Gender inequality and demand for women's sport: Re-Unified Germany as a natural experiment

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Abstract

Sport is a highly gendered social sphere. Accordingly, gender inequality within societies is correlated with women's opportunities to participate in high-performance sport and national performance levels. Since sex-discriminatory socialisation appears to play a decisive role for sport consumption, the main question addressed here is whether socialisation by gender egalitarian policies serves to increase demand for women's high performance sport. In order to test this idea TV ratings for the German women's national football team are analysed because re-unification has created a unique natural experiment on socialisation effects of gender policies. Results provide no support for the idea that a stronger social acceptance for non-familiar roles of women increases audience demand for women's sport. Rather, it seems that gender divisions specific to sport matter, which has important implications for future research and policies aimed at popularising women's sport.

Keywords: Women's soccer, gender discrimination, gender role socialisation, TV ratings, Germany

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Introduction

It is common wisdom that sport is a highly gendered social sphere since men's control of female physical activity has been at the heart of masculine hegemony. Thus, for a long time women were denied the right to engage in physical exercise for reasons of health, that is, female physical 'weakness' or detrimental effects on female fertility, chastity or threats to the 'natural order' of sexes (e.g., Messner, 1992; Pfister, 1993).

Although women have made considerable progress in terms of sport participation, sport has remained highly gendered. On a macro-social level, women's opportunities to participate in high-performance sport are still linked to gender inequality within societies as becomes evident when measures of gender inequality and indicators of sporting performance are correlated. Here, we use the Gender Inequality Value (GIV) as provided by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). GIV represents a composite measure reflecting inequality in achievements between women and men in the three dimensions of reproductive health, empowerment and labour market (UNESCO, 2011). GIV would assume zero in case of perfect gender equality and one in case of total gender inequality. When GIV data are related to FIFA data on women's national football teams, it becomes evident that the 104 countries with a national women's football team achieve lower gender inequality values ($\overline{GIV} = 0.338 \pm 0.177$) than the 45 countries without a women's team or with a women's team with no or very little match activity ($\overline{GIV} = 0.511 \pm 0.156$). Whereas this relationship is statistically highly significant ($F_{1,147}$ =31.82; η^2 = 0.178; $P < 0.001$), UNESCO does not provide GIV data for a number of Islamic and developing countries. Furthermore, there is a moderate linear relationship between women's national team's FIFA rankings and GIV country rankings (r = 0.591; $P < 0.001$; n = 104) (cf. Figure 1) suggesting that gender inequality is also linked to national levels of sporting performance.

[FIGURE 1 ABOUT HERE]

However, the main question addressed here is whether audiences that have been socialised by more gender equal policies show higher demand for women's sport.

Re-unified Germany provides an ideal natural experiment for tracing such socialisation effects.

Theoretical background

Socialisation and sport consumption

Both sport sociologists (e.g., Messner, 1992) and sport psychologists (e.g., Wann & Waddill, 2003) agree that sport entertainment represents a highly gendered product and that socialisation into certain gender identities is decisive for consumption. Not only is the typical sport consumer male (Gantz, Wang, Paul & Potter, 2006), there exist also characteristic gender differences in sport fan motivation (Wann, Grieve, Zapalac, & Pease, 2008; Dietz-Uhler, Harrick, End, & Jacquemotte, 2000). However, not anatomical sex but rather gender role orientations account for different sport fan motivations as shown (Wann & Wadill, 2003). Moreover, McCabe (2007, 2008) has provided evidence that gender role attitudes play an important role for the respondents' stance toward women's sport.

Thus, research supports Sloan's claim (1989, 176) that gender differences in sport consumption are products of 'sex-discriminatory acculturation processes'. Actually, gender differences in children's attitudes toward sport emerge at a very early age as result of gender-role socialization (Eccles & Harold, 1991). Childhood experiences serve to link masculine identities and playing and watching sport (Messner, 1992; Whiteside & Hardin, 2011). Moreover, gender preferences in sports can be linked to gender-stereotyped childhood play activities during which boys are encouraged to engage and enjoy aggressive play activities and girls to engage in nurturing play (Sargent, Zillmann & Weaver, 1998).

Hence, since previous research suggests that gender-role socialisation is relevant for sport consumption, the question addressed here is whether audiences that have been socialised into more egalitarian or non-traditional gender role attitudes are more likely to watch women's sport.

Re-unified Germany as ideal natural experiment

Re-unified Germany represents an ideal laboratory for examining this idea. First, football is highly gendered in Germany since the game has been strongly linked to male patriotic feelings (Eisenberg, 1991). Accordingly, women's participation in football has been particularly controversial (Pfister, 1993). Second, re-unification has placed two very different societies under the West-German regime, which raised the question how East-German attitudes and behaviour would adapt (Konietzka & Kreyenfeld, 2002; Lee, Alwin & Tufis, 2007; Hanel & Riphan, 2011; Bauernschuster & Rainer, 2011).

During the German division, the West-German Federal Republic of Germany (FRG) and the East-German socialist German Democratic Republic (GDR) implemented quite divergent gender policies. West-Germany's socially conservative aimed to restore traditional gender roles after World War II and, therefore, 'relegated women to unpaid homemaking and men to breadwinning'. (Rosenfeld, Trappe and Gornick, 2004, 104). In terms of tax, social insurance and family policies, West-Germany implemented an extreme gender unequal regime that discouraged in particular mothers from labour-force participation (cf. Konietzka & Kreyenfeld, 2002).

In contrast, full emancipation of women was an official rhetoric goal of socialist ideology (Braun, Scott & Alwyn, 1994). Moreover, East-Germany adopted a policy of state-decreed professional emancipation because of permanent shortage of labour supply (Rosenfeld et al., 2004). Thus, high levels of employment and long weekly hours were also encouraged for mothers by providing childcare facilities, which resulted in the highest female employment rate in the world (Lee et al., 2007). In result, occupational segregation and gender pay gap were substantially lower in East- than in West-Germany (Braun et al., 1994), and professional careers of men and women converged in East-Germany (Trappe & Rosenfeld, 2000). Some East-German women have even acquired the role of family providers (Konietzka & Kreyenfeld, 2002). However, East-German gender policies were by far not consistent (Budde, 2000). State-decreed emancipation did not include changes of male gender roles (Braun et al., 1994, 31). Thus, women continued to bear the main responsibility for family and household (Lee et al, 2007).

Nevertheless, researchers found persistent or even widening differences in gender role attitudes between East-Germany and West-Germany. East-Germans are more likely to hold egalitarian or non-traditional sex role attitudes than their western counterparts and support labour-force participation of mothers (Bauernschuster & Rainer, 2011;Geisler & Kreyenfeld, 2005). East-German women have kept their attachment to the labour force even under unfavourable conditions (Adler & Brayfield, 1997; Konietzka & Kreyenfeld, 2002; Lee et al., 2007; Hanel & Riphan, 2011). There is also evidence for a more egalitarian distribution of unpaid work in East-Germany (Rosenfeld et al., 2004) and lower gender pay gap in East-Germany (Statistisches Bundesamt, 2012; cf. Online Appendix).[1]

General gender policies vs. sport specific gender division

Notwithstanding egalitarian gender policies in the labour market, East-Germany maintained traditional gender divisions in sport. Thus, women's participation in football was controversial in both Germanys. It is less surprising that, following general reinforcement of traditional gender roles, the West-German Football Association even prohibited women's football in 1955. Although the ban was lifted in 1970, women's football has remained an object of trivialisation (Pfister, 1993, 2006).

In East-Germany, female sport participation was encouraged as a means to preserve work capacity (Budde, 2000) and female athletes accounted to a considerable degree for East-Germany's sporting success (cf. Online Appendix). However, Pfister (2002) has pointed to lasting gender divisions in East-German sport. Women were strongly underrepresented in sport organisations and participated less in popular sports than in West-Germany. In particular football remained highly gendered. Girls were usually not trained in football as 'typical' male sports and women's football was even less promoted than in West-Germany. Thus, while a West-German national team was created in 1982, an East-German team was not formed before 1990.

Given these tensions between egalitarian gender policies in the labour market and persistent gender division in sport in East-Germany, re-unified Germany represents an ideal experiment for studying whether socialisation into non-traditional

gender role attitudes inevitably translates into higher demand for women's sport or whether sport specific gender policies are more relevant for audience demand. Assumed that general gender policies prevail, we hypothesise:

> *H#1: Due to lasting socialisation effects of more egalitarian policies, demand for women's national team football should be higher in East-German federal states.*

Furthermore, since regional differences in gender inequality might reflect differences in gender role attitudes among regional populations, we expect a direct impact of regional gender inequality on the demand for women's football:

> *H#2: Assumed that regional gender inequality reflects deeper gender role attitudes of regional populations, demand for women's sport should be higher in more gender-equal federal states.*

These basic hypotheses are tested by analysing regional TV ratings for the women's national football team from Germany's sixteen federal states.

Data and method

Data sources and indicators

Following standard approaches in empirical sport economics, TV ratings are used as measure of consumer demand. Thus, a dataset from Media Control on regional TV ratings from the German federal states for live telecasts of the women's national football team is analysed. These ratings are conducted based on a representative sample of 5,640 German and EU citizen TV households comprising around 13,000 persons in total (GfK, 2011; cf. Online Appendix). The dataset includes ratings for all 159 matches of the women's national football team between 1 January 1995 and 31 December 2011 shown on German TV. However, due to missing data, multivariate analyses had to be restricted to the 114 matches telecasted between 6 August 2003 and 31 December 2011.

In order to trace socialisation effects of East-German gender policies, a dummy for East-Germany was created (*East*). For developing more fine-grained indicators of regional gender inequality, UNESCO's (2011) approach was adopted. Accordingly, the average number of children per women (*Fertility*), women's labour

market participation (*Female Employment*) and female seat-share in state legislatures (*Female Representation*) were calculated. A minor problem of multicollinearity arose by a modest negative correlation between *East* and *Fertility* exists (cf. Online Appendix). In order to grasp dynamics in demand, we created also a *Trend* variable.

Since demand for sport entertainment is determined by specific quality features, several quality indicators were included following suggestions by Feddersen and Rott (2006). Sporting relevance was measured by a dummy for Euro and World Cup matches (*Tournament*). FIFA rankings served as indicators of sporting quality. Due to little variation in Germany's top FIFA ranking, only the FIFA ranking of the opponent team was included (*Opponent FIFA Ranking*). Assumed that differences in FIFA rankings reflect the uncertainty of match outcomes (the smaller the difference, the more uncertain the match outcome), *Opponent FIFA Ranking* is also a measure of match uncertainty. In order to account for the opportunity costs of TV consumption, dummies for *Prime Time* and *Weekend* were created. As measures of the public visibility of the team, dummies for home matches (*Home*) and telecasts on major networks (*Major Networks)* were included (cf. Table 1).

[TABLE 1 ABOUT HERE]

Statistical approach

Although using anatomical sex as predictor of gender differences in sport consumption is slightly over-simplistic (Wann & Waddill, 2003), TV rating data leave little alternative to stratifying the data according to the audiences' sex. Therefore, *Audience Sex* served as group variable in the mean comparisons and separate analyses for female and male audiences were conducted.

While hypothesis #1 can be straightforward tested by mean comparisons, testing hypothesis #2 requires more complex multivariate analyses. Since the dataset consists of repeated observations (TV ratings) on individual units (federal states) over time, we deal with panel data allowing for causal inferences. The time-series-cross-section (TSCS) character of the data imply potentially complex error structures. Thus, models with panel corrected standard errors (PCSE) were used since they provide more accurate confidence intervals (Reed and Ye, 2011). Fixed

effects were modelled by including dummies for each federal state. Following Beck and Katz (2011), a lagged dependent variable was included to account for auto-correlation resulting from 'habit persistence' typical for sport consumption (Simmons, 2006). Moreover, we applied one year lags for indicators of regional gender inequality to account for the time needed to change attitudes.

Results

The empirical results defy the idea that socialisation effects of egalitarian gender policies in the labour market increase demand for women's sport. Contrary to our theoretical expectations, regional ratings for the women's national team were substantially lower in East-Germany (12.43% ± 11.06%) than in West-Germany (18.40% ± 14.32%) ($\eta^2 = 0.050$, $P < 0.001$). Moreover, ratings were on average higher for male (22.43% ± 14.49%) than for female audiences (10.64% ± 9.71%) ($\eta^2 = 0.159$, $P < 0.001$). A two factor ANOVA performed with using *Regional Ratings* as dependent variable indicated that *Audience Sex* explained most of the variance in *Regional Rating* ($F_{1,5084} = 960.07$, partial $\eta^2 = 0.159$, $P < 0.001$) in comparison with *East* ($F_{1,5084} = 269.91$, partial $\eta^2 = 0.050$, $P < 0.001$) and the interaction ($F_{3,5084} = 16.13$, partial $\eta^2 = 0.003$, $P < 0.005$) (adjusted $R^2 = 0.229$, $P < 0.001$) (cf. Figure 2). Thus, our general hypothesis that, due to having been socialised by egalitarian gender policies, East-German audiences have stronger preferences for watching women's football has to be rejected.

[FIGURE 2 ABOUT HERE]

In order to test the second hypothesis on a possible impact of general gender inequality on audience demand, we conducted multivariate analyses of female and male demand. The TV rating variables were logarithmised since they proved to be right-skewed. First, simple models including all context and match variables were run. In a second step, several interactions of a *Trend* variable were included in order to explore the impact of gender inequality on dynamics of women's sport consumption (cf. Table 2).

[TABLE 2 ABOUT HERE]

Again, the hypothesis was not supported. Regional differences in gender equality appear to exert no impact on demand for women's national team football. Furthermore, there is no evidence that regional differences in gender inequality result in different trajectories in demand for women's national team football. However, there is a positive short-term habit persistence effect. Furthermore, coefficients for home matches and telecasts on major networks suggest that the public visibility of the women's team matters.

Discussion and conclusion

The empirical evidence presented here is of theoretical and practical importance. First of all, on a macro-social level, gender inequality and women's opportunities to participate in high-performance sport are still linked. Building on previous research suggesting that gender-discriminatory socialisation is decisive for sport consumption and that gender policies exert persistent socialisation effects, it was hypothesised that socialisation by gender egalitarian labour market polices inevitably translates into higher demand for women's sport. However, analyses of regional TV ratings for matches of the German national women's football team provide no support for this idea. Rather, the findings suggest that what matters for the socialisation of sport audiences are not general gender policies but rather persistent gender divisions in sport, that is, the extent to what extent women's sport is marginalised and masculine sport is defined as reference point of sport entertainment.

These findings are of utmost importance for further reasoning on the socialisation of audiences for women's sport. Future research should conduct more fine-grained individual level research in order to better understand how gender role attitudes and interest in women's sport are actually linked. In the case of East-Germany, women's sport does not benefit from more egalitarian gender role attitudes but rather suffers from a legacy of sex-discriminatory sport policies.

Regarding policy options to popularise women's sport, the findings imply that the public visibility of women's sports has an impact on audience demand. Thus, increased presence at major networks appears as a viable strategy to raise an

audience for women's sport. However, results provide further evidence for 'women not watching women' (Whiteside & Hardin, 2011), that is, the primary audience for women's sport is male. Moreover, our data suggest that women living in a more gender equal society are even less likely to watch women's sport. While it is not fully clear which factors discourage women from watching women's sport (Meier & Leinwather, 2012), it seems questionable that women's sport can develop an identity independent from masculine reference points if there is no critical mass of female consumers.

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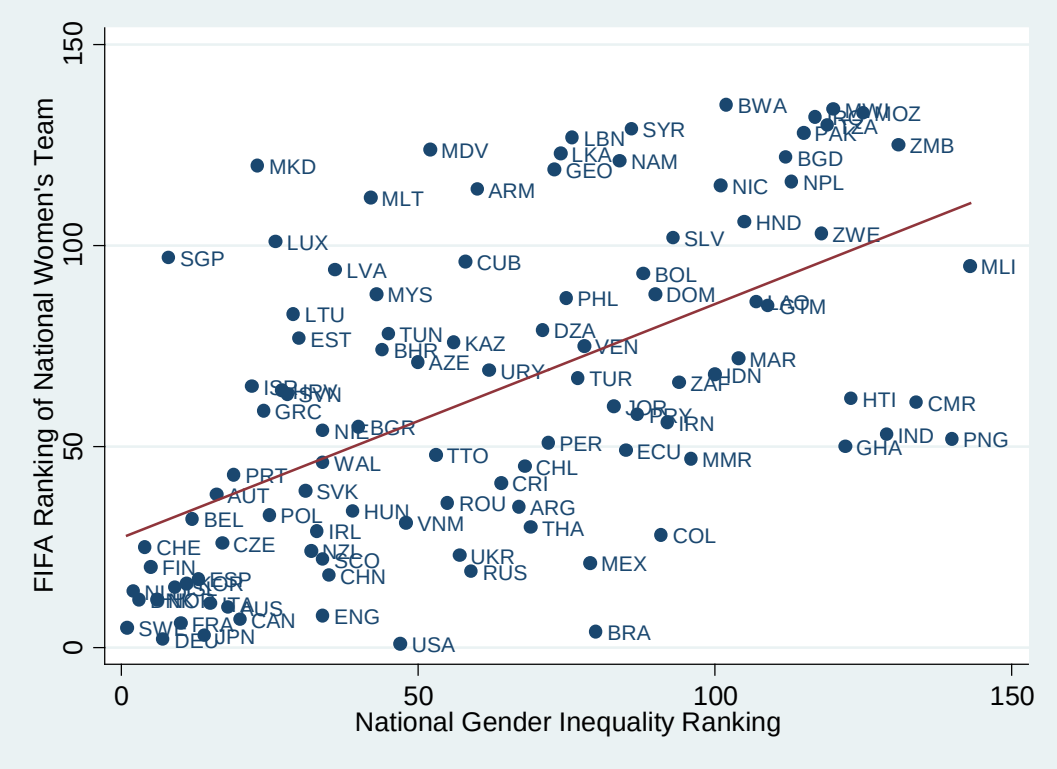
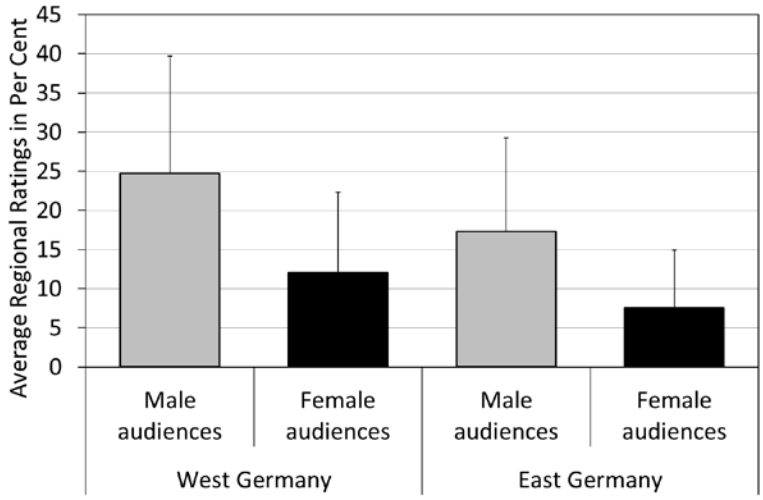
Figure 1. Gender inequality and women's national team performances in 2011



Note: Scatterplot displays data for 104 countries for which complete data are available. Teams to which FIFA has assigned rank 136 due to an insufficient number of matches or missing activity for eighteen months or with an insufficient have been excluded from analysis. The four national teams of UK origin (England, Scotland, Northern Ireland and Wales) have been assigned the UK's gender inequality rank.

Figure 2. Regional TV ratings for the German women's national football team



Note: *n* = 5,088, 16 federal states, 159 matches, 2 sexes.

Table 1. Dependent and independent variables

Name	Definition	Min	Max	Mean	SD
Female TVRatings[a]	Regional TV ratings for female audiences > 14 years	0.000	61.088	11.803	10.374
Male TVRatings[a]	Regional TV ratings for male audiences > 14 years	0.258	80.229	23.392	15.187
East[b]	Dummy for East German federal states	0	1	0.312	0.464
Female Representation[c]	Share of female representatives in each federal state legislature	0.219	0.410	0.322	0.048
Female Employment[d]	Share of female employees on female population between 15 and 65 years in each federal state	0.582	2.697	0.711	0.156
Fertility[e]	Regional births per women in each federal state	0.013	0.019	0.016	0.001
Tournament	Dummy for World Cup and Euro matches	0	1	0.333	0.472
Opponent FIFA Ranking	FIFA ranking of the opponent team at time of the match	1	79	14.877	12.385
Home	Dummy for home matches	0	1	0.421	0.494
Weekend	Dummy weekend (Saturday and Sunday)	0	1	0.272	0.445
Prime Time	Dummy prime time (07.30 p.m. – 11.00 p.m.)	0	1	0.070	0.256
Trend	Annual variable increasing by one unit per year	1	9	4.956	2.455

Note: n = 1,824, 16 federal states, 114 matches. a. Data source: Medial Control/AGF/GfK. b. Reference category is West Germany, Berlin is treated as West German since, before reunification, West Berlin citizens accounted for 62.5% of Berlin's entire population. c. Data source: Election supervisors of the federal states. d. Data source: Regional Database Germany ('Regionaldatenbank Deutschland'), https://www.regionalstatistik.de/genesis/online and Mikrozensus (2010). e. Data source: Regional Database Germany ('Regionaldatenbank Deutschland'), https://www.regionalstatistik.de/genesis/online.

Table 2. Demand functions for female and male audiences

Independent variables	Female audiences		Male audiences	
	Model 1a	**Model 1b**	**Model 2a**	**Model 2b**
(ln)TV Rating$_{t-1}$	0.135**	0.135**	0.166***	0.166***
	(0.043)	(0.043)	(0.038)	(0.038)
East	-0.545**	-0.995*	-0.390***	-0.624*
	(0.175)	(0.422)	(0.089)	(0.281)
Female Representation	0.997	1.534	0.477	1.052
	(0.844)	(1.641)	(0.331)	(0.592)
Female Employment	-0.000	2.066	0.067	1.280
	(0.068)	(1.602)	(0.045)	(0.954)
Fertility	25.774	-39.768	30.439	4.861
	(47.174)	(90.026)	(22.451)	(53.319)
Tournament	0.998***	1.008***	0.823***	0.829***
	(0.109)	(0.108)	(0.070)	(0.070)
Opponent FIFA Ranking	-0.002	-0.002	-0.001	-0.001
	(0.004)	(0.004)	(0.002)	(0.002)
Home	0.401***	0.416***	0.323***	0.332***
	(0.106)	(0.105)	(0.068)	(0.068)
Weekend	0.282**	0.297**	0.000	0.009
	(0.100)	(0.099)	(0.064)	(0.064)
Prime Time	0.038	0.072	-0.124	-0.103
	(0.183)	(0.182)	(0.118)	(0.119)
Major Network	1.883***	1.902***	1.388***	1.400***
	(0.157)	(0.156)	(0.102)	(0.102)
Trend	0.0292	0.295	0.010	0.216
	(0.018)	(0.400)	(0.012)	(0.184)
×*East*		0.090		0.050
		(0.059)		(0.039)
×*Female Representation*		-0.047		-0.083
		(0.219)		(0.101)
×*Female Employment*		-0.693		-0.408
		(0.534)		(0.315)
×*Fertility*		13.501		5.991
		(8.809)		(5.155)
Constant	-1.071	-1.493	0.221	-0.328
	(0.890)	(2.242)	(0.398)	(1.030)
R^2	0.531	0.532	0.7486	0.750

Note: Dependent variable is *(ln)TV Ratings*. *n* = 1,824, 16 federal states, 114 matches, unstandardised coefficients and standard errors (in brackets). Method used is linear regression with panel corrected standard errors (PCSE).The equations here also include dummies for every federal state.

Notes

[1] Due to missing data points for years prior to 2006, we did not include these data in our analyses (for details on measurements, cf. Online Appendix).