



State politics and gender diversity in sport governance

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Abstract

This study investigates the relationship between state politics and sport governance based on an institutional framework and the concept of spillover effects. Specifically, it examines whether spillover effects occur from state parliament and government composition to board gender diversity within sport governing bodies. Organizational-level data from German national and state sport governing bodies were collected ($n=930$). They were combined with state-level data on the government composition by gender and political party (parliament, ministers) based on the location of each sport governing body's headquarter. The results show that on average 20.1% of board members in sport governing bodies are women. Regression analyses indicate that the share of parliamentarians from the Social Democrats and the Green party is positively associated with the share of women in sport governance, while the share of Liberals in the parliament is negatively related. The share of women parliamentarians from the Social party and the share of women Conservative ministers are negatively related to women in sport governance. The findings indicate that women representation in sport governance is linked to state politics, suggesting that spillover effects occur from an organizations' political environment.

Keywords Board composition · Institutional framework · Political parties · Sport organization · Women

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1 Introduction

In several European countries (e.g., France, Denmark, Germany), national and state governments are closely interwoven with sport governing bodies (Petry et al. 2004), as some political goals can be achieved through sport (Harris and Dowling 2020). Governments and sport governing bodies have several points of contact, such as the promotion of policy initiatives on inclusion or health, access to sport facilities, economic development, and successful performance at Olympic Games (Houlihan 2016). Furthermore, sport governing bodies receive financial support from governments, while sport organizations can influence public opinions about current political topics like discrimination or gender diversity (Barnhill et al. 2021).

Gender diversity in leadership positions is one element of good governance (Ferkins and Shilbury 2012), that has increased in importance in both politics and sport in recent years. Specifically, both sectors have attempted to gender diversify their leadership personnel (Choi 2011; International Olympic Committee [IOC] 2018a). However, both politics and sport fail to report levels of gender diversity which are close to an equal representation of men and women (each 50%) (Adriaanse 2016; Inter-Parliamentary Union [IPU] 2021).

Importantly, achieving high levels of board gender diversity is not only relevant from an ethical perspective (Adriaanse 2016), but also from an economic perspective (Joecks et al. 2013; Wicker and Kerwin 2020). A number of studies have identified beneficial organizational outcomes of board gender diversity for both corporate (e.g., Terjesen et al. 2009) and sport organizations (e.g., Lee and Cunningham 2019). For example, sport organizations with more gender diverse boards were found to generate higher per-capita revenues (Wicker and Kerwin 2020) and report fewer financial problems (Wicker and Kerwin 2020). Consequently, fostering gender diversity in the boardroom can have economic benefits for organizations.

To capitalize on the benefits of board gender diversity, it is important to understand the factors that shape the level of gender diversity in the boardroom of sport governing bodies. Given the various links between state politics and sport governance, previous studies examined the association between national governments and the governance of sport (e.g., Grix 2009; Hoye 2003). However, the relationship between governmental factors at the state level and the gender composition of sport governance has not yet been studied systematically.

The purpose of this study is to examine potential spillover effects from state government to sport governing bodies within the same state. Specifically, this research looks at the relationship between the gender composition of the parliament and among ministers and gender diversity in the boardroom of sport governing bodies using an institutional framework (Saeed et al. 2016; Terjesen et al. 2015). The research context is Germany which consists of 16 federal states. German sport governing bodies include national and state sport organizations encompassing both

sport federations and sport associations.¹ These sport governing bodies have their headquarters in all German states. Given their location in a specific state, the gender composition of their board might be shaped by the regional political environment. This study advances the following main research question: How are state parliament and government composition in terms of gender and political party associated with board gender diversity in sport governing bodies? The research question is analyzed using a comprehensive dataset of national and state sport governing bodies in Germany.

The findings suggest that spillover effects occur especially from the party and gender composition of state parliaments and to a lesser extent from state government composition. The share of state parliamentarians from the Social Democrats and the Green party is positively associated with board gender diversity in sport governing bodies located in the same state. Additionally, the share of women parliamentarians from the Green and Left party is positively related to women in sport governance. Contrary, the share of Liberal parliamentarians and the share of women parliamentarians from the Social Democrats as well as the share of women Conservative ministers is negatively associated with women on sport boards. The study contributes to the literature examining the link between state politics and sport governance through an institutional perspective.

2 Literature review and theoretical framework

2.1 Gender diversity in sport boards

Existing research indicates that leaders in sport governing bodies across the world are still predominantly men: Starting with international sport governing bodies, the IOC set itself the goal in 2017 to gender diversify its governance structures until 2020. Between 2016 and 2018, the share of women on the IOC board of directors increased from 19 to 29%, which is still far below the target of a share of women between 40 and 60% representing a gender balanced board (IOC 2018b). Adriaanse (2016, 2017) examined the gender composition of leadership in 75 International Sport Federations (ISF) and 1600 National Sport Organizations (NSO) in 45 countries. For the ISFs, the share of female board directors was only 13.3%, with almost one third of ISFs having a male-only board (Adriaanse 2017). The global mean for female board directors in NSOs was 19.7%, with only one country reporting a gender balanced board (Adriaanse 2016). In Germany, the German Olympic Sports Confederation (DOSB) has imposed a quota of at least 30% women in its own governance structure and reports a share of 44.4% female board members. Its member organizations are not formally obliged to gender diversify their boards, but are recommended to do so (DOSB 2020a). Wicker (2019) reported an average share

¹ The German organized sport system consists of two streams, i.e., a regional stream (sport federations) and a sport-specific stream (sport associations). Sport federations represent all sports of a specific regional territory, while sport associations represent one particular sport.

of female board members of 17.5% in German NSOs and of 25.2% in state sport federations, indicating that sport boardrooms are dominated by men.

2.2 Institutional framework and spillover effects

Most previous studies investigating the relationship between environmental factors and gender diversity in corporate boards draw on an institutional framework (e.g., Saeed et al. 2016; Terjesen et al. 2015). Following this approach, the actions and decisions of organizations are shaped by their institutional environment (Scott 2014). The institutional structures which are related to the presence of women on boards encompass social or cultural, economic, and political institutions (Grosvold and Brammer 2011; Terjesen and Singh 2008). These institutions produce formal (laws, policies) and informal guidelines (norms, taboos) for social behavior and thereby shape organizational structures and governance practices (Ianotta et al. 2016; Scott 2014; Tyrowicz et al. 2020).

These effects can occur directly or indirectly. Direct effects mean that environmental factors such as the implementation of rules occur intentionally with the purpose of affecting the organization. Contrary, indirect or spillover effects occur unintentionally. They imply processes or conditions in the organization's environment and social context that shape organizations, but were not originally planned (Dallmeyer et al. 2017). Within spillover effects, actions of organizations are not seen in an isolated manner, but as a relationship "between behaviors within and between contexts" (Galizzi and Whitmarsh 2019, p.2). Such a context can be the political environment within a specific state, potentially yielding spillover effects from state politics to gender diversity in sport governance. Consequently, "one behavior causes the adoption of additional, related behaviors" (Galizzi and Whitmarsh 2019, p.1).

Spillover effects have been examined in several sectors and areas. In the corporate sector, positive spillover effects were found from gender diversity on supervisory boards to gender diversity on management boards (Bozhinov et al. 2021), and from women on boards to women executives (Matsa and Miller 2011). Other studies reported negative spillover effects from the share of women in higher-level jobs to the share of women in lower-level jobs (Bagues and Esteve-Volart 2010). In existing sport research, spillover effects were found from both state government spending unrelated to sport (Dallmeyer et al. 2017) and state government quality (Wicker et al. 2017) on individual sport participation levels.

2.3 Spillover effects from state institutions to board gender diversity

Political institutions (e.g., Terjesen et al. 2015) can be state-level drivers of gender diversity in boardrooms. Political pressure, for example through gender quotas, can have a positive effect on the gender composition of sport boards (Adriaanse 2017). In general, women's participation in politics can decrease gender stereotypes (Brieger et al. 2019) and push societal change forward as it relates to women representation in the boardroom (Seierstad et al. 2017). The gender composition of a

parliament is considered an indicator of equal opportunities for all genders within a nation. Additionally, the beliefs of political parties shape the level of gender diversity in parliaments (Wängnerud 2008). Elise-Quest and Grabe (2012) identified the political participation of women, reflected by the share of female parliamentarians, as a political indicator for national-level gender equity which influences psychological processes of individuals. These processes might be responsible for the extent to which individuals consider the representation of women in leadership positions as normal or usual. Political parties in Germany were identified as the most important actor pushing for change to implement policies to increase the share of women in leadership positions (Seierstad et al. 2017).

A few studies investigated the relationship between political institutions and board gender diversity or gender related policies. In the corporate sector, Chizema et al. (2015) found a positive relationship between the number of female parliamentarians and the number of women on corporate boards, indicating a spillover effect from the national government to corporate organizations. Likewise, the presence of women in national parliaments was found to affect gender diversity on corporate boards (Terjesen and Singh 2008). However, spillover effects from state government and political parties to gender diversity in sport governance have not yet been studied systematically.

Spillover effects might also occur from state politics to gender diversity in sport governance. Given the geographical proximity of state governments and sport governing bodies in the same state, the behavior of sport governing bodies is affected by the political environment in a particular state. Hence, the political situation at the state level might shape the situation of sport organizations. According to the institutional framework (Saeed et al. 2016; Terjesen et al 2015), the behavior of political institutions might spill over to organizations in the same state and sport governing bodies, respectively. For example, political agendas regarding desirable, societal developments such as changing perceptions of leadership and the importance of gender diversity might spill over to sport governance.

2.4 Synthesis

The existing body of research has provided some knowledge about institutional drivers of board gender diversity. However, some shortcomings must be noted. First, only a few selected institutional factors have been studied. Therefore, Brieger et al. (2019) stated that environmental drivers of board gender diversity are still under-researched. According to Terjesen et al. (2015), previous research has largely neglected the role of political institutions. Second, most studies examined the corporate sector, mainly neglecting the sport sector and its governing organizations. Although sport organizations are also embedded in the institutional environment of a state, the findings from the corporate sector cannot necessarily be transferred to the sport sector for at least reasons: First, the legal form of sport governing bodies is different as these are non-profit organizations. Second, sport is historically male-dominated and gender stereotypes are even more difficult to break down in this sector (Anderson 2009). Therefore, the sport sector warrants a specific examination,

also because of its prominent social and political role (Spaaij et al. 2019). Hence, it is important to study the institutional factors shaping the level of gender diversity in sport governance. This study attempts to address these shortcomings by examining the relationship between political factors at the state level and gender diversity in the boardroom of sport governing bodies.

2.5 Research context: political parties in Germany

Germany has a multi-party system, with seven main political parties being represented in the national and state governments. These parties include the following (from left-wing to right-wing): Left party (*Die Linke*), Social Democratic party (*SPD*), Green party (*Die Grünen*), Liberal party (*FDP*), Conservative party (*CDU/CSU*), and Right party (*AfD*). These parties and their gender policies are explained in the following.

The Left party has 61000 members and a share of 36.4% women members (Niedermayer 2020). Core aspects of their program are equal treatment of cultural and social groups (Olsen 2018). The Left party wants to eliminate structural discrimination of women in politics and society (Die Linke 2011). In 2011, the Lefts implemented a quota of 50% women for their boards, commissions, working groups, and electoral lists at the national level. This quota also applies to the state level, with exceptions being permitted (Die Linke 2015).

The Social Democratic party was founded as the party for the working class (Federal Agency for Civic Education [BPB] n.d.). Of its 420000 members, 32.8% are women (Niedermayer 2020). Central to its program are social aspects, like family policies and improving the living conditions of single parents, unemployed, and pensioners (BPB n.d.). The party has a gender quota for its own commissions, with a minimum quota of 40% women and a target quota of 50% women. Lists of candidates for all parliamentary elections are created alternating by gender (SPD 2021).

The Green party has 96500 members and is, with a share of 41%, the party with the highest share of women memberships (Niedermayer 2020). The party is mainly elected by younger people, people with higher education and higher earnings, and women (BPB n.d.). Main aspects of their program are climate protection and energy transition, but also economic and social justice (Die Grünen n.d.). The Green party has a quota of at least 50% women for the composition of committees and voting lists. It also has a federal women's conference and a women council (Die Grünen n.d.).

The Liberal party has 65500 members, but only 21.6% of them are women (Niedermayer 2020). The typical voter is male and self-employed or a civil servant (BPB n.d.). The party stands mostly for liberal economic positions, civil rights, and rejection of state interventions (BPB n.d.; Bukow 2019). The Liberals do not have any gender quotas, and argue that quotas are not appropriate to increase gender diversity. Instead, they aim for mentoring programs and awareness campaigns in schools (Ahrens et al. 2020; FDP 2021).

The Conservatives are formed by two parties: the Christian Democratic Union (CDU) and the Christian Social Union (CSU; Wiliarty 2018), with the CSU only being active in the state of Bavaria and the CDU in the remaining 15 states. Altogether, both parties have approximately 545000 members, including 26.5% (CDU) and 21.3% (CSU) women members. They receive the most support from older, religious voters over 60 years (BPB n.d.). In their statutes, both parties have a formal gender quota for boards and electoral lists of at least 40% (CSU 2019) and 33.3% women (CDU 2019), respectively.

The Right party has approximately 35000 members, with only 17.8% of them being women (Niedermayer 2020). Two-third of their voters are male and middle-aged. The voters have, compared to the voters of the other parties, a greater proximity to right-wing extremist beliefs (BPB n.d.). The Rights advocate the closing of the borders of the European Union and traditional roles within families (AfD 2016). The party is against feminism, gender research, and state policies towards childcare (AfD 2016; BPB n.d.). Consequently, the party does not have any internal gender quotas (Ahrens et al. 2020).

3 Method

3.1 Data collection

The study is based on data at two levels, including the organizational and state level.

3.1.1 Organizational-level data

These data were collected from January to March 2021 and contain information about sport governing bodies in Germany. The data include all the information that was available online. Specifically, information about the size and gender composition of an organization's board, the location of its headquarter, and the number and gender composition of its memberships was retrieved from the organization's website. If this information was not available online, the missing information was requested via e-mail. In addition, all sport governing bodies must report their membership figures once a year to the state sports federations or to the DOSB, that publish them online or have made them available upon request (DOSB 2020b; State Sport Federation Hesse 2020). Since the cut-off date for this annual survey is usually in January or March, the 2019 membership data were used (cut off January/March 2020).

The data include national and state sport federations and associations, representing both Olympic and non-Olympic sports.² Altogether, Germany has 961 national and state sport governing bodies. The DOSB is the federal umbrella organization of

² Sport governing bodies with special tasks were omitted (e.g. Special Olympics, university sport, police sport), since these have not only natural persons as members, but also institutions like universities, making the membership figures difficult to compare.

the organized sport system in Germany. Its members include 16 state sport federations (one for each federal state), 40 national sport associations in Olympic sports, and 26 national sport associations in non-Olympic sports (DOSB 2020b).

The overall figure of 961 is a result of inconsistencies in state sport associations. While the geographical state borders are linked with the jurisdiction of the state sport federations, this is not the case for the state sport associations. Not every sport has 16 state sport associations. Some federal states have several sport associations for one sport. For example, in handball, the state of Rhineland-Palatine has three state handball associations (State Sport Federation Rhineland-Palatine 2020). In other sports, one state sport association is responsible for the representation of the sport in two federal states. For example, the states of Berlin and Brandenburg have a joint state tennis association (Statistical Office Berlin-Brandenburg 2020). Moreover, some sports have separate national sport associations, while sharing one state sport association. For instance, the sports of (apparatus) gymnastics and sport acrobatics are both represented by the Bavarian Gymnastics Association (German Sport Acrobatics Association n.d.). In total, 31 state sport associations had to be excluded due to missing information regarding their board composition or membership figures. The empirical analysis is based on a final sample of $n=930$ national and state sport governing bodies.

3.1.2 State-level data

These data contain information about the political situation within the states and the representation of different parties in the parliament and among ministers. The size, party, and gender composition of the parliaments and the ministers were retrieved from the state government's websites. The date of elections varies from state to state. Since one legislative period is four or five years depending on the respective state, the collected data reflect the period between 2016 and 2020. Additionally, economic control variables at the state level such as women population, women labor force participation, and state gross domestic product (GDP) were collected. This information was retrieved from an open-access dataset, which was downloaded from the Quality of Government (QoG) Institute's website (QoG 2021). These data refer to 2017 as this is the most recent year for which data are available for all states. Information about the gender wage gap in each state was gathered from the Federal Statistical Office's (2021) website and refers to 2018. Data on the two main religions in Germany, i.e., Catholicism and Protestantism, were retrieved from the BPB's website (BPB 2020).

The state-level data were combined with the organizational-level data using the state of the organization's headquarter as key variable. For national sport organizations and state sport associations spanning the geographical territory of more than one state, the location of the organization's headquarter was considered decisive. In total, 34 state sport associations cover the geographic territory of more than one state. Therefore, the state of the organization's headquarter is used to assign the respective state since the organizations are bound to this state government's rules and regulations.

Table 1 Overview of variables

Variable	Description and codes
<i>Dependent variables</i>	
%W board [0;100]	Share of women on the board (%; 0;100)
%W board [0;1]	Share of women on the board (0;1)
<i>Parliament</i>	
% Left parliament	Share of Lefts in the state parliament (%)
% Social parliament	Share of Social Democrats in the state parliament (%)
% Green parliament	Share of Greens in the state parliament (%)
% Liberal parliament	Share of Liberal Democrats in the state parliament (%)
% Conservative parliament	Share of Christian Democrats in the state parliament (%)
% Right parliament	Share of Alternative for Germany in the state parliament (%)
<i>Parliament women</i>	
%W parliament	Share of women in the state parliament (%)
%W Left parliament	Share of women Lefts in the state parliament (%)
%W Social parliament	Share of women Social Democrats in the state parliament (%)
%W Green parliament	Share of women Greens in the state parliament (%)
%W Liberal parliament	Share of women Liberal Democrats in the state parliament (%)
%W Conservative parliament	Share of women Christian Democrats in the state parliament (%)
%W Right parliament	Share of women Alternative for Germany members in the state parliament (%)
<i>Ministers</i>	
% Left ministers	Share of Lefts among state ministers (%)
% Social ministers	Share of Social Democrats among state ministers (%)
% Green ministers	Share of Greens among state ministers (%)
% Conservative ministers	Share of Christian Democrats among state ministers (%)
<i>Ministers women</i>	
%W ministers	Share of women state ministers (%)
%W Left ministers	Share of women Lefts among state ministers (%)
%W Social ministers	Share of women Social Democrats among state ministers (%)
%W Green ministers	Share of women Greens among state ministers (%)
%W Conservative ministers	Share of women Christian Democrats among state ministers (%)
<i>Religious variables</i>	
% Catholic	Share of Catholics in the state (%)
% Protestant	Share of Protestants in the state (%)
<i>Economic variables</i>	
%W state population	Share of women state population (%)
%W labor force participation	Share of full-time employed women (%)
GDP per capita	Regional GDP per capita (in thousand €)
Gender wage gap	Difference in payments between women and men (adjusted, %)
<i>Organizational variables</i>	
Memberships per capita	Memberships of the organization per state inhabitant
%W memberships	Share of women memberships (%)
Board size	Total number of people on the board

Table 1 (continued)

Variable	Description and codes
State sport organization	Type of sport organization (1 = state sport organization; 0 = national sport organization)

3.2 Measures and variables

Table 1 gives an overview of the variables used in this study. Board gender diversity is measured with a continuous variable capturing the share of women on the board, in line with previous research from the corporate and the sport sector (e.g., Grosvold et al. 2016; Gaston et al. 2020). Concerning the term board, most organizations have a voluntary board as decision-making unit, while a few have a two-tier board structure with a full-time executive board (board of directors) and a voluntary supervisory board (presidium). Generally, this two-tier system is more common in the corporate sector (Jungmann 2007). The distinction between paid staff and volunteers is not relevant to this study, since the quality of non-profit sport governance is related to the active participation of the voluntary board (Woodroof et al. 2021). The paid directors are responsible for daily business, but are hired, controlled, and evaluated by the voluntary board. The latter operates as a supervisory board and is still responsible for strategic decision-making (Yeh et al. 2009). In the present study, only 15 organizations have a two-tier board structure (i.e., the DOSB, 7 national sport associations, and 7 state sport federations). The term *board* includes both types of boards and the current board gender diversity measure captures the leadership of the sport governing body.

At the state level, the political situation in the parliament and among ministers is measured with several variables. For the parliament, the overall gender composition is captured by the share of women in the state parliament (*%W parliament*). Additionally, six variables capture the share of seats held by each party (e.g., *% Social parliament*) and another six variables reflect the share of women holding a seat for each of the parties (e.g., *%W Social parliament*). Likewise, another set of variables was created with the share of women among ministers (*%W ministers*), the share of ministers from each party (e.g., *% Social ministers*) and the share of women ministers from each party (e.g., *%W Social ministers*). The Right party is not part of a state government and, therefore, does not have any ministers.

This study included religious, economic, and organizational control variables. Religious beliefs within a state may influence women's possibilities to reach boardrooms. For example, Protestant countries with left-wing governments were found to have more gender equality policies, while traditionally Catholic countries focus more on family policies and the traditional role of women (Sjöberg 2004). Official figures about religion at the state level were only available for the two main religions (*% Catholic*; *% Protestant*).

Economic control variables capture the share of women population (*%W population*) and the share of women working full-time in the labor force (*%W labor force participation*). Previous studies found that countries with a higher proportion of

women in the labor force (Grosvold et al. 2016) tend to have more women on corporate boards. The gross domestic product per capita (*GDP per capita*) was included to control for differences in economic development between the states. Gender differences in payment are captured by the adjusted *Gender wage gap*. The adjusted gender wage gap deducts structural causes of gender differences like profession, education, and previous work experiences (Finke et al. 2014). This variable is included because, for example, countries with a lower gender wage gap were found to have a higher share of women on corporate boards (Terjesen and Singh 2008).

Board gender diversity may also be affected by organizational factors (Ahn and Cunningham 2017; Wicker and Kerwin 2020). Organizational size is relevant as larger firms tend to have more women on their board, potentially because of their higher visibility to the public (Hillman et al. 2007; Singh and Vinnicombe 2004). Organizational size is captured by total number of memberships, with per-capita values being used to adjust for size differences between states (*Memberships per capita*). For state sport associations and federations, the number of memberships was divided by the number of inhabitants of the respective state. The membership numbers of national sport governing bodies were divided by the number of inhabitants in Germany.

Furthermore, firms with a higher share of female employees (McCormick Hyland and Marcellino 2002) had more women on their boards. Likewise, sport governing bodies with a higher share of women memberships were found to have a more gender diverse board (Wicker and Kerwin 2020). Additionally, the size of the board seems to be relevant, as larger boards increase the acceptance of different opinions and experiences (Terjesen et al. 2009). Therefore, the variables *%W memberships* and *Board size* are included. Sport governing bodies can be divided into national and state sport organizations, which is reflected in the dummy variable *State sport organization* capturing the type of organization.

3.3 Empirical analysis

The empirical analysis consisted of two main steps. First, descriptive statistics were obtained to give an overview of the sample structure. Second, four sets of regression models were estimated to examine spillover effects from political state-level factors to gender diversity on sport boards. They differ in their independent variables. The first set of models represents the baseline models, only encompassing the share of women in the parliament and among ministers. The second set consists of three models including the shares of political parties in the parliament, while the third set includes models with the shares of women by party in the parliament. The fourth set encompasses the share of women state ministers by party.

The empirical analysis takes into account several econometric issues. First, the independent variables were tested for multicollinearity using correlation coefficients and variance inflation factors (VIF). These tests have indicated several multicollinearity issues. First, the religious variables were highly correlated with the party variables. Therefore, *Catholic* and *Protestant* are only included in the baseline models. Second, *GDP per capita* is highly correlated with *% Green parliament* and *% Right*

parliament, with the VIFs of these variables (17.84 and 10.98) exceeding the suggested threshold of 10 (Hair et al. 2010). Thus, *GDP per capita* is excluded from the second set of models. Third, the share of Social Democrats ministers and the share of Conservative ministers are highly correlated and the VIFs of these variables exceeded 150, because these two parties make up most state governments. Therefore, models including the shares of ministers from different parties were not provided. Fourth, *%W labor force participation* is highly correlated with *%W Right parliament*, *%W Green ministers*, and *%W Left ministers*. Accordingly, female labor force participation is excluded in the third and fourth set of models. Moreover, the Left and Liberal party are only part of the government in three states. The resulting high number of zeros affects the model convergence and, therefore, *%W Left ministers* and *%W Liberal ministers* were excluded. The resulting four sets of regression models are based on the following equations:

$$\begin{aligned}
 \text{Model 1 : } \%W \text{ board} &= \beta_0 + \beta_1 \%W \text{ parliament} + \beta_2 \%W \text{ ministers} \\
 &+ \sum_{r=1}^2 \beta_r \text{ Religious variables} + \sum_{e=1}^4 \beta_e \text{ Economic variables} \\
 &+ \sum_{o=1}^4 \beta_o \text{ Organizational variables} + \varepsilon
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 \text{Model 2 : } \%W \text{ board} &= \beta_0 + \sum_{p=1}^6 \beta_p \text{ Parliament} \\
 &+ \sum_{e=1}^3 \beta_e \text{ Economic variables} \\
 &+ \sum_{o=1}^4 \beta_o \text{ Organizational variables} + \varepsilon
 \end{aligned} \tag{2}$$

$$\begin{aligned}
 \text{Model 3 : } \%W \text{ board} &= \beta_0 + \sum_{w=1}^6 \beta_w \text{ Parliament women} \\
 &+ \sum_{e=1}^3 \beta_e \text{ Economic variables} \\
 &+ \sum_{o=1}^4 \beta_o \text{ Organizational variables} + \varepsilon
 \end{aligned} \tag{3}$$

$$\begin{aligned}
 \text{Model 4 : } \%W \text{ board} &= \beta_0 + \sum_{m=1}^3 \beta_m \text{ Ministers women} \\
 &+ \sum_{e=1}^3 \beta_e \text{ Economic variables} + \sum_{o=1}^4 \beta_o \text{ Organizational variables} + \varepsilon
 \end{aligned} \tag{4}$$

Each set of models includes one linear regression estimated with ordinary least squares (OLS) and two additional models as robustness checks. The first robustness check is another OLS regression with a reduced sample ($n = 896$), excluding sport governing bodies that cover the geographic territory of more than one state.

The second robustness check is a fractional response model which addresses the bounded nature of the dependent variables. The share of women on the board is bounded between 0 and 100%, violating one key assumption of OLS (Papke and Woolridge 1996; Soebbing et al. 2015). Log-odds transformed variables or beta regression models are two common solutions, but are problematic for samples with extreme values of zero or one (Papke and Woolridge 1996). Therefore, logit fractional response models were estimated with a transformed dependent variable ($\%W_{board} [0;1]$).

All models were estimated with robust standard errors clustered at the state level. This decision takes the correlated errors into account, but not potential biases from assuming away the nested nature of the data. Multi-level models would consider the nested structure of the data, but require at least 20 (Tabachnick and Fidell 2007) or as much as 30–50 higher-level cases (Muthén and Muthén 2009). Given that Germany has only 16 states, this requirement cannot be achieved with the present data.

4 Results

Table 2 reports the descriptive statistics. Sport governing bodies have on average 20.1% women board members. The presentation of results focuses on the political factors as these are the variables of interest. In German state parliaments, Conservatives occupy 31.2% of all seats, followed by Social Democrats (25.2%), Greens (13.5%), Rights (12.3%), and Lefts (7.7%). The share of women among parliamentarians is 37.7% on average. The Green party has the highest share of women (47.0%), followed by Social Democrats (38.8%), the Left party (25.8%), the Liberal party (15.4%), and the Right party (10.0%). Among state ministers, 40.4% are women on average. Again, the Green party has the highest share of women ministers (32.3%), followed by the Social Democrats (29.2%). With 7.1%, the Left party has the lowest share of women ministers.

Tables 3, 4, 5 summarize the results of the regression analyses and display the average marginal effects (AME). Starting with Table 3, the baseline model (Model 1) shows that the share of women in the state parliament and among ministers are not significantly related to the share of women in sport governance.

Table 4 displays the models with political parties (Model 2) and women in the parliament (Model 3). In Model 2, the share of state parliamentarians from the Social Democrats and from the Green party are significantly and positively related to women in sport governance, while the share of Liberals has a significant negative association. These effects are significant in all three models, indicating they are robust. The positive associations between the share of Left (Model 2b) and Right parliamentarians (Model 2c) are only significant in one out of three models, meaning they are not robust.

Table 4 also summarizes the models including the share of women parliamentarians of each party (Model 3). They show that the shares of women

Table 2 Summary statistics

Variable	n	Mean	SD	Min	Max
<i>Dependent variables</i>					
%W board [0;100]	930	20.07	16.83	0	100
%W board [0;1]	930	0.20	0.16	0	1
<i>Parliament</i>					
% Left parliament	16	7.7	8.7	0	32.2
% Social parliament	16	25.2	11.6	8.4	43.0
% Liberal parliament	16	5.8	4.5	0	14.0
% Green parliament	16	13.5	9.3	0	32.8
% Conservative parliament	16	31.2	7.9	12.2	47.0
% Right parliament	16	12.3	8.5	0	30.2
<i>Parliament women</i>					
%W parliament	16	30.7	4.9	21.8	43.0
%W Left parliament	16	25.8	25.3	0	64.2
%W Social parliament	16	38.8	12.0	10.5	52.9
%W Green parliament	16	47.0	17.7	0	80.0
%W Liberal parliament	16	15.4	12.6	0	40.0
%W Conservative parliament	16	21.7	8.0	6.6	37.5
%W Right parliament	16	10.0	8.0	0	26.0
<i>Ministers</i>					
% Left ministers	16	5.0	12.8	0	50.0
% Social ministers	16	26.9	25.3	0	66.6
% Green ministers	16	18.6	15.9	0	50.0
% Liberal ministers	16	5.2	9.5	0	25.0
% Conservative ministers	16	40.7	28.8	0	80.0
<i>Ministers women</i>					
%W ministers	16	40.4	10.6	25	66.6
%W Left ministers	16	7.1	21.3	0	100
%W Social ministers	16	29.2	26.2	0	66.6
%W Green ministers	16	32.3	29.9	0	100
%W Conservative ministers	16	23.1	17.3	0	50.0
<i>Religious variables</i>					
% Catholic	16	22.2	17	3.3	56.8
% Protestant	16	25.0	9.3	11.9	44.6
<i>Economic variables</i>					
%W state population	16	50.6	0.1	50.3	51
%W labor force participation	16	24.6	2.5	21.1	29.9
GDP per capita	16	38.24	8.78	26.92	63.79
Gender wage gap	16	5.7	0.9	3.7	8.0
<i>Organizational variables</i>					
Memberships per capita	930	0.97	3.96	0	36.70
%W memberships	930	35.2	17.4	3.8	96.0
Board size	930	9.22	4.85	2	50
State sport organization	930	0.927	0.259	0	1

Table 3 Baseline model for the share of women on sport boards

	Model 1a (OLS; [0;100])	Model 1b (OLS; [0;100])	Model 1c (FR; [0;1])
	AME	AME	AME
%W parliament	0.131 ⁺	0.109 ⁺	0.007 ⁺
%W ministers	-0.017	-0.017	-0.001
Religious variables	YES	YES	YES
Economic variables	YES	YES	YES
Organizational variables	YES	YES	YES
<i>n</i>	930	896	930
<i>R</i> ²	0.210	0.212	0.035
<i>F</i> / χ^2	47.05***	59.69***	508.87***

All models estimated with robust standard errors clustered at the state level

OLS ordinary least squares, *FR* fractional response, *AME* average marginal effects

⁺*p* < 0.10

**p* < 0.05

***p* < 0.01

****p* < 0.001

parliamentarians from the Green and Left party are significantly and positively associated with the share of women on sport boards, while the share of women parliamentarians from the Social Democrats has a significant negative relationship. These effects are evident in all three models, suggesting they are robust.

Table 5 reports the models with women ministers (Model 4). They show a significant negative relationship between the share of Conservative women ministers and the share of women on sport boards. State women ministers from other parties are not significantly associated with women in sport governance.

5 Discussion

Using an institutional framework (e.g., Terjesen et al. 2015), this study examined potential spillover effects from state parliament and ministers by party and gender composition to board gender diversity in sport governance. With 20.1%, the share of women board members in sport governing bodies is only slightly higher than the global average of 1600 NSOs (19.7%) and the European average of 922 NSOs (18.8%; Adriaanse 2016). However, it is below the DOSB's (2020a) own women quota of 30%, indicating that the recommendation by the umbrella organization (DOSB) does not automatically trickle down to national and state governing bodies (Wicker and Kerwin 2020). The higher average shares for women state parliamentarians and women ministers can be explained by politicians' needs to meet social requirements in order to get elected. Additionally, four out of six political parties most frequently represented in state parliaments have formal gender

Table 4 Regression results for the share of women on sport boards: Political parties and women within these parties in the state parliament

	Model 2a (OLS; [0;100]) AME	Model 2b (OLS, [0;100]) AME	Model 2c (FR; [0;1]) AME	Model 3a (OLS; [0;100]) AME	Model 3b (OLS; [0;100]) AME	Model 3c (FR; [0;1]) AME
% Left parliament	0.081	0.095*	0.000			
% Social parliament	0.089**	0.091***	0.001***			
% Green parliament	0.068*	0.064*	0.001**			
% Liberal parliament	-0.180**	-0.172**	-0.001**			
% Conservative parliament	-0.020	-0.015	-0.000			
% Right parliament	0.094 ⁺	0.077	0.001*			
%W Left parliament				0.037**	0.034**	0.000***
%W Social parliament				-0.069***	-0.073***	-0.001**
%W Green parliament				0.078**	0.086**	0.001**
%W Liberal parliament				-0.054 ⁺	-0.059 ⁺	-0.001 ⁺
%W Conservative parliament				0.081 ⁺	0.080 ⁺	0.001 ⁺
%W Right parliament				-0.012	-0.025	-0.000
Religious variables	NO	NO	NO	NO	NO	NO
Economic variables	YES ^a	YES ^a	YES ^a	YES ^b	YES ^b	YES ^b
Organizational variables	YES	YES	YES	YES	YES	YES
<i>N</i>	930	896	930	930	896	930
<i>R</i> ²	0.212	0.215	0.035	0.213	0.215	0.035
<i>F</i> / χ^2	52.80***	113.41***	983.31***	79.94***	33.08***	1188.18***

All models estimated with robust standard errors clustered at the state level

OLS ordinary least squares, *FR* fractional response, *AME* average marginal effects

⁺*p* < 0.10

**p* < 0.05

***p* < 0.01

****p* < 0.001

^aExcluding GDP per capita

^bExcluding women's labor force participation

quotas and parity rules regarding their candidates for state parliamentary elections (Reiser 2014).

The empirical analysis indicates that the share of women in sport governance is shaped by the party and gender composition of state parliaments and governments. The findings for political institutions can be interpreted through the lens of social role theory (Chizema et al. 2015). In brief, this theory holds that the expectations of individual behavior are affected by individuals' gender and associated norms and roles (Eagly and Crowley 1986). Women's stereotypical role includes activities like

Table 5 Regression results for the share of women on sport boards: Women state ministers

	Model 4a (OLS; [0;100])	Model 4b (OLS; [0;100])	Model 4c (FR; [0;1])
	AME	AME	AME
%W Social ministers	0.012	0.014 ⁺	0.000
%W Green ministers	0.002	0.010	0.000
%W Conservative ministers	-0.054**	-0.064**	-0.001***
Religious variables	NO	NO	NO
Economic variables	YES ^a	YES ^a	YES ^a
Organizational variables	YES	YES	YES
<i>n</i>	930	896	930
<i>R</i> ²	0.212	0.215	0.035
<i>F</i> / χ^2	99.09***	85.93***	1091.99***

All models estimated with robust standard errors clustered at the state level

OLS ordinary least squares, FR fractional response, AME average marginal effects

⁺*p* < 0.10

**p* < 0.05

***p* < 0.01

****p* < 0.001

^aExcluding women's labor force participation

helping and caring for e.g., family members (Eagly and Crowley 1986) and rather not political participation (Arceneaux 2001). Contrary, men stereotypically care for the family by participating in the labor market and are perceived as better leaders and problem-solvers (Eagly and Crowley 1986; Prime et al. 2008). These beliefs and stereotypes about the attributes of men and women and their expected roles in society differ between political parties and, hence, affect voters' choices of a political party in state elections (Arceneaux 2001). In the corporate sector, political institutions were found to shape board gender diversity because the presence of women in politics can help to overcome traditional social roles of women and men and can motivate women to strive for leadership positions in work life (Chizema et al. 2015). The present findings suggest that the perception of gender roles might also spill over to sport governing bodies and voluntary leadership, respectively. The results are discussed by political party in the following.

The share of Left women parliamentarians is positively associated with gender diversity in sport governance (Model 2). The share of Left parliamentarians is typically higher in Eastern German states as the Left party has its roots in former Eastern Germany (Olsen 2018). Former Eastern German politics included gender diversity policies earlier in their program and encouraged women to participate in the labor market (Rosenfeld et al. 2004), while former Western German politicians advocated the social role of women as house workers and mothers (Rueschemeyer & Schissler, 1990). Thus, the Left party is characterized by fewer gender stereotypical roles and people living in states with a high share of Left women parliamentarians might adopt these beliefs in their own mindsets. The present findings indicate that

the presence of women politicians of this party shapes state culture and beliefs about women's social roles (Eagly and Crowley 1986), and that these beliefs about the roles of women spill over to sport boards in these states.

The share of seats in the state parliament held by Social Democrats is positively linked to gender diversity on sport boards, while the share of women parliamentarians has a negative relationship. Thus, the overall representation of the party in the parliament seems to be more relevant than the share of women parliamentarians. The first relationship can be explained by the Social Democrats generally conveying a social culture in which women have opportunities to achieve leadership positions and which advocates "equal and fair participation of women and men in reliable gainful employment" (SPD 2007, p. 23). The second finding might be a result of women parliamentarians of this party focusing on the chances of women in the labor market. However, the present study examines voluntary sport leadership and not paid labor, potentially explaining the evident negative spillover effects from women parliamentarians from the Social Democrats to women in sport governance. Hence, in states where these parliamentarians focus on promoting women in the labor market, their share is lower in the board of voluntary sport governing bodies located in this state.

The share of Green parliamentarians and the share of women Green parliamentarians are positively associated with the share of women in sport governance. The Green party had women leaders from their beginning (Wauters and Pilet 2015) and has the highest quota with at least 50% women on voting lists (Die Grünen 2022). The party was the first German party to implement such a gender quota in 1986 (Von Wahl 2006). Hence, the Green party considers women as leaders rather than supporting gender stereotypical role beliefs. The party promotes gender diversity in all aspects of living, with gender diversity being a fundamental component of the Greens' political direction. Specifically, the party pursues the goal of a gender equal society, and considers feminism one way to achieve it (Die Grünen n.d.). In a political environment where the Green party is impactful in state parliaments and fosters gender diversity, the evidence shows that spillover effects occur to board gender diversity in sport organizations located in these states.

The share of Liberal state parliamentarians is negatively related to the share of women board members in sport governance. The Liberal party does not have a gender quota and does not consider a quota useful (Ahrens et al. 2020; FDP 2021). The Liberal party in Germany has a conservative tendency (Ennsner 2012), leading to the endorsement of traditional social gender roles. This conservatism unfolds in cultural aspects (Close 2019) like gender diversity in leadership. Following the institutional framework, this political environment also shapes the situation of sport organizations. In particular, in states where the Liberal party occupies a high share of seats in the parliament, women are less represented in sport leadership, supporting the occurrence of negative spillover effects from state politics to gender diversity in sport governance.

For Conservatives, a positive association with the share of women in sport governance was only identified for women ministers and not for (women) parliamentarians. The Conservatives have traditional and stereotypical beliefs about the social roles of women, especially the role as a "round-the-clock-available mother" (Geissel

2013, p. 215). Even though Conservative women ministers made it to this leading position and the party includes gender diversity themes in their program (CDU 2019; CSU 2019), these women ministers might be perceived as being in an unusual leadership role. Moreover, despite their gender, they might still need to act in accordance with the traditional role orientation of their party. This aspect is especially important because they secured their positions not based on a democratic election like parliamentarians, but through appointment by the state's prime minister. The findings suggest that these political circumstances might create a climate where women in leadership positions are considered less appropriate, implying that their presence negatively spills over to sport organizations located in these states and board gender diversity, respectively.

The representation of the Right party in state parliaments is not significantly associated with the share of women on sport boards in the respective states. Although there was one significant association in Model 3c, this finding is not considered robust and is, therefore, not discussed.

Overall, the results suggest that several spillover effects occur from state politics to gender diversity in sport governing bodies located in the respective state. Therefore, this study echoes previous research from the corporate sector (Chizema et al. 2015), indicating that parliament composition shapes board gender diversity in various sectors and that parties are important to achieve higher levels of gender diversity in organizations (Seierstad et al. 2017). The present findings suggest that spillover effects are driven by the party and gender composition of state parliaments rather than by ministerial positions.

6 Conclusion

This study investigated the relationship between state politics and gender diversity in sport governance drawing on an institutional framework (Terjesen et al. 2015). Using a comprehensive dataset of national and state sport governing bodies in Germany, the study provided evidence of spillover effects from the party and gender composition of state parliaments and governments to board gender diversity in sport. The findings suggest that the representation of political parties and women within these parties is more important than the mere representation of women in the state parliament and government. Collectively, the political climate of the state where sport governing bodies' headquarters are located is associated with gender diversity in sport governance, indicating that the political environment and the perceived roles of women by political parties play a role. Thus, institutional state-level factors shape the gender composition of sport boards in Germany.

This study's unique contribution to the literature lies in the examination of the role of the state political environment by employing an institutional perspective. Especially the differentiation between different political parties and the consideration of the share of women parliamentarians and ministers has provided new insights. Studying sport is important as sport governing bodies have mostly voluntary leaders, meaning that evidence from the corporate sector cannot be automatically transferred

to the sport sector. Hence, the present research enhances our understanding of spillover effects from state politics to sport governance.

The findings of this study have implications for state politics and sport governance. The study reveals that sport organizations are shaped by their state political environment, specifically by the party and gender composition of the state parliament. Thus, state politics and political actors need to recognize that they shape the beliefs in a state and the social roles ascribed to women, ultimately affecting organizations in a state. Especially state parliaments and governments should be aware that their gender and party composition might have (unintended) consequences for non-political organizations such as sport governing bodies. This finding is important for sport governance as it suggests that the underrepresentation of women in sport leadership cannot only be changed by addressing issues at the organizational level. Hence, state politics do not only have direct effects on sport governing bodies (Bergsgard and Rommetvedt 2006), but also indirect and spillover effects, respectively.

This study has some limitations that can guide future research. First, the study is limited to the available political data at the state level. Only information about parliament and government composition by party and gender could be made available to capture state politics, while data on state government spending on sport or other areas were not available. Second, the data are only cross-sectional in nature, meaning that only associations can be examined. Future studies should collect longitudinal data and examine how changes in state parliaments and governments affect the gender composition of sport boards. Third, the institutional framework outlines the role of environmental institutional factors on organizations located in a specific environment. Future research should critically explore other environmental factors such as societal pressures that facilitate or hinder gender diversity in sport governance.

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