
Original research article

COLLECTIVE EFFICACY OF NATIONAL FOOTBALL TEAMS OF THE CZECH REPUBLIC

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Abstract

The article examines the influence of collective efficacy on the performance of national football youth teams in the Czech Republic. Collective efficacy, understood as the shared belief of team members in achieving common goals, is a crucial factor in team psychology that can significantly influence team performance. This study aims to determine how team cohesion and shared trust among players affect match outcomes and to assess whether higher collective efficacy contributes to victory, or whether its role lies more in supporting team dynamics and resilience in the long term. The research sample included 145 players in the U15 to U21 age categories, whose collective efficacy was measured using the validated CEQS questionnaire.

The results suggest that collective efficacy does not guarantee victory but supports team cohesion and the ability to face challenges, which may be crucial for the long-term development of players. Differences were identified between age groups, with younger teams (U15) showing higher collective efficacy levels than older teams (U19 and U21). An interesting finding was that higher collective efficacy was more common in teams that lost the match, suggesting that its importance lies primarily in maintaining a positive team spirit and mutual support.

The study highlights the need for regular measurement of collective efficacy to monitor team dynamics and identify areas for further development. It also highlights the importance of other factors, such as the quality of coaching, team communication and tactical preparation, which, together with collective efficacy, influence teams' overall success. The findings provide practical implications for working with youth teams and suggestions for future research on a broader range of sports and age groups.

Keywords: *Collective efficacy; Sports performance; Team cohesion; Team psychology; Youth football teams*

INTRODUCTION

Collective efficacy plays a crucial role in the performance of sports teams, especially in highly competitive environments. The topic of collective efficacy has been broadly researched, focusing on how team members' shared belief in their ability to achieve common goals influences their performance on the field. While individual player abilities are often considered a decisive factor in success, a growing body of research suggests that team cohesion and collective efficacy may be even more critical. Given that the level of collective efficacy can fundamentally influence team success, this research is an essential step to-

wards a better understanding of the factors contributing to team sports success.

This study aims to determine whether collective efficacy significantly impacts the outcome of matches in national football youth teams in the Czech Republic. We investigated whether the level of collective efficacy differs considerably between individual age categories in national football youth teams, and whether there is a difference in collective efficacy between players who did not lose (won or drew) and those who lost.

Theoretical foundations

Collective efficacy refers to the shared confidence of a team in their ability to generate

collective action and complete a sporting task concerning a specific goal or criteria (Short et al., 2005), e.g., teammates believe that their team can play well enough to defeat their opponents (Tod, 2022). Bandura (1977) defines collective efficacy as a group's shared belief in its ability to organize and carry out the actions needed to achieve given goals. Collective efficacy determines what individuals choose to do as team members, how they work together, and how they cope with failure (Alves et al., 2021).

Bandura (1982) argued that collective efficacy is rooted in personal efficacy. Research comparing self-efficacy and collective efficacy has concluded that individual perceptions of collective efficacy are interconnected but also unique because they are individual perceptions (Watson et al., 2001). Personal and collective efficacy are interrelated phenomena that can influence each other. Personal efficacy is associated with the individual, while collective efficacy is related to the group. Since personal efficacy influences collective efficacy, it is assumed that both have similar roots (Bruton et al., 2016). When forming perceptions of efficacy, an individual will consider their own performance within the team and the performance of their teammates. For their own performance, the individual will gather information about efficacy from the performance of the action. However, suppose an athlete develops efficacy beliefs regarding the performance of their teammates. In that case, an athlete observes the actions of their teammates and interprets the level of success (understanding of the given sport) and emotions (through empathy) associated with their performance (Zumeta et al., 2016) to assess collective efficacy. Leadership, coherence, group size, supportive communication, and adverse emotional reactions of players have been proposed as specific determinants of collective efficacy (Bruton et al., 2016). Collective efficacy could significantly predict performance in various collective settings, such as team sports, political events, or social rituals (Zumeta et al., 2016) and work groups (Salanova et al., 2014).

Variables that can predict collective efficacy include social cohesion and team members' commitment (Zumeta et al., 2016). Therefore, it is a shared belief in the team's ability to

achieve their goals despite obstacles (Raab et al., 2016).

Collective efficacy influences what individuals decide to achieve as team members, how much motivation they invest in performing actions, how they work collectively, and how long they continue toward the goal despite failure (Alves et al., 2021). The relationship between collective efficacy, cohesion, and performance is circular and interconnected, like athletes' satisfaction concerning cohesion and performance. Increasing cohesion or performance increases collective effectiveness and vice versa (Todd, 2022). Research has confirmed a longitudinal relationship between collective efficacy beliefs and collective "flow". This suggests that positive collective experiences (shared flow) are a consequence and a source of feelings of efficacy. Shared "flow" and emotional synchrony are collective processes that occur during collective sports and physical activities and substantially influence the perceived effectiveness of the group (Zumeta et al., 2016).

Collective efficacy results from group members' shared exposure to external and internal stimuli. Although group members' perceptions of collective efficacy should be similar because they are exposed to similar stimuli, some group variation is expected. Various factors, including beliefs in personal efficacy, personality type, and biased perceptions, can cause *individual differences* in collective efficacy. *Group-level factors* in collective efficacy perceptions include group composition, prior group experience, and the success of the group leader (Watson et al., 2001). For example, Feltz and Lirgg (1988) found that the collective efficacy of hockey teams could predict team performance better than the combined scores of individual players' efficacy. According to Gould et al. (2002), team self-confidence and collective efficacy are better predictors of team success than the sum of the individual confidence levels of all team members. McEwan and Beauchamp (2020) provided evidence of the importance of teamwork in youth sports. When athletes believed that teammates worked together effectively, they were more likely to feel united about team goals and believe in the team's ability to succeed. Teamwork predicted the extent to which athletes were committed to

their team and enjoyed participating in their sport.

Marcos et al. (2012) examined the development of perceptions of cohesion, personal efficacy, collective efficacy, and the relationship to expectations of success in 265 male soccer players aged 15–17 years during one season. The results showed that players whose expectations did not match the team's final performance experienced adverse developments in their levels of perceived cohesion and efficacy, while players whose expectations at the beginning of the season matched the team's final performance in the classification-maintained levels of perceived cohesion and efficacy. Leo et al. (2013) focused on 235 male soccer players aged 15 to 19. The study aimed to determine cohesion and collective efficacy profiles and measure differences in success expectations, playing time, and performance. Soccer players with higher cohesive and collective efficacy were part of teams that finished the season in the highest classification. Conversely, athletes with low cohesive and collective efficacy usually played in unsuccessful teams.

One way to create confidence in team effectiveness or the belief that a team can win is to set up a sports environment that is not too demanding, but at the same time, provides enough challenges. This solution is perfect for young or inexperienced teams (LeUnes, 2011).

Collective effectiveness is related to motivational climate, leadership, team identity, team roles, team goals, communication, cohesion, interpersonal closeness, and well-being, which also includes the fun and joy factor associated with sport, especially for young and novice players (Salcinovic et al., 2022).

MATERIALS AND METHODS

The Collective Efficacy Questionnaire for Sports (CEQS) (Short et al., 2005) was used for data collection. It is a five-factor questionnaire with 20 questions. It comprises five interrelated factors: ability, effort, preparation, perseverance, and teamwork. The main difference between the CEQS and other collective efficacy measures is that the CEQS is adapted to the functioning of team sports and can be used across sports. The specific factors were clarified and approved through control groups

of coaches, postgraduate students, sports psychology professionals, and student-athletes. The questionnaire was translated into Czech under the supervision of translator Alena Byrne and was pilot tested with youth football teams before the actual research. It was then administered in groups, with respondents completing it the day before the match.

The research group included 145 players from the national football youth teams of the Czech Republic in the categories U15, U16, U17, U18, U19, U20, and U21. These are players born between 2000 and 2007. Only players nominated for the national football camp and who personally participated in it were included in the selection. The group was obtained through cooperation with the Football Association of the Czech Republic.

SPSS software was used for statistical processing. Spearman's correlation coefficient was used to determine the normality of the frequency distribution for winners and losers. The Kolmogorov–Smirnov test was also used. The Mann–Whitney U test was used to differentiate between winning and losing matches.

RESULTS

Table 1 provides an overview of the average ratings of the various factors of collective efficacy (ability, effort, preparation, perseverance, and teamwork) in football teams of different age categories (U15, U17, U19, and U21). Several main points can be drawn from the table:

1. Higher values for younger teams: the U15 category shows the highest average ratings for all factors. This may indicate that younger players have a stronger team spirit and higher motivation, which may be due to enthusiasm and support from coaches and peers.
2. Decreasing ratings with age.
3. Overall score: the "Overall" column shows the average of all categories. "Preparation" received the highest rating (9.4), indicating that all age groups value a well-prepared team. "Teamwork" received the lowest average score (8.5), suggesting that perceived cohesion between players may be an area for improvement.

The significance of the factors can then be interpreted as follows:

- Ability: The average rating (8.7) across categories reflects the players' confidence in their own and team skills.
- Effort: A score of 9.2 indicates high commitment and effort within the team, which is a key factor in maintaining high performance.
- Preparation: The most popular factor (9.4) highlights that preparation is key to successful performance.
- Perseverance: A score of 8.9 indicates the team's resilience, especially when overcoming obstacles.
- Teamwork: The lowest average (8.5) may indicate areas where team cohesion can improve further.

Table 1 – Collective efficacy factors by team and overall

Collective efficacy factor	U15	U17	U19	U21	Overall
Ability	9.1	8.6	8.5	8.4	8.7
Effort	9.3	9.0	9.1	9.0	9.2
Preparation	9.6	9.3	9.2	9.3	9.4
Perseverance	9.2	8.8	8.7	8.6	8.9
Teamwork	9.0	8.6	8.4	8.2	8.5

The analysis showed that the average ratings between the individual factors of collective efficacy did not show significant variability; the values were relatively balanced (ranging from 8.5 to 9.4). This relatively small variance suggests that players rate the individual factors of collective efficacy with similarly high importance.

We assumed no statistically significant differences in collective efficacy between the individual age categories (U15, U17, U19, U21). However, the statistical analysis refuted this assumption, which means that the differences between the age categories are significant and confirm the influence of age on the level of collective efficacy. With increasing age (U17, U19, U21), there is a slight decrease in the ratings for most factors (Spearman correlation coefficient $r = -0.242$; $p = 0.003$). This phenomenon may have various reasons, e.g., a gradual transition to a greater focus on individual skills at an older age or less team cohesion in older categories.

We further hypothesized that winning teams would achieve higher levels of collective efficacy than losing teams. However, the results showed the opposite trend. The average collective efficacy score for losing teams was paradoxically higher than that of winning teams. Statistical analysis using the Mann-Whitney test showed that the difference in collective efficacy between winning and losing

teams was statistically significant ($U = 1518$, $Z = -2.578$, $p = 0.010$).

The higher collective efficacy for losing teams suggests that despite the loss, the teams maintained positive perceptions of team spirit and cohesion. This phenomenon could be due to the teams' efforts to overcome unfavourable outcomes and maintain mutual support. The results suggest that collective efficacy does not necessarily guarantee victory but reflects a team's cohesion and ability to face challenges, a key element for long-term player development.

DISCUSSION

According to social cognitive theory (Bandura, 1977), people share beliefs about their collective efficacy to produce desired results. We refer to these as collective efficacy beliefs, which is the core of this paper. Neither of the proposed hypotheses was confirmed. The data obtained showed a difference between age categories in the national football teams. They indicated that losing teams had a higher level of collective efficacy. According to Gould et al. (2002), team self-confidence is a better predictor of team success than the sum of individual levels of confidence of all team members. Systematic and regular measurement of collective efficacy following crucial matches of

the season could be beneficial in a long-term context, especially when monitoring the development of a team that has been playing together for a long time and in which the players know each other well. It is important to note that players are nominated to the national team from various clubs in the country, and sometimes, players play abroad with Czech citizenship, so the members do not necessarily know each other. The criteria for selecting players for these teams are football skills, ability to read the game, tactics, and mental preparedness. These are players at a high sporting level. Participation in the national team also carries strong emotions and expectations from oneself and teammates, which affects the overall sporting performance. In this case, it can affect the result of a match. A good reading of collective efficacy includes evaluating the performance, and interpreting success and emotions associated with a given performance (Zumeta et al., 2016). The national team only gets to know each other and interacts better at national team meetings, which can impact group cohesion and affect collective efficacy. At the national level, collective efficacy is a significant factor influencing the team's success, but not the only one. Another critical factor affecting collective efficacy is the coach's personality, leadership experience, and ability to communicate with the team. Leadership, coherence, group size, supportive communication and adverse emotional reactions of players have been proposed as specific determinants of collective efficacy, in contrast to personal efficacy (Bruton et al., 2016).

The strengths of this research include using the validated CEQS instrument, which is adapted to the specifics of team sports and ensures the relevance of the measurement. Another significant benefit is the inclusion of different age categories, which allows the monitoring of changes in collective efficacy during the development of players. In addition, the study opens up vital questions regarding team psychology and offers practical implications for improving team cooperation in sports.

On the other hand, the limitations include the absence of women's football youth players, which limits generalizing the results. Another limitation is the single use of the CEQS questionnaire, which does not allow for mon-

itoring longitudinal changes in collective efficacy during the football season. The limited heterogeneity of the research sample – with only players from national teams – also reduces the breadth of interpretation of the results.

Regarding practice recommendations, it is appropriate to emphasize the importance of regular assessment of collective efficacy, not only before crucial matches but also during the entire training process. Training should include elements that strengthen team cohesion, such as specific exercises focused on communication and cooperation between players. It is vital to involve coaches in programs to develop their leadership skills and support team dynamics.

For further research, expanding the sample to include women's youth teams or international teams would be helpful to provide a broader perspective on collective efficacy. A longitudinal study would allow us to observe how collective efficacy develops during a football season and affects teams' overall performance. It would also be beneficial to focus on other factors influencing team efficacy, such as differences between individual sports or the influence of specific tactics and strategies on developing team cohesion.

CONCLUSION

Research has shown that collective efficacy significantly impacts the overall dynamics and cohesion of a team. Still, a high level of collective efficacy does not guarantee victory. Paradoxically, high collective efficacy scores were more often present in teams that lost the match. This phenomenon indicates that collective efficacy is closely related to a positive attitude and mutual support between players, which is essential for the long-term development and cohesion of the team (even though it may not bring immediate wins). Other key factors, such as quality of the opponent, level of tactical preparation, and the players' individual skills, significantly contribute to the outcome of a match. Although high collective efficacy brings advantages to the team, such as better resilience to adverse outcomes and the ability to face challenging situations, this research suggests that team cohesion and skills are insufficient to ensure victory.

Achieving long-term success is conditioned by the interplay of multiple variables, which, in addition to collective efficacy, include support from the coach, effective communication, and high motivation to achieve common goals. This research highlights the importance of regular measurement of collective efficacy, which can help identify areas for further development, especially regarding teams with players from different clubs who do not have enough time to coordinate.

In this context, collective efficacy may be one of the crucial factors influencing success. Future research could include a broader range of teams, including women's categories, which would help us to better understand the specifics of collective efficacy.

Ethical aspects and conflict of interest

The authors have no conflict of interest to declare.

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