strategically and try to minimize its chaotic nature. According to Rasmussen and Ostergaard [13], the success of coaches from this school is determined by the level of their commitment to the collective plan irrespective of the further development of the game process.

At the same time, low scores in terms of methodological fidelity of Turkish coaches should be interpreted as tactical pragmatism because of the high-intensity Turkish football culture [5]. The fact that this group of coaches showed a relatively high level of tactical flexibility and ability to adapt to new situations means that their tactical periodization is hybrid and allows them to implement a situational solution. The ability of Turkish coaches to cope with the complexity of the game was also shown by their scores in game reading and crisis management (Mean = 4.59). According to Rein and Memmert [14], this process of coping could be described in terms of dynamic systems theory.

Baltic coaches can be positioned somewhere between these two extremes because of their focus on defensive discipline. The relatively high scores of this group of coaches in game-reading and crisis management (Mean = 3.86) suggest that their focus on defensive stability does not allow them to produce tactical variations effectively. From the perspective of the expertise theory formulated by Ericsson and Smith [2, 15], the Scandinavian and Turkish schools could be interpreted as following systematic and spontaneous learning, respectively. Thus, high methodological fidelity could increase the degree of game predictability, whereas tactical flexibility would play an important role in managing crisis situations.

5. CONCLUSION AND SUGGESTIONS

In conclusion, it is important to highlight that football coaching tactical expertise not only represents a body of knowledge but also a cognitive schema determined by geographical and cultural codes. Despite common approaches, Scandinavian and Turkish coaching schools of thought offer their own unique models with distinctive qualities. Future studies should consider direct influence of these models on results of games and elite player development processes.

To sum up, this research showed that coaches from Scandinavian, Baltic, and Turkish schools of thought are significantly differentiated in such dimensions as strategic planning, crisis management, and methodological fidelity.

Tactical discipline and methodological loyalty: structuralism versus flexibility. One of the key features of this research was the high methodological fidelity (Mean = 4.77) and strategic planning (Mean = 4.43) scores obtained by Scandinavian coaches. This fact is correlated with the characteristic features of Scandinavian football built on structural discipline and collective intelligence. Scandinavian model allows controlling chaos of the game by means of strict calculation and mathematical approaches. The methodological commitment of Scandinavian coaches is explained by their desire to strictly follow predetermined strategic plans independent of game course [13].

At the same time, low methodological commitment scores of Turkish coaches (Mean = 2.94) should be interpreted as tactical pragmatism rather than insufficiency. The emotional intensity of the game and its high dynamics in the Turkish

culture make coaches prioritize situation-based solutions rather than systemic strategies. The ability of Turkish coaches to respond to unpredictable situations of the game could be explained by high scores of this group in the crisis management (Mean = 4.59) dimension. This result serves as evidence that Turkish coaches successfully apply their intuition developed during past experiences in accordance with dynamic systems theory [5].

Crisis management and intuitive expertise. The low profile of Baltic coaches, especially regarding offensive organization and crisis management, proves that coaching culture in this region is still based on conservative and defensive football models. In the Baltic approach, football expertise is determined by discipline in defending block rather than tactical creativity.

Leadership of the Turkish group of coaches in the dimension of crisis management is explained by the successful application of the recognition-primed decision-making model by Klein [3]. Intuitive schemas developed by these coaches in response to past experience help them make high-risk decisions and solve problems within a short amount of time.

Conclusion and academic suggestions. Overall, it could be concluded that football coaching tactical expertise is not only the set of techniques and methods but also a cognitive schema determined by cultural codes. While the Scandinavian school offers a predictable game model based on tactical discipline, the Turkish model is characterized by tactical flexibility and reactive crisis management.

Based on these findings, some academic recommendations can be made. First of all, future studies should evaluate the influence of these models on results of matches, players' development, and teams' achievements. Secondly, the number of samples should be increased in order to prevent type II errors. Thirdly, match analysis methods should be included into future research design. Fourthly, football schools of thoughts should not be confined to three regions examined in this paper. Finally, coach education systems might benefit from hybrid training models combining the best elements of three schools under examination.

1. Hybrid Training Models: Coach training systems should combine interdisciplinary curricula that incorporate Scandinavian discipline with Turkish flexibility.

2. Pedagogical Intervention: Methodological training should be implemented among Turkish coaches.

3. Longitudinal Analyses: Longitudinal studies should be conducted in order to examine the impact of these tactical models on results and elite players' development.

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