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A Match-Derived Relative Pitch Area Facilitates the Tactical Representativeness of Small-Sided Games for the Official Soccer Match

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Abstract

Olthof, SBH, Frencken, WGP, and Lemmink, KAPM. A match-derived relative pitch area facilitates the tactical representativeness of small-sided games for the official soccer match. *J Strength Cond Res* 33(2): 523–530, 2019–Small-sided games (SSGs) are a promising training format in soccer to replicate (situations of) the official match across all age groups. Typically, SSGs are played on a smaller relative pitch area (RPA; i.e., $<$150 m^2) than the match (320 m^2 RPA), which results in different tactical demands. To create a more precise replication of tactical match demands in SSGs with less than 11 players per team, a match-derived RPA (320 m^2) may be considered because this affords a similar playing area per player. In addition, subgroup analysis is necessary to deal with the different number of players in match and SSGs. Therefore, this study aims to investigate tactical demands of matches and various SSGs–with a different number of players and played on 320 m^2 RPA–in talented youth soccer players. Twelve elite soccer teams in 4 age categories (under-13, under-15, under-17, and under-19) played official matches and 4 vs. 4 + goalkeepers (GKs), 6 vs. 6 + GKs, and 8 vs. 8 + GKs. Positional data were collected to calculate tactical variables (interpersonal distances, length, width, and surface areas) for all players and for 2- and 4-player subgroups. Corresponding tactical variability (coefficients of variation expressed as percentages) was determined for all players. Results demonstrated that in each age category, with an increase in number of players, team distances increased and tactical variability decreased. Subgroup analyses revealed similar team distances in matches and SSGs with the exception of larger interpersonal distances in 4 vs. 4 + GKs than the match in under-13, under-15, and under-17. Match-derived RPA in SSGs facilitates the tactical representativeness for the match. Soccer coaches can use such SSGs for an optimal tactical match preparation.

Key Words competition, practice, behavior, performance, tactical stimulus

Introduction

Small-sided games (SSGs) are regularly used in training sessions to simulate (specific situations of) an official soccer match. SSGs can be defined as training games with adaptations in pitch size, number of players, and playing rules (29). During SSGs, players simultaneously develop physical, technical, and tactical skills. According to principles of a representative learning design (4), SSGs are the learning environment and should closely replicate the match to transfer skills from the training to the performance environment. Like the match, players are required to put their physical, technical, and tactical skills into play to cooperate with team members and score goals, compete with the opponent, and prevent them from scoring and eventually win the game. However, it is known that outcomes in physical, technical, and tactical performance are dependent on manipulations in pitch size and number of players (1,19). Therefore, performance in SSGs might therefore differ from the official match if not corrected for these factors.

Previous research shows that the relative pitch area (RPA) of an SSG shapes the action possibilities of players. An RPA is the individual space per player on the pitch, calculated as the total pitch area divided by the number of players (8,9). As an indication, the RPA of an official match equals approximately 320 m^2, but many SSGs in training sessions are typically played on 150 m^2 RPA or smaller (1,19). In general,

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a small RPA results in different physical and technical performance, i.e., less distance covered, high-intensity runs and sprints, and more interceptions, transitions, tackles, and shots (9,20,26,35). In more detail, players cover more distance in total and at higher intensities in SSGs played on an RPA similar to the match (i.e., 320 m^2) than played on small RPAs (e.g., 100 or 200 m^2), regardless of number of players (9) or age (26). Thus, if SSGs are played on a match-derived RPA, similar physical performance is achieved as the match (9). Therefore, to meet the physical demands from the match in SSGs, it is important to apply a match-derived RPA. However, it is largely unknown how team tactical behavior and different age categories respond to the use of match-derived RPA in SSGs.

Small-sided games played on a match-derived RPA might be a promising training format to replicate also the tactical demands from the official match. A match-derived RPA affords players a similar playing space as the match where information can be picked up by the players from their environment (such as team members, opponents, ball, and pitch), which allows for a selection and variation of appropriate soccer-specific actions. According to the concept of a representative learning design, an adequate sampling of the performance context (e.g., the official match) facilitates a positive transfer of skills acquired in the training to the match (4). In Olthof et al. (26), we demonstrated an increase in inter-team and intra-team distances and more tactical variability on a match-derived RPA than on a typical small RPA of 120 m^2. However, this team tactical behavior is only determined for 5-a-side games, and the relation with actual match behavior remains unknown. Team tactical behavior in many SSGs with a small RPA differs from the official match. Frencken et al. (14) and Duarte et al. (11) detected crossings of team centroids in SSGs before goals and goal scoring opportunities, but this behavior has not been found in matches (7). In addition, smaller interpersonal distances have been detected in SSGs with small RPAs compared with matches, demonstrated by smaller stretch indices and larger length-per-width ratios in SSGs (12,24) than in matches (16,25). Altogether, manipulations in both player number and pitch size in SSGs result in smaller distances between players, and this seems a less appropriate design to replicate the demands of the match. In line with results for physical performance, a match-derived RPA in SSGs can be used to more precisely mimic the tactical demands, regardless of the number of players. However, these pitch manipulations depend on number of players, and team tactical variables typically increase after including more players (3,17,32). Therefore, research is warranted to determine team tactical behavior in SSGs with a match-derived RPA, to compare this with performance in official matches and to correct for a difference in number of players for a fair comparison. A suitable approach may be the use of subgroups (17,22), where a unit of players is selected to allow a correction in team tactical variables for a different number of players and, as such, be able to compare SSGs with the match.

Besides the impact of adaptations in player number and pitch sizes, there is also a considerable influence of age on team tactical behavior. In general, with an increase in age, inter-team and intra-team distances increase in SSGs in elite and amateur soccer players aged under-13 to under-19 (6,12,24). During 5-a-side games played on a pitch of 320 m^2 RPA, distance between teams and dispersion of players were larger in players aged under-13 to under-19 than on 150 m^2 RPA (26). These studies have shown that age groups deal differently with the available space, showing different positioning of players on the pitch. Therefore, the relation of SSGs with the official match might differ among age groups, but solid evidence for this lacks.

Taken together, RPAs in SSGs are typically much smaller than an official match. These manipulations augment specific technical or physical aspects of a soccer match. However, SSGs played with a match-derived RPA are promising to mimic the tactical aspects of the match as closely as possible. Therefore, the aim of this study was to determine the relation between soccer performance in SSGs played on an RPA of 320 m^2 with a different number of players (5 vs. 5, 7 vs. 7 and 9 vs. 9) and the official matches across 4 age categories (under-13, under-15, under-17, and under-19), measured by several team tactical variables. The hypothesis was that from playing SSGs on an RPA of 320 m^2, comparable tactical behavior will emerge as during the official match, if corrected for the number of players.

Methods

Experimental Approach to the Problem

Elite youth soccer teams played official matches and various SSGs with a similar RPA of 320 m^2. A cross-sectional design is used to investigate inter-team and intra-team distances and tactical variability in competition and training. Positional data were collected with the Local Position Measurement (LPM) system, and video footage was recorded during the 2015–2016 Dutch competitive season. In addition, subgroup analyses are applied to deal with the difference in number of players in teams and to be able to compare tactical match demands with tactical SSG demands.

Subjects

For the purpose of this study, 12 soccer teams with a total of 280 elite youth soccer players from 3 Dutch professional youth academies participated. The teams represented 4 age groups: under-13 ($n = 3$ teams; 57 players; 12.7 $\pm$ 0.4 years; range 11.6–13.6 years), under-15 ($n = 3$ teams; 74 players; 14.2 $\pm$ 0.6 years; range 12.6–15.1 years), under-17 ($n = 3$ teams; 73 players; 16.3 $\pm$ 2.1 years; range 13.5–17.0 years), and under-19 ($n = 3$ teams; 76 players; 18.3 $\pm$ 2.5 years; range 16.0–21.4 years). All characteristics were measured mean $\pm$ *SD*. Each team played official matches during Dutch national competition, and most teams played multiple bouts of 4 vs. 4 + goalkeepers (GKs), 6 vs. 6 + GKs, and 8 vs. 8 + GKs during training sessions. All players were notified of

Table 1. Number of SSGs and matches played, mean ± *SD* of effective play time and passes/min in all age categories.*†

		Under-13	Under-15	Under-17	Under-19
N	4 vs. 4 + GKs	10	15	10	10
	6 vs. 6 + GKs	5	15	10	11
	8 vs. 8 + GKs	3	9	3	6
	Match	5	6	6	4
Effective playing time (%)	4 vs. 4 + GKs	85.1 ± 9.68	80.1 ± 5.98	81.9 ± 4.58	86.8 ± 6.16
	6 vs. 6 + GKs	90.2 ± 1.32	79.3 ± 7.95	85.2 ± 6.23	83.9 ± 6.94
	8 vs. 8 + GKs	80.8 ± 1.45	84.8 ± 5.78	77.9 ± 9.18	91.3 ± 5.11
	Match	69.7 ± 5.55	67.6 ± 9.15	66.3 ± 7.27	69.5 ± 5.41
Passes/min	4 vs. 4 + GKs	1.9 ± 0.44§	1.9 ± 0.65§	2.3 ± 0.60§	2.4 ± 0.50§
	6 vs. 6 + GKs	2.0 ± 1.45§	1.7 ± 0.32‡	1.7 ± 0.54§	1.7 ± 0.49‡
	8 vs. 8 + GKs	1.0 ± 0.15	1.4 ± 0.65	1.3 ± 0.21	1.4 ± 0.17‡
	Match	0.7 ± 0.13	0.9 ± 0.19	0.7 ± 0.19	0.8 ± 0.26

*SSG = small-sided games; GKs = goalkeepers.
†Number of SSGs and matches and effective playing time were not statistically evaluated.
‡Significantly different from match within age category ($p < 0.05$).
§Significantly different from match within age category ($p < 0.001$).

the purpose of the study. Players and their parents or legal guardians (if the subject was under the age of 18) signed an informed consent form. All procedures were approved by the local ethical committee of the Center for Human Movement Sciences of the University Medical Center Groningen, University of Groningen, the Netherlands.

Procedures

Official matches were played during the competitive season, and official playing rules were applied. A difference in play duration was present among age groups in accordance with official rules for the Dutch competition, i.e., 2 × 45 minutes in under-19, 2 × 40 minutes in under-17, 2 × 35 minutes in under-15, and 2 × 30 minutes in under-13. Matches were played on artificial turf pitch of 105 × 68 m. Teams were allowed to play according to their club's strategy, and there was no researcher's involvement in starting formation and substitutions. All teams played, however, in a 1-4-3-3 playing formation.

Pitch sizes in the SSGs were designed based on a similar RPA, i.e., 320 m^2, and a similar ratio between pitch length and width as the official match. That results in a 68 × 47-m pitch for 4 vs. 4 + GKs, a 80 × 56 m pitch for 6 vs. 6 + GKs, and a 91 × 63 m pitch for 8 vs. 8 + GKs. A different number of repetitions, playing duration, and starting line-up per SSG were chosen based on the opinion of expert coaches. Four vs. 4 + GKs was played for 5 × 4 minutes (1-2-1-1 playing formation), 6 vs. 6 + GKs was played for 5 × 5 minutes (1-2-3-1 playing formation), and 8 vs. 8 + GKs was played for 3 × 10 minutes (1-3-3-2 formation). To ensure optimal recovery for the subsequent SSG, there was a 4-minute rest period in between the games (21). Official FIFA-approved goals (7.32 × 2.44 m) were used, and the penalty box was proportionally reduced. Small-sided games were played on artificial turf pitch.

The coach divided the players over the teams to equally balance the quality of the teams. Coaches were allowed to substitute between SSGs to create randomness or in case of an injury during the SSG. They were instructed to coach in a similar way as during the official match. Official playing rules were applied in the SSGs, and the purpose of the SSGs was to win by scoring more goals than the opponent.

Data Collection. Positional data were collected in all official matches and SSGs with the LPM System (Inmotio Object Tracking BV, Amsterdam, the Netherlands). This is a validated instrument to obtain objective and accurate x- and y-coordinates of all players on the pitch (13,23). Each player wore a vest with a transponder during the matches and training. Sampling frequency for data collection ranged from 34 to 91 Hz. In addition, video footage was recorded with high-definition dome cameras and high-resolution digital cameras. Videos were synchronized with positional data in the Inmotio software. Start and end of the SSGs and matches were marked based on audio-visual inspection of the videos.

Data Processing. Performance measures in the remainder of the analyses were corrected for effective playing time. Stoppages of play were removed from the total duration of the SSG or match (2,31). Stoppages were determined with video analysis when the ball is out of play or the game is stopped because of a goal, injury, or substitution. After the stoppage, the game resumed with a set piece (throw in, corner kick, goalkeeper kick, free kick, or kick-off). The remaining time was considered as effective play time (25).

Each pass was counted with notational analysis. A total number of passes were corrected for number of players in

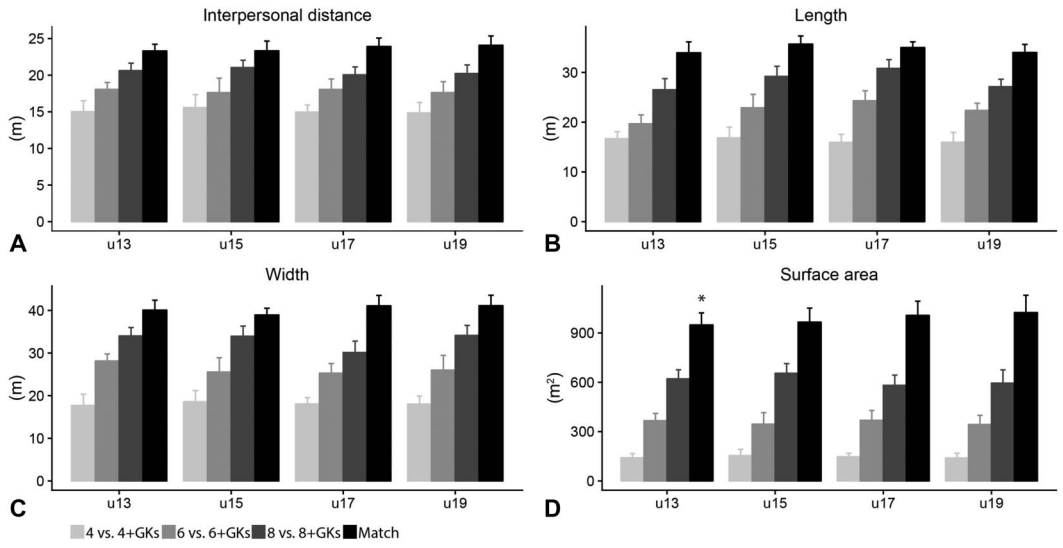

Figure 1. Tactical variables determined for all players in the team. A = interpersonal distance. B = team length. C = team width. D = team surface area across 4 age categories. All SSGs show significant smaller values than match within age category ($p < 0.001$). Significantly different from under-19 match ($^{*}p < 0.05$). SSGs = small-sided games; GKs = goalkeepers.

the team and effective playing time and displayed as passes per minute per player. Notational analysis was performed by multiple raters using Noldus The Observer XT (Noldus Information Technology, Wageningen, the Netherlands). A study on an unpublished data set was used to assess systematic observation between multiple raters. This revealed an inter-reliability agreement of 0.79 (Cohen's k).

Positional data were used to calculate several tactical variables for each point in time in Matlab R2015b (The Mathworks, Inc., Natick, MA, USA). Interpersonal distance is the average radial distance (m) between a player and his team members (34,35). The maximum distance between players in either longitudinal or lateral direction is the team length and width (m), respectively. Team's surface area is the

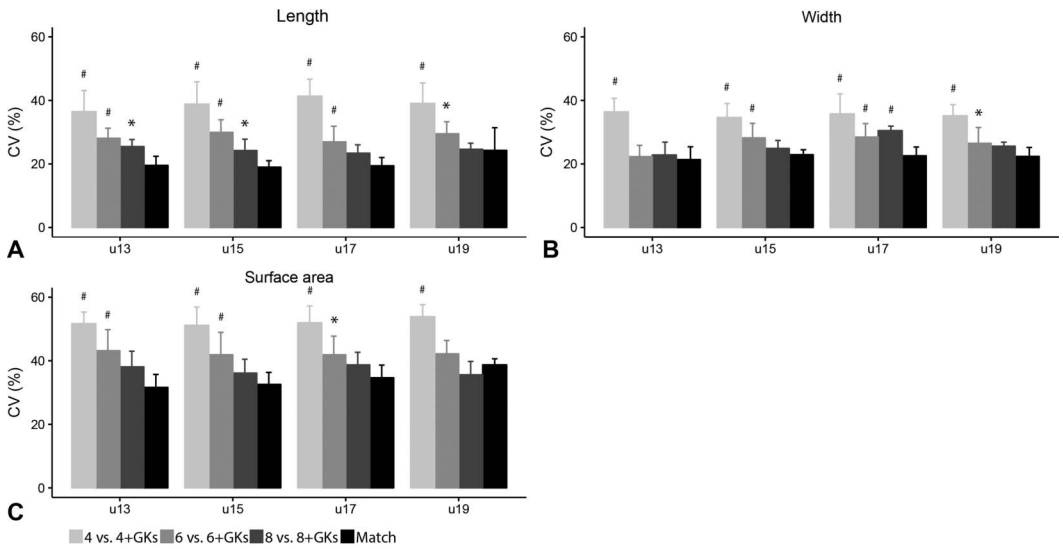

Figure 2. Tactical variability displayed by coefficients of variation (CV) for (A) team length, (B) team width, and (C) team surface area across 4 age categories. Significantly different from match within age category ($^{*}p < 0.05$ and $^{\#}p < 0.001$). GKs = goalkeepers.

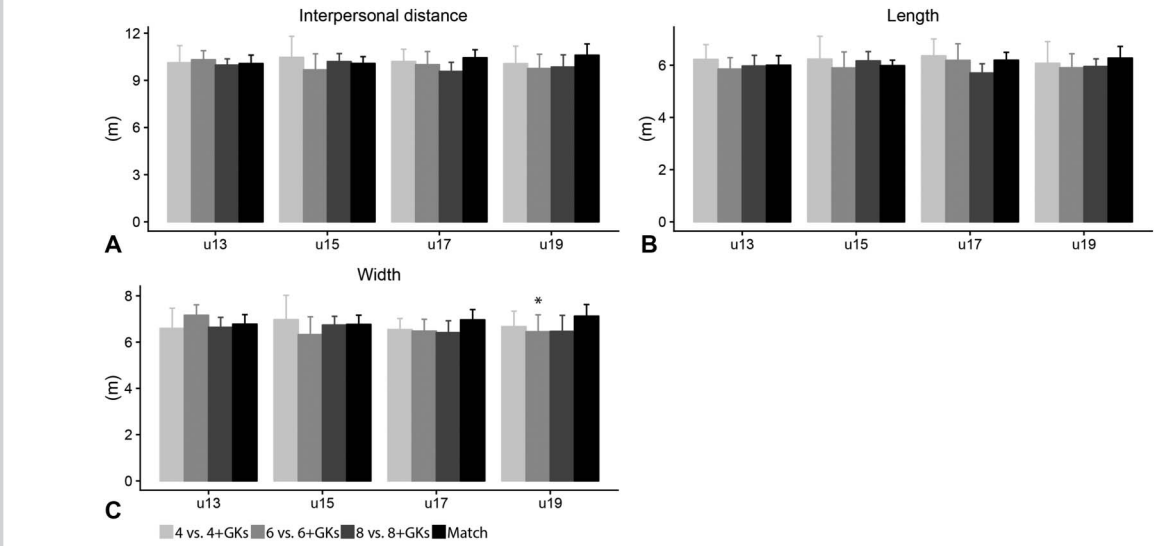

Figure 3. Tactical variables determined for subgroups of 2 players. A = interpersonal distance. B = length. C = width across 4 age categories. Significantly different from match within age category (*$p < 0.05$). GKs = goalkeepers.

area bounded by the convex hull (m^2) (14). Tactical variability was determined for team length, width, and surface area with coefficients of variation and expressed as percentages (18,28). Tactical variability represents the change of these tactical variables over time during a match or SSG.

Subgroups were determined to correct tactical variables for differences in number of players (22). For each player at each point in time, the nearest team member was determined (17). Subgroups were considered for units of 2 or 4 nearest team members. These subgroups are respectively the smallest and largest groups possible to compare SSGs with the official match. Then, the team tactical variables were calculated for the subgroups, with exception of the surface area for the subgroup of 2 players.

Statistical Analyses

Data were checked on quality and normal distribution. Positional data quality of 6 players in 1 match and 3 SSGs were poor. Therefore, the corresponding team tactical measures were excluded for further analysis. Then, mean values and *SD*s were calculated for each team in Matlab R2015b.

A customized R routine was used for further statistical analyses (R for Windows 324; R Foundation for Statistical Computing, Vienna, Austria). A mixed-model approach was used to test for differences in the dependent variables (pass characteristics, tactical variables, and tactical variability) among age groups (fixed factor) and between SSGs and official matches (random factor) using the nlme package (27). Planned pairwise contrasts using the MASS package (33) were applied to test each SSG against the match for all age groups and within each age group. Differences among age groups were tested with pairwise contrasts between under-19 and younger age groups for match performance. Significance was set at $p \leq 0.05$. Effect sizes were calculated using Pearson's R (r) (30) and were considered as small ($r < 0.30$), moderate ($0.30 \leq r < 0.50$) or large ($r \geq 0.50$). Confidence intervals (CIs) of 95% were provided for differences between match and training game. Given the number of contrasts, (the range of) p values, effect sizes, and CIs were presented in case of significant results.

Results

Table 1 displays the sample of SSGs and matches, effective playing time and passes per player per minute. Not all teams played each SSG format. Compared with the match, there were significantly more passes per minute played during 4 vs. 4 + GKs ($0.30 < r < 0.48$; $0.4 <$ CI < 2.1) and 6 vs. 6 + GKs ($0.24 < r < 0.30$; $0.2 <$ CI < 2.0) across all age groups and during 8 vs. 8 + GKs in under-19 ($r = 0.18$, CI 0.0: 1.1).

All Players

Team's tactical variables for all players are presented in Figure 1. Pairwise contrasts revealed that interpersonal distance, surface area, and team's length and width were significantly smaller in all SSGs than the match across all age categories ($p < 0.001$; $-25.4 <$ CI -1.0 for interpersonal distance, length and width; $-931.4 <$ CI < -265.1 for surface area). Effect sizes revealed large effects for 4 vs. 4 + GKs ($0.76 < r < 0.96$) and 6 vs. 6 + GKs ($0.54 < r < 0.93$) and moderate to large effects for 8 vs. 8 + GKs ($0.31 < r < 0.81$). In addition, under-13 showed a significantly smaller surface area in the match than under-19 ($p < 0.05$; $r = 0.22$; CI -138.8: -14.9; Figure 1D).

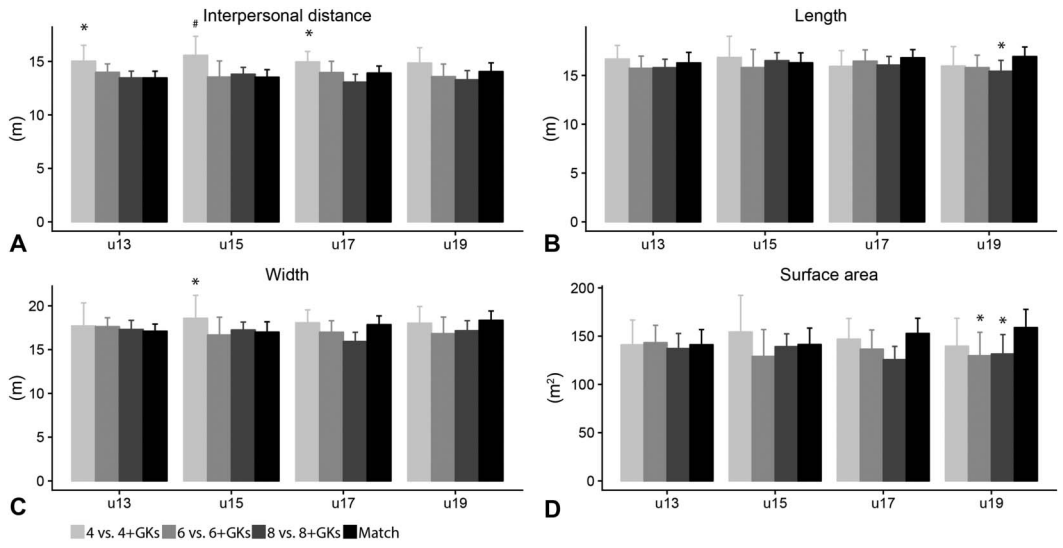

Figure 4. Tactical variables determined for subgroups of 4 players. A = interpersonal distance. B = length. C = width. D = surface area across 4 age categories. Significantly different from match within age category (*$p < 0.05$ and #$p < 0.001$). GKs = goalkeepers.

Variability of the team tactical variables is presented in Figure 2. In each age group and for team length, width, and surface area, there was significantly more variability detected in the 4 vs. 4 + GKs than in the official match ($0.45 < r < 0.67$; $8.2 <$ CI < 34.5). Also, significantly, more variability was detected in 6 vs. 6 + GKs ($0.18 < r < 0.40$; $0.2 <$ CI < 20.2) and 8 vs. 8 + GKs ($0.14 < r < 0.26$; $0.5 <$ CI < 12.0) in tactical variables, but not in each age group.

Subgroup of Two Players

Figure 3 presents the tactical variables of the smallest subgroup. With the exception of a significantly smaller width in under-19 during 6 vs. 6 + GKs than the match ($r = 0.18$; CI −1.3: 0.0; Figure 3C), there were no differences in the interpersonal distance, length, and width between the SSGs and the official match in all age groups.

Subgroup of Four Players

In Figure 4, tactical variables for subgroups of 4 players are presented. In the 3 youngest age groups, interpersonal distances during 4 vs. 4 + GKs were larger than the match ($0.19 < r < 0.35$; $0.1 <$ CI < 3.1; Figure 4A). A larger average width was present in under-15 during 4 vs. 4 + GKs than the match ($r = 0.21$; CI 0.3: 3.3; Figure 4C). In under-19, surface area was smaller during 6 vs. 6 + GKs ($r = 0.22$; CI −47.1: −5.1) and 8 vs. 8 + GKs ($r = 20$; CI −50.3: −3.9; Figure 4D), and length was smaller during 8 vs. 8 + GKs ($r = 0.18$; CI −3.1: −0.1; Figure 4B) than the match.

Discussion

This study aimed to compare team tactical behavior in the official match with various SSGs, in which number of players varied (formats) and the RPA was kept constant (320 m^2 per player). To meet this purpose, an analysis with all players in the teams was conducted along with 2 analyses with subgroups to correct for the difference in number of players. Main findings of this study were that with an increasing number of players, values of team tactical variables increased and values of tactical variability decreased simultaneously. In addition, 2-player and 4-player subgroup analyses showed that interpersonal distances, length, width, and surface area were in general similar between SSGs and the official match across age groups. Differences were detected with 4-player subgroup analysis, which revealed larger interpersonal distances in the smallest SSG than the match in the age groups under-13, under-15, and under-17 and smaller length and surface area in the 2 largest SSGs for under-19.

Values for team tactical variables increased with more players in a team. This finding is in line with previous observations for subgroups in a match (17) and for different formats of SSGs up to 5 players in a team (3,32). Results of the current study add that this increase also takes place in SSGs with more players in a team, i.e., 6 vs. 6 + GKs and 8 vs. 8 + GKs. Players tend to organize and choose position based on information picked up from the performance environment: position of team members, opponents, the ball, and the available space (5,10). Logically, a consequence is that the distance between players increases when there are more players in a team to keep a well-structured team organization. To illustrate, team length increased to deal with the additional players in between them, resulting in a larger defender-attacker distance. In addition, tactical variability showed opposite results with an increase in variability for

team tactical variables with few players in a team. This indicates that smaller teams were more inclined to change their dispersion. Less variability detected in larger-sized teams indicates that these teams were less sensitive for changes in their team dispersion, and likely, players stick more to their position in a team formation. Teams adjust their dispersion in accordance with a changing number of players to maintain team organization when more players participate in the SSG, as suggested by Silva et al. (32).

Next to the analysis of all players in the team, subgroups of 2 players give the opportunity to compare tactical variables of SSGs with matches and to investigate the structure within team dispersion measures. Although under-19 showed a smaller width during 6 vs. 6 + GKs than the match, which displays a smaller lateral distance between 2 nearest players in this game format, this subgroup showed similarities in all other tactical variables for SSGs and official matches. This indicates that players maintained a similar position in reference to their nearest player. This behavior is likely facilitated by the playing area in the SSGs. As their individual area was similar to the match on average, players had sufficient space to maintain a preferred distance. Yet, in contrast to small RPAs, they were not constrained by a small playing area that forces players to play closer to their team members (15,26). Analysis of subgroups of 2 players and playing SSGs on a 320 m^2 RPA revealed that players were able to maintain a similar distance to their nearest team member and, in that way, keep a structured team organization, regardless of the number of players in a team.

A subgroup of 4 players was the largest unit possible to compare in the current study and displayed the dispersion of players within a subunit. This revealed differences between SSGs and matches. Larger interpersonal distances had been found during 4 vs. 4 + GKs than during the match in under-13, under-15, and under-17. In an SSG with 4 outfield players, individual players are more frequently involved with the ball than in the match, which is displayed by a higher number of passes per player per minute (Table 1). In addition, players may pick up different information from their environment because there are less players in a team and they play on a relatively large pitch (5), meaning less restrictions to choose position in reference to the players around them and the markings of the pitch. The combination of a relatively small number of players and large pitch caused a larger tactical variability, more individual ball involvement and larger dispersion of players in the subgroup. In this study, under-19 is an exception to this finding because a smaller length and surface area have been detected during 6 vs. 6 + GKs and 8 vs. 8 + GKs in comparison with the match. A possible explanation is that, because of more years of soccer experience, this age group tried to maintain a playing formation with 3 functional lines, without having a full pitch length to use. Possibly, this made it more difficult to maintain a preferred distance between lines, which resulted in smaller length and surface area. In sum, analysis of a subgroup of 4 players showed differences in distances between players in 4 vs. 4 + GKs, but revealed similarities between SSGs and official matches. Within a subunit of 4 players, players maintained a similar distance to each other during SSGs on a match-derived RPA compared with the match.

To conclude, team dispersion increased with more players in a team, displayed by an increase in team length, width, surface area, and interpersonal distances. Simultaneously, passes per player decreased with more players on the pitch. Further analysis of subgroups revealed similar length, width, and interpersonal distance between 2 nearest team members during SSGs and the match, but larger interpersonal distances during 4 vs. 4 + GKs in the youngest age groups when subgroups of 4 players were analyzed. Subgroup analyses give greater understanding of the structure within a team and allow for comparisons of tactical behavior between the official match and SSGs. The increase of team dispersion measures in all players is functional to deal with the players on the pitch, and the subgroups revealed that the distances between players were similar in SSGs and matches. Small-sided games played on a match-derived RPA simulate tactical match demands, as players have similar sufficient space to explore and defend and can maintain similar distances to their team members. Overall, a match-derived RPA facilitates the representativeness of tactical demands of SSGs for the official match, in particular when a larger number of players are used.

Practical Applications

Altogether, current results give rise to practical implications for daily soccer practice and promote applications for team tactical training. Previous studies revealed that playing SSGs on an RPA of 320 m^2 is useful to replicate the physical demands of the official match (9) and affords tactical variability useful for attacking exploration and defending organization (26). Results from current study add to this knowledge that such SSGs also replicate tactical behavior from the match, such as similar distances between players and dispersion within subgroups. An RPA of 320 m^2 will promote similar interpersonal distances as the match in contrast to SSGs with smaller RPAs. From a match-derived RPA, soccer-specific behavior emerges: similar distances between players to pass the ball and sufficient space available to run and become available to receive a pass. This enhances tactical representation of SSGs for the match for a smaller number of players and can be used by soccer trainers who aim to prepare for the official match. Moreover, the offside rule can be applied, which promotes the similarities of behavior between SSGs and the match. However, soccer coaches should be aware of the increase in pass involvements per player with a lower number of players, which, in turn, augments a technical stimulus to players. In addition, this format is also a very suitable SSG design for nonstarting players or substitutes who lack tactical stimulus from the official match.

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