What Economists Need to Know About Diversity Research in Association Football: Results of a Systematic Review

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This paper offers a systematic review of published articles on diversity research in adult male association football (soccer) and identify and organize common research topics, according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Relevant databases were searched for published studies using the following keywords: 'football' and 'soccer', and each one associated with the terms ´diversity´, ´team composition´, ´multinational´, ´team heterogeneity´ ´comp´ and ´heter*´. In this review, novel variables were identified that should be in sharper focus for researchers. A challenge for researchers is to align these new topics with the needs of coaches and managers to produce practical and usable information that improves team performance.*

Keywords: Association Football, diversity, systematic review

INTRODUCTION

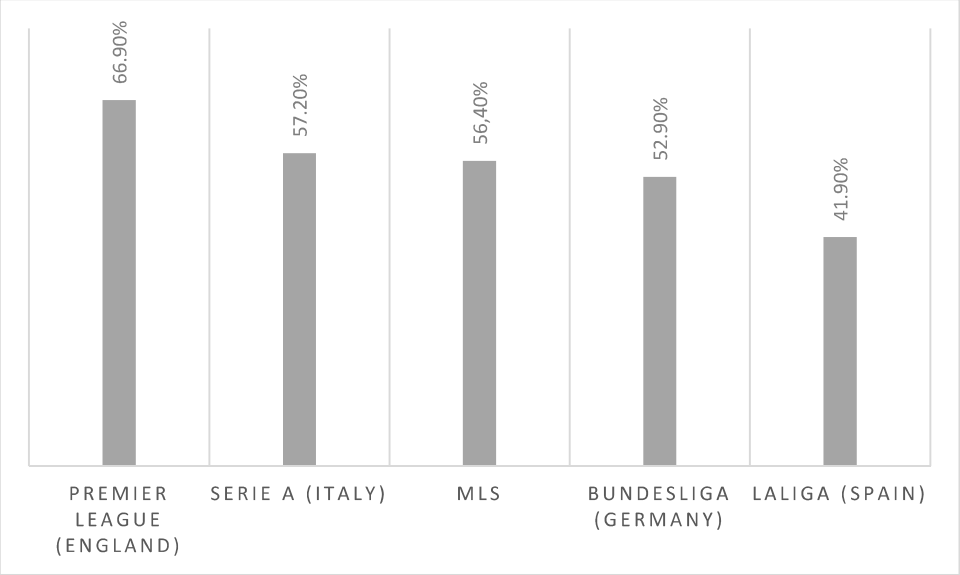
´Diversity´ has become a buzzword over the last decade. More and more companies worldwide are establishing ´diversity management´ although much empirical support on assessing particular practices is conflicting (Horwitz, 2005; Pelled, Eisenhardt, & Xin, 1999; Webber & Donahue, 2001). In theory it may sound easy to place diverse individuals together into work teams and await superior performance. In reality, though, many irreconcilable divisions among heterogeneous individuals often lead to dysfunctional team interaction, resulting in poor performance and decreased morale. Besides affecting performance, diversity has also become a social issue in management (Barry & Bateman, 1996; Liff, 1997; Mazur, 2010).

To integrate diverse individuals (e.g. of different nationalities) into high-performancing work teams seems to be a difficult task for industrial companies. From examining the sports sector, one could get the impression that they may offer some cases best practices to form diverse individuals into high-performing teams. Since the 1960s, increasing numbers of football players from Eastern Europe, South America, Africa, and Asia have been migrating to the top leagues in Western Europe (England, France, Germany, Italy, and Spain). This development has been fostered by the "Bosman ruling" of the European Court of Justice in December 1995 (Frick, 2009).

An overview about the league compositions of some sports inside the United States is offered to illustrate how diverse these teams can be in terms of players' nationality. Compared to other major professional sports leagues in the United States, the National Football League (NFL) has had the lowest percentage of foreign-born players over years. In 2017, roughly 1 out of 39 active players (2.56%) were born outside the US (Borchers, 2017). International representation in the National Basketball Association

(NBA) reached an all-time high in 2016 (25.1%), but in the 2018/2019 season it was down to 24.0% of all players (Cash & Gal, 2018). Thus, the percentage of foreigners playing in the NBA was almost as high as for Major League Baseball (MLB): 27% in 2018 (Anderson, 2018). But the most diverse league in the Unites States in terms of its players' origins was Major League Soccer (MLS), with 56.4% foreign-born players (transfermarkt.com, 2020). To place the population of MLS players in context, Figure 1 shows the percentage of foreigners in several international first-division soccer leagues.

FIGURE 1
FOREIGNERS IN FIRST-DIVISION SOCCER LEAGUES



(Source: transfermarkt.com)

Compared to the first divions of top leagues in Europe the MLS seems to be in a "normal" or "common" range, with just a few percent larger population of foreigners than the German Bundesliga.

To introduce the main research question in this article and to go one step deeper in the examination of team composition, two recent successful examples of diverse and high-performing squads are shown:

(1) Eintracht Frankfurt (Germany) played an excellent 2018/2019 season and finished 7th of 18 teams in the Bundesliga. They reached the semi-finals of the Union of European Football Associations' (UEFA) Euro league with 34 players from 22 different origins (64.7% foreigners). In addition to nationality, its players' ages were also heterogeneous: all members of the team were between 18 and 35 years old, with an average age of 25.5.

(2) France won the 2018 FIFA World Cup in Russia with 23 players, of whom 15 had a second citizenship and could have played for different national teams.

Inspired by Eintracht Frankfurt and France's success, this study seeks to identify some key points related to diversity research in association football.[1] The main research question focuses on whether heterogeneous teams really perform better than their homogenous counterparts. The systematic review of research published in refereed journals intended to address this question contributes to the field in multiple ways, including (1) informing researchers about the evolution of knowledge; (2) explaining the opposing findings of different studies; and as an further approach, (3) suggesting a short, evolving theoretical organization of the key topics and concepts researched regarding diversity research in football, inspired by van der Stede and Merchant's (2017) definition of Personnel Control.

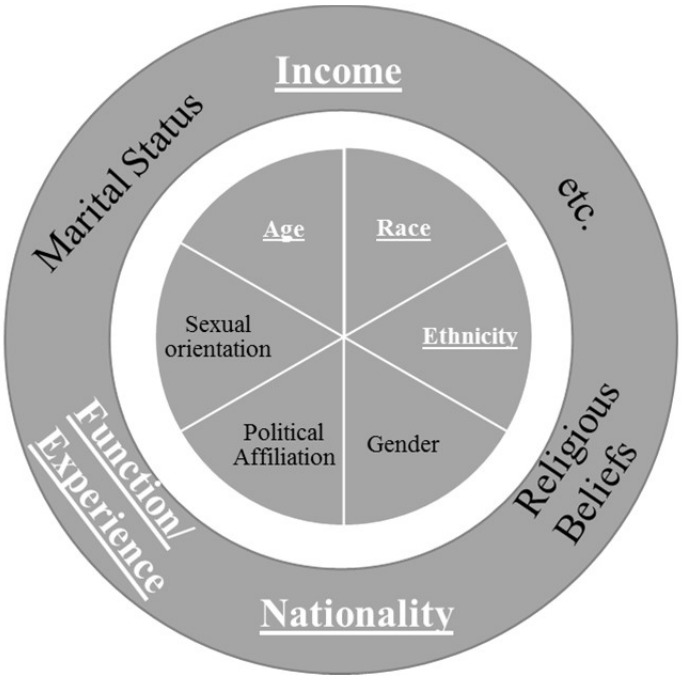
The aim of this article was to conduct a systematic review of published articles on diversity research in adult male football, identify and organize common research topics, and synthesize the emerging patterns of this field.

THEORETICAL FOUNDATION

Reading articles from the popular press could leave the impression that diversity is predominantly about bringing individuals from different nationalities together. However, in this line of research, the term also covers demographic aspects. Horwitz and Horwitz (2007) define demographic diversity as that of all readily detectable attributes (surface-level diversity)—in contrast to diversity of underlying attributes such as personal attitudes, values, beliefs or abilities (so called deep-level diversity). Lawrence (1997) for example classifies demographic attributes into three categories: "attributes that describe immutable characteristics such as age, gender, and ethnicity; attributes that describe individuals' relationship with organizations, such as organizational tenure; and attributes that identify individuals' positions within society, such as marital status."

Since aspects like gender or marital status seem to be irrelevant in the specific context of professional male association soccer, this paper defines diversity by covering aspects of demographic diversity such as diversity of age, race and ethnicity, nationality, functional diversity (e.g. player or coaching staff, offensive or defensive player position) and tenure following the definition of Nüesch (2009). To address recent discussions in the popular press regarding the effect of paying professional footballers using heterogeneous or homogenous salary structure (Licata, 2019; Settimi, 2019), the diversity of players' income will be covered . Figure 2 shows primary and secondary dimensions of diversity as described by Lumadi (2008); those investigated in this article are highlighted as white text.

FIGURE 2
DIMENSIONS OF DIVERSITY



(Source: Lumadi, 2008)

The theoretical literature on diversity in organizations can be divided into work from negative and positive perspectives (Williams & O'Reilly, 1998 as cited in Nüesch, 2009). The positive perspective mainly draws on theories of information and decision making that highlight the benefits of differential information resources. Different ethnic backgrounds, for example, could provide different distributions of knowledge and skills (Lazear, 1999). The negative perspective draws upon theories of social categorization (Taifel, 1981; van Lange, Kruglanski, & Higgins, 2012) or similarity attraction (Byrne,

1997). These theories suggest that diversity causes potential conflict and turnover and decreases social identification, cohesion, and performance. Given these contrasting theories, the overall effect of increasing demographic diversity is still unclear (Williams & O'Reilly, 1998; Nüesch 2009).

The empirical literature that addresses demographic diversity effects in different area of sports presents inconsistent results as well as the following example illustrates. When testing the racial and age diversity of professional basketball and baseball teams, Timmerman (2000) found evidence that both dimensions decreased the teams' winning percentage in basketball and were irrelevant in baseball. He explained the differing results as resulting from different levels of interaction and interdependence that might moderate the effects of demographic diversity as cited in Nüesch (2009).

SEARCH STRATEGY: DATABASES, INCLUSION CRITERIA AND PROCESS OF SELECTION

A systematic review of the available literature was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Shamseer et al., 2015).

The Web of Science, Business Source Ultimate, PsychInfo, and Scopus databases were searched on 13 June 2019 for relevant articles using the keywords ′soccer′ and ′football′, and each one associated with the terms ′diversity′, ′team composition′, ′team heterogeneity′, ′multinational′, ′comp*′ and ′heter*′.

The inclusion criteria for these articles were (1) relevant data regarding diversity aspects of team composition in association football; (2) participants included professional adult male soccer players; and (3) published in English. Studies were excluded if they (1) involved children or adolescents under 18 years of age; (2) included females; (3) did not include relevant data for this study; and (4) were conference abstracts.

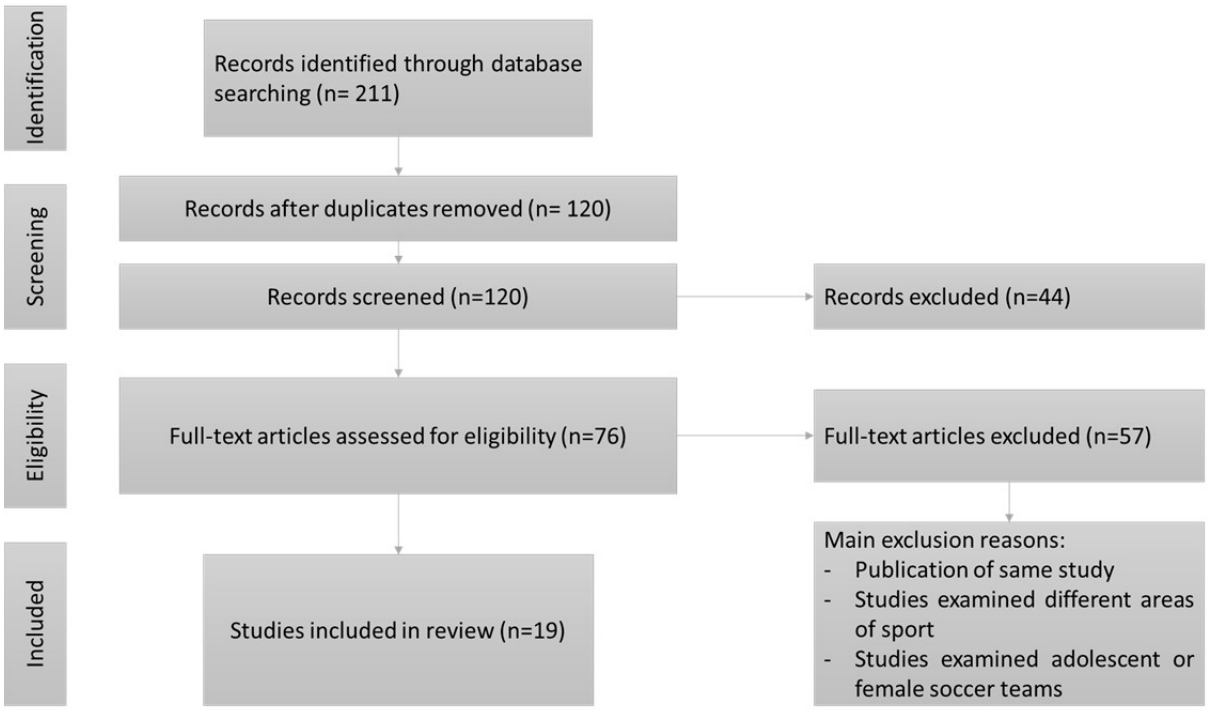
RESULTS

Search, Selection, and Inclusion of Publications

The initial search identified 211 titles. These titles were then exported to reference manager software (Citavi 6), and any duplicates (91 references) automatically eliminated. The titles and abstracts of the remaining 120 articles were then screened for relevance, resulting in elimination of another 44 studies. The full text of the remaining 76 articles was read and another 57 were rejected due to a lack of relevance to the current study's aims. At the end of the screening procedure, 19 articles received further in-depth reading and analysis for incorporation in the systematic review (Figure 3).

The main reason for exclusion was that a published study did not address any aspects of diversity. Other reasons for exclusion included (1) participants who were under 18 years of age; (2) involvement of female players; and (3) primary inclusion of data from other team sports, including futsal, handball, American football, hockey, and basketball.

FIGURE 3
SCREENING PROCESS



Data Organization

The present review grouped studies into research topics (categories) based on the definitions of diversity that emerged from detailed analysis. This approach was adopted to contribute to theoretical knowledge based on a diversity framework without losing the bottom-up knowledge that emerges from the systematic review of studies (Lumadi, 2008). Papers were classified according to major research topics: *Age, Nationality & Culture, Race, Ethnicity & Migration, Salaries* and *Function in the team*.

The aim was not to produce categories that were mutually exclusive, because the same study can include topics or variables that relate to different categories. Thus, an article included in a specific 'category' could also be classified in others as well, as its content justified.

Major Research Topics

The following subsections describe the studies identified in each of the specific research topics. Their findings are outlined and discussed in detail in the following sections. An integrative discussion is outlined after discussing the separated sections.

Age

As Table 1 shows there were two studies found on this area of research, a surprise given this topic is an area of intense focus regarding industrial work teams.

TABLE 1
FINDINGS REGARDING AGE DIVERSITY

Author(s)	Date	Sample	Key finding(s)
Beck, and Meyer	2012	3366 German Bundesliga matches	Empirical results indicate that teams that are heterogeneous on several relevant traits perform significantly worse than more homogeneous teams.
Nüesch	2009	612 team observations (6 seasons in German Bundesliga)	Empirical results reveal that the correlations between demographic diversity and the outcome of the game are confounded by mean values of the demographic attributes and contextual covariates.

Beck and Meyer (2012) examined the variables of tenure, overall tenure, age, nationality, experience, and success. Beck and Meyer's empirical results showed that team heterogeneity significantly decreases performance on the pitch. As mentioned above, and highlighted by examining the variables of this study, some of the studies reviewed in this paper could also have fit within other categories.

Nüesch (2009) has shown in his article that significant correlations between age and tenure diversity and team performance are confounded by mean values of the demographic attributes and contextual aspects. But he also mentions that by "holding these 'third variables' constant, neither age, nor race, nor tenure diversity significantly affects the final outcome of a game". This does not necessarily mean that demographic diversity is irrelevant per se. Even though Keidel (1987) and Katz (2001) argue that professional sports teams provide an accurate representation of work teams in organizations, Nüesch (2009) "cannot deny some important differences that may limit the generalization of the results". This leads him to mention some of the key differences between teams in industry and teams in sports; notably, that teams in industry spend more time on strategy formulation and innovation than their counterparts in sports.

Nationality & Culture

Several studies reviewed in this work cover the influence of nationality and culture on team performance, as summarized in Table 2.

TABLE 2
FINDINGS REGARDING NATIONAL AND CULTURAL DIVERSITY

Author(s)	Date	Sample	Key finding(s)
Haas and Nüesch	2012	4284 team observations (German Bundesliga)	A negative effect of teams' cultural diversity on team performance.
Ingersoll, Malesky, and Saiegh	2009	3483 observation of players (Champions League 2003–2013)	A positive relationship between diversity and performance visible even among the best teams in the world.
Maderer, Holtbrügge, and Schuster	2014	2483 players of 98 clubs in the five largest European football leagues	A negative effect of teams' cultural diversity and coaches' intercultural experience on team performance.

The recent studies of Haas and Nüesch (2012) and Maderer, Holtbrügge and Schuster (2014) report cultural diversity has negative effects on team performance, and the latter also present findings that it has a negative effect on team success. These results support similarity attraction theory, in contrast to some previous studies that showed that cultural diversity has either no impact (Andresen & Altmann, 2006;

Brandes, Franck, & Theiler, 2009; Fritz, 2006; Gaede, Kleist, & Schäcke, 2005; Teichmann, 2007) or a positive impact (Andresen & Altmann, 2006; Hungenberg & Wulf, 2006) on the sporting success of football teams.[2]

Consideration of relative team performance measures reveals that culturally heterogeneous teams are less successful than teams of players with the same nationality. The authors also tested the role of team managers, finding a negative effect of a coach's intercultural experience (in terms of foreign assignments) and the sporting success of the team (Maderer et al., 2014). Similarly, Haas and Nüesch (2012) report that homogenous teams are more likely to win a game than multinational teams, controlling for unobservable team heterogeneity. The authors argue that national diversity seems to complicate team interaction and collaboration.

Whereas those studies have shown negative effects, Ingersoll et al. (2017) found a positive relationship between diversity and performance. Their choice to observe the UEFA Champions League suggested further consideration of league and tournament mode as important moderators. Only the best clubs in Europe qualify for this tournament (usually the Championship winners of the first divisions of a country and—depending on UEFA regulations—the teams in second to fourth place in each league). Qualified teams play in a knockout phase after six group matches, so the context for the participating teams seems to be harder, because every loss could mean dropping out of the tournament (Ingersoll et al., 2017).

Race, Ethnicity and Migration

There is a lack of studies regarding this diversity dimension; only one was found that investigated the relationship between race and team performance. Bachan et al. (2014) could not find evidence that the racial composition of a team influences its performance.

Despite the lack of data about performance aspects, several studies investigating the general racial and ethnical composition of teams were identified. For example, Merkel (2014) and van Campenhout et al. (2018) showed that migration in association football is increasing; Germany, for instance sent the most ethnically diverse national team ever to the European Cup in 2012. Van Campenhout, van Sterkenburg, and Oonk (2018) are explaining that migration is strengthened to several political activities in Europe. Merkel (2014) discusses how Germany has profited by these activities in several ways. By presenting two relatively new published studies, that show an increase of ethnic diversity, I demonstrate that there might be a motive for more studies in that field.

Income

A focus on income is interesting from multiple perspectives. On one hand, salary might be influenced by aspects discussed to this point (e.g. age, nationality, etc.), but on the other hand, it might be that a diverse or homogenous salary structure influences team performance. The results of the review for this dimension are shown in Table 3.

TABLE 3
FINDINGS REGARDING INCOME

Author(s)	Date	Sample	Key finding(s)
Coates, Frick, and Jewell	2016	Yearly observations of all teams from the 2005–2013 seasons (Major League Soccer)	Production (measured as league points per game) in MLS is negatively related to increases in salary inequality.
Frick	2011	Two different unbalanced panels that cover 6 and 13 consecutive seasons (1997–2003 and 1995–2008, Bundesliga)	Variance in player salaries can be explained by variance in individual performance—by career games played and other performance indicators. Functional and national diversity dimensions also matter.
Torgler, and Schmidt	2007	An unbalanced panel of 1040 players, including 2833 observations for 8 years (German Bundesliga)	Player performance is affected not only by absolute income level but also by relative income position.

Coates et al. (2016) found that production, measured as league points per game in MLS, is negatively related to increases in salary inequality. Referring to an older study of Frick, he reports that variance in player salaries can be largely explained by the variance in individual performance. Higher salaries can be explained by career games played and games played last season, previous and recent international appearances, and goals scored. Moreover, player position, leadership skills, and region of birth (functional and national diversity dimensions) clearly matter as well. He also examined the influence of the length of the contract and found that player performance significantly increases in the last year of contracts (Frick, 2009).

In 2003, Frick, Prinz, and Winkelmann investigated incentives and salaries among the four major sports leagues (MLB, NHL, NBA and NFL) in the USA. The results showed that relative importance of high-powered incentives and cooperation is different in American football and hockey (high importance) than in basketball and baseball (low importance). A similar investigation of the influence of inequal salaries in association football would be interesting.

A study by Torgler and Schmidt (2007) found that player performance is affected not only by absolute income level, but also by relative income position within the team. An additional analysis of the performance impact of team effects provides evidence of a direct impact of team-mates' attributes (such as age) and coaches' decisions (such as exchanges and send-offs) on individual player performance.

Function in the Team

Functional diversity in the context of this review is strongly linked to the different tasks in the team. As shown in Table 4, the greatest number of studies for any dimension were been found for this research area. The role of the teams' managers and coaching staff are included along with those of the players.

TABLE 4
FINDINGS REGARDING FUNCTIONAL DIVERSITY

Author(s)	Date	Sample	Key finding(s)
Ben-Ner, Licht, and Park	2017	Data for 28 soccer teams and 1723 players from ten seasons in the German Bundesliga	Diversity among defensive players has a positive effect on player and team performance, whereas the opposite holds for offensive players.
Gelade	2018	1822 matches from the European Top 5 Leagues	Heterogeneous teams score more goals than homogeneous teams, but they also concede more goals.
Grund	2012	283,259 passes between professional soccer players from 23 soccer teams.	Networks characterized by high intensity and low centralization are associated with better team performance
Gerhards, and Mutz	2017	12 European Leagues according to the UEFA Team Ranking 2011/2012 including five football seasons (2011–2016) and a total of 1074 football teams.	Success in football is predictable. The market value of a team is by far the most important single predictor, whereas features of a team's composition—inequality and cultural diversity—are less decisive.
Mühlheusser, Schneemann, Sliwka, and Wallmeier	2018	Bundesliga matches played in the 21 seasons from 1993–1994 through 2013–2014 (6,426 matches).	Teams employing a manager from the top of the ability distribution gain on average considerably more points than those employing a manager from the bottom.
Mühlheuser, Sliwka, and Hentschel	2016	16 seasons from 1994 until 2010 (4,896 matches, Bundesliga).	As a new manager is less well-informed, beacause this new manager knows less about the respective abilities of his players, management dismissals reinvigorate tournament competition—but only in sufficiently homogeneous teams.
Szymanski, Fitzsimmons, and Danis	2019	Panel data of 355 elite soccer teams	When the competitive environment is highly global, teams with multicultural managers outperform teams with monocultural managers. When the competitive environment is less global, the reverse is true.
Carmichael, Thomas, and Ward	2001	Match-play statistics generated by the Opta Index for the 1997–1998 Premiership season for each of the 20 teams involved.	Key attacking and defensive skills are vital; the analysis provides support for the notion that teams may intentionally employ dubious or illegal tactics to succeed.

As Ben-Ner, Licht and Park (2017) found, a diverse group of defenders influences performance in a positive way, while the opposite holds for offensive players. An interesting finding of Gelade (2018) is

that diverse teams create *and* concede more goals. Because the effect on conceding goals is higher, he found an overall negative effect of diversity on team performance.

Carmichael et al. (2001) also observed the defensive and offensive skills of football teams. Though diversity aspects were not the primary focus of their investigation, their study was included in this review because they provided a clear outline of the collaboration between offensive and defensive players, which seems to be influenced by diversity, as Ben-Ner et al. (2014) argued. With respect to output determination, Carmichael et al.'s analysis emphasizes the importance of defensive aspects, identifies those plays that contribute most to successful attacks in terms of shots on the opposition goal and scoring goals, with accurate passing shown to be of particular significance compared with plays such as dribbles and runs. Such interpretations assist in determining match-play tactics of a given team selection, other factors being equal, and in the consideration of the type of player required to strengthen squads. As they admit, the limitation of their study is in the measurement of some aspects of quality, because they were only able to count quantitive aspects (Carmichael et al., 2001).

Grund also observed the way players interact with each other using a network analysis method. This study was included in the review in the hope that further analysis of its statistics would allow discovery of some relations between passing interactions and team tactics (specifically, aspects regarding functional diversity). Grund reported two central findings: 1) Increases in passing rate lead to increased team performance (as he predicted, a clear network centralization effect is present) and 2) increases in the centralization of team play lead to decreased team performance (Grund, 2012).

Gerhads and Mutz found that the winning team in a league is highly predictable. The market value of a team is by far the most important single predictor, whereas different features of a team's composition—inequality, cultural diversity, and fluctuation—are less decisive. However, the market value of a team does not play the same role in all leagues. The lower the degree of financial inequality in a league, the lower the impact of the market value on teams' performance (Gerhards & Mutz, 2017).

The other studies reviewed (Mühlheusser et al., 2018; Mühlheusser et al., 2016; Szymanski et al., 2019) analyzed the impact of the coaching staff on team performance. As Szymanski et al. found, teams with multicultural managers outperform those with monocultural managers when the competitive environment is highly global, and the reverse is true if the environment is not that global (Szymanski et al., 2019). Mühlheuser et al. (2016) found that after a new manager is hired, he is less well-informed, and that management dismissals reinvigorate teams' performance in tournament competition—but only in sufficiently homogeneous teams. In another study, he reports that teams employing a manager from the top of the ability distribution on average gain considerably more points than those employing a manager from the bottom (Mühlheusser et al., 2018). It should be mentioned, though, that his findings are based only on observation of the German Bundesliga, and different results could be expected when analyzing international competitions.

INTEGRATIVE DISCUSSION AND PRACTICAL IMPLICATIONS

Upon analyzing the literature, it seems that some thematical areas are underrepresented. Though race and its influence on performance is discussed in other areas of sports (Foley, 1990; Hoffman, Kniffin, & Day, 2015; Hoffmann, 2013; Steinfeldt, Reed, & Clint Steinfeldt, 2010), it does not seem to be a focus of research regarding association football.

As some of the studies had opposing findings, it is difficult to suggest strategies for practitioners. However, as most footballers retire in their mid-thirties, team median age is an important factor. To be successful for several years, managers should focus on talented players and build a squad that has players with a wide spread of age to ensure retiring players will be replaced. As research has shown that a wide variety of age seems to have negative influence on team performance (Beck & Meyer, 2012; Haas & Nüesch, 2012), managers must be confused and will not know how to react regarding the implementation of a successful follow-up strategy. Based on the opposing findings and insufficient availability of data, it is not possible to offer practical implications regarding functional composition of ethnic or national origins within teams.

Therefore, the only practical implication for team managers and coaches arising from this analysis is to professionalize their roster planning. A wide spread of management accounting instruments, like implementing a human resources scorecard, definition of group rewards defined by reaching key performance indicators (as described in *Income*) or other approaches to shape organizational culture can be used (for a detailed description of these instruments see Merchant & van der Stede, 2017). Such approaches could be implemented during (1) selection and placement, (2) training, and (3) job design, resourcing and employment. The difficulty here is apparent and lies in the appropriate adaption from strategies designed for industrial work teams to soccer teams.

Obviously, this study also has its limitations. While the analysis of sport teams is an established topic in management research (M.C. Brown, 1982; Grusky, 1963; Pfeffer & Davis-Blake, 1986), one may question the degree to which the results of the current study can be generalized to other sorts of teams. Brown (2000) emphasizes the nature of tasks in playing a significant role for group processes. Therefore, suggestions for industrial teams are not made in this article. However, Elias and Dunning (1966) emphasize the advantages of investigating sports (particularly soccer), as configurational dynamics within social units are more visible in, for example, the activities of sport teams.

CONCLUSION & FURTHER RESEARCH

The results of this systematic review outlined the major topics related to diversity research in association football. There are controversial findings regarding the question how a team should be composed. Further research in this area should discuss the methodological approaches of the studies to explain their different findings. Additionally, the chosen variables (dependent and independent) within the identified studies should be an area of focus.

As this review has shown, more studies can be found if the article types are expanded to include book chapters, PhD dissertations and unpublished work. A search for studies published in German could also increase the corpus reviewed, as an initial search showed such articles are available.

This review found a concentration of studies on the German Bundesliga and on the English Premier League; other leagues are underrepresented. Further research could focus on the Italian Serie A, American Major League Soccer or Spanish Primera Division. Publications referring to second or third division leagues could not be identified, which could also offer an interesting direction for further empirical study. After such studies become available, a meta-analysis should be carried out to examine the overall effects of team heterogeneity and compare these to other fields of industry.

National teams and international tournaments like World Cups or Continental Cups are not currently the focus of research—even though this area could be fascinating to explore. As those tournaments are often played in a group stage phase followed by a knockout phase, e. g. some of the players' demographic attributes might be more or less important in comparison to league matches, because of different moderating factors. This area might be also of practitioners' interest.

In conclusion, diversity research in association football seems to be a young field, with many areas that have not yet been fully examined, and some that have not even drawn the interest of researchers. Further analysis should compare the findings of studies in the field of industrial teams, so both areas can learn and use each others' best practices.

ENDNOTES

1. The terms "association football", "football" and "soccer" will be used interchangeably in this article.
2. Those studies were not included in this review because they did not fit the inclusion criteria: working papers, PhD dissertations, or published in German.

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