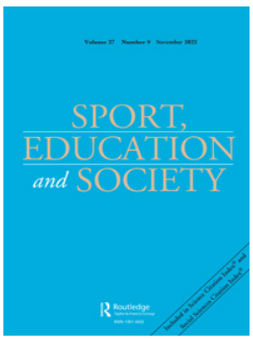

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Sport, Education and Society

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/cses20

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To cite this article: Alexander Jansson, Gunilla Brun Sundblad, Suzanne Lundvall & Johan R. Norberg (2022): Exploring the intersection between students' gender and migration background in relation to the equality of outcome in physical education in Sweden, Sport, Education and Society, DOI: 10.1080/13573322.2022.2110862

To link to this article: https://doi.org/10.1080/13573322.2022.2110862

Published online: 19 Aug 2022.

SPORT, EDUCATION AND SOCIETY
https://doi.org/10.1080/13573322.2022.2110862

Exploring the intersection between students' gender and migration background in relation to the equality of outcome in physical education in Sweden

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ABSTRACT

School grades are among the most common measurements used to analyze equality of outcome in education. Large or increasing 'gaps' in school grades between boys and girls and between students with different migration background are considered strong indicators of inequality. Based on students' school grades, several studies have shown that equality in Swedish schools has decreased during the last two decades. Although equality has been described as one of the most important goals in physical education (PE), studies that focus on equality of outcome are lacking. Moreover, there have been no studies that focus on equality of outcome since the 2011 implementation of a new school grading system in Sweden. Therefore, the aim of this study is to contribute with new knowledge on equality in PE in Sweden – in regard to gender and migration background. The study is based on register data for all students enrolled in Swedish schools during the years 2012–2016 from Grades 6 and 9 and Year 1 in upper secondary school ($N = 1{,}294{,}990$). Based on a cross-sectional approach, analyses were conducted to explore general trends in students' school grades in PE in the study period 2012–2016, and to calculate the percentage difference in PE grades between students with a Swedish background and both students with a foreign background and foreign-born students. After controlling for grade inflation, regression analyses with Wald tests were used to analyze how gender has moderated the relationship between migration background and school grades in PE in Sweden between 2012 and 2016. The results from this study suggest that (a) the intersection of gender and migration background is related to unequal school grades in PE, (b) there are gender equality issues in relation to students' school grades in PE and, (c) the most prominent equality issues concern the group foreign-born girls.

ARTICLE HISTORY
Received 3 December 2021
Accepted 3 August 2022

KEYWORDS
Equality; gender; migration background; physical education; school grades

Introduction

Equality is a broad concept with varied definitions (Organization for Economic Co-operation and Development [OECD], 2015, 2017). Overall, it refers to the principle of equal value of all individuals,

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yet there is no consensus regarding how this principle should be applied in practice (Holmlund et al., 2020). Equality is also a normative and conflict laden concept. One could refer to a dichotomy between those who emphasize equality in outcomes and those who support equality in opportunities (see Evans, 1993; Gustafsson et al., 2016; Phillips, 2004). Equality in outcomes focuses on differences among equality-relevant groups. From this perspective, large 'gaps' in important outcomes, such as income and school grades, are structural societal problems that cause unequal opportunities (Gustafsson et al., 2016; Phillips, 2004). Meanwhile, equality in opportunities is about individuals' rights to shape their lives. From such a position, differences in important outcomes, such as income and school grades, are not necessarily a problem of equality if all individuals have been given equal opportunities to utilize their capacity and level of ambition (Evans, 1993; Gustafsson et al., 2016; Holmlund et al., 2020).

Education can be an important way of creating and maintaining an equal society; nonetheless, it is also an institutional structure that can reproduce inequality (see Evans, 1993; Evans, 2014; Evans & Davies, 2017). A well-functioning educational system can even out differences between equality-relevant groups of students, and thus promotes seemingly equal life chances (OECD, 2015, 2017). Against this backdrop, Swedish schools are obliged to provide equal opportunities for all pupils and to compensate for differences regarding students' backgrounds (Holmlund et al., 2020). Education equality can be examined in different ways. Strategies include a focus on didactics, the study situation, and students' support from their teachers. This can be seen as an analysis of equality of opportunities (Holmlund et al., 2020). An alternative strategy is to analyze equality in education by using school grades as a measurement and analytic tool (Evans, 1993; Gustafsson et al., 2016; OECD, 2015, 2017; Phillips, 2004). The latter is a popular approach, several educational studies have examined equality of outcome in Swedish schools (see Grönqvist & Niknami, 2017; Gustafsson & Yang Hansen, 2018; Holmlund et al., 2020; Sjögren, 2017; Swedish National Agency for Education [SNAE], 2016, 2018; Voyer & Voyer, 2014; Yang Hansen & Gustafsson, 2019). Although these studies have used different statistical methods, they are united in a common interest of how school grade 'gaps' are related to equality-relevant groups, such as gender and migration background, and how such 'gaps' change over time. Based on the approach, to analyze school grade 'gaps', these aforementioned studies have shown that equality in Swedish schools has decreased during the last two decades.

Although equality is a central goal in physical education[1] (PE), few studies have examined equality of outcome in PE based on students' school grades in PE, and the few available studies have mainly focused on socioeconomic status (see Svennberg & Högberg, 2018). Admitting that socioeconomic status is a central aspect, there are, to the best of our knowledge, no studies that have examined how gender affects the relationship between students' migration background and school grades in PE in Sweden. Hence, little is known about the intersection between gender, migration background, and school grades in PE. According to Flintoff et al. (2008), studies tend to focus solely on one aspect at a time, for example, gender or migration background, and few studies take into consideration the intersection between gender and migration background (see also Azzarito & Solomon, 2005). As a result, researchers have pointed to the risk of one-sided conclusions about equality and have called for the use of intersectional approaches (see Flintoff et al., 2008; Flory & Landi, 2020). Although this is not new, it is particularly relevant for quantitative research concerning students' school grades in PE (see Svennberg & Högberg, 2018; Swedish Schools Inspectorate [SSI], 2018). With this background and based on the Swedish Educational Act (see Holmlund et al., 2020, p. 40) and previous studies (see Barker et al., 2014; Fagrell et al., 2012) that describe equality-relevant groups of particular importance, this study focuses on (a) equality of outcome concerning students' school grades in PE, and (b) the intersection of two groups based on gender and migration background.

Thus, the aim of this study is to contribute with new knowledge on equality in PE in Sweden – in regard to gender and migration background. To achieve this, the study explores general trends in students' school grades in PE and analyzes how gender moderates the relationship between migration background and school grades in PE in Sweden during the years 2012–2016. The empirical

material of this study is based on population data of *all* students' school grades in PE in Sweden between 2012 and 2016. The chosen study period is of particular importance because no studies have focused on the aforementioned aspects since the implementation of a new school grading system in Sweden in 2011 (SNAE, 2011a, 2011b).

A principle to examine and evaluate equality

Equality of outcome is complex to define as there is no given measure determining when students' school grades in PE are sufficiently equivalent. However, previous research has suggested a principle to evaluate equality of outcome. In this study, we use a widely recognized principle stating that large or increasing 'gaps' in school grades, in relation to equality-relevant groups, are a strong indicator of inequality (Holmlund et al., 2020, p. 40; SNAE, 2010a, p. 60). More precisely, a 'gap' in PE grades between students with different migration backgrounds – which in addition is larger or has increased more for either girls or boys – is considered a strong indicator of inequality. This principle does not specify what qualifies as a large or increasing 'gap'. Therefore, it is unsuitable when interpreting cross sectional data—especially since 'gaps' in school grades between some equality-relevant groups can be numerically small. However, when using data on students' school grades for a period of several years, it is possible to retrospectively identify national trends (Holmlund et al., 2020). Retrospective national analyses that examine general trends can, together with other (qualitative) studies, provide a more comprehensive view over equality in PE.

School grades in Swedish physical education

The Swedish school system consists of four levels: (a) non-compulsory preschool, for children aged one to five years; (b) preschool, which is compulsory from the year the students turn six; (c) compulsory school, which is compulsory from the year the students turn seven and comprises nine years of study; and (d) upper secondary school, which is three years of non-compulsory study.

During the years 1994–2011, the syllabus stated the aim, goals, to strive for and knowledge requirements for PE. Moreover, students received a school grade in PE at the end of Grade 9 and Year 1 of upper secondary school. The grading scale included 'pass with special distinction,' 'pass with distinction,' 'pass,' and 'fail.' The syllabus for the years 1994–2011 had no core content. Instead, it consisted of (a) nine goals that the school should strive for, for example, 'the school shall in its teaching of PE strive for the student to develop his physical, mental and social abilities and develop a positive self-image' (SNAE, 1996, p. 3); and (b) seven goals that students should achieve, for example, 'the student should understand the connection between food, exercise and health and be able to apply knowledge of ergonomics in everyday contexts'. Moreover, the syllabus' national knowledge requirements for grades (i.e. 'pass with special distinction,' 'pass with distinction,', and 'pass') was formulated differently for each grade, not only differentiated be by the 'value-descriptive' words (e.g. simple, developed, or well developed).

In 2011, a new syllabus was implemented. The changes in the new syllabus aimed to increase equality, result in fairer grades, and boost the focus on knowledge and learning (SNAE, 2019; SSI, 2018). According to SSI (2012), students' development of knowledge in the various parts of PE is emphasized compared with the previous syllabus – versatility and breadth are qualities that highlighted. Moreover, the new syllabus emphasized, 1) areas such as outdoor life/activities, health and dances, and 2) students learning and knowledge rather than doing and performing. The syllabus is legally binding, which means that PE lessons and grading should be conducted in line with the syllabus. In compulsory and upper secondary school, students generally have PE twice a week. In both compulsory school and upper secondary school, PE is a mandatory school subject with a national syllabus that states the aim, core content, and knowledge requirements. Based on the new syllabus and the national knowledge requirements, students receive a school grade in PE at the end of the school year for Grades 6 and 9 in compulsory school and Year 1 in upper secondary

school. Since 2011, the grading scale has ranged from 'A' (the highest school grade), 'B', 'C', 'D', 'E' to 'F' (a fail grade) (SNAE, 2011a, 2011b). The students' school grades are reported by the teachers to a national central system in Sweden. School grades in PE should, throughout, be based on students' knowledge and abilities—not on their attitudes, ambitions, or fighting spirit or on how much they have improved or deteriorated (SNAE, 2011a, 2011b). According to national regulations, each school grade corresponds to a score (i.e. A = 20, B = 17.5, C = 15, D = 12.5, E = 10, and F = 0) (see SNAE, 2018). Together with scores from all other school subjects, these scores are used to calculate the mean score (merit value), which is used as a selection criterion when students apply both to upper secondary school and to higher education.

In the syllabus for compulsory school, the aim clearly states, 'teaching in physical education and health should aim at pupils developing all-round movement capacity and an interest in being physically active and spending time outdoors in nature' (SNAE, 2011a, p. 48). Moreover, the syllabus states that the core content consists of three parts: (a) movement, (b) health and lifestyle, and (c) outdoor life and activities. Teachers' grading should be based on the national knowledge requirements and the 'value-descriptive' words (see italics below for 'value-descriptive' words in the national knowledge requirements). The following is an example from Grade 6: 'Pupils can give (*simple* = 'E,' *developed* = 'C,' *well developed* = 'A') descriptions of how to prevent injuries associated with games' (SNAE, 2011a, p. 53). There are in total eight sentences that, based on the same principle, describe what students must achieve to obtain a specific school grade in PE. The only exception is that in Grade 6, all students should meet the following requirement to receive grade 'E': 'Pupils can also swim 200 meters, of which 50 meters are in the back position' (SNAE, 2011a, p. 53).

In Year 1 in upper secondary school, the aim states, among other things, that 'teaching in the subject of physical education and health should aim at helping students develop their physical ability and the ability to plan, carry out and assess a variety of physical activities that promote all-round physical capacity' (SNAE, 2011b, p. 1). The core content consists of 11 statements that should be central in PE, for example, 'the importance of physical activity and lifestyle for physical ability and health' (SNAE, 2011b, p. 3). Identical to the conditions of a compulsory school, PE teachers' grading should be based on the national knowledge requirements and the 'value-descriptive' words. For instance, the following is one of a total of nine sentences that present the knowledge requirements (see italics for the 'value-descriptive' words): 'Students can with (*good* = 'E,' *certainty and with good* = 'C' and 'A') quality of movement (*perform* = 'E,' *carry out* = 'C' and 'A') a range of activities (*also of a complex nature* = 'A') that improve physical ability' (SNAE, 2011b, p. 4).

In summary, equality is one of the most important goals in PE. However, since the 2011 implementation of a new school grading system in Sweden, little is known about how the intersection between students' gender and migration background is related to PE grade 'gaps'. As a result, there is a lack of important knowledge about equality in PE. Therefore, this study aims to contribute with new knowledge on equality in PE in Sweden in regard to gender and migration background.

Method

The data in this study was numerical, the analyses were based on descriptive and inferential statistics, and the interpretations were derived from an inductive approach. This study was based on register data from the SNAE, accessible after a standard application procedure. All data was used in line with the approved ethical application (ref. no. 2019-00172) and was handled in accordance with the prevailing ethical practice. The students were anonymous, and the data was handled strictly confidentially.

Participants

The participants in this study comprised of students enrolled in Swedish schools in Grades 6 and 9 and Year 1 in upper secondary school during 2012–2016 (N = 1,294,990). The registered data from

the SNAE included data on students' grade (i.e. school level), PE grades, gender, and migration background for the years 2012–2016. The ages of the students in Grade 6 were 12–13; in Grade 9, 15–16; and in Year 1 of upper secondary school, 16–17 years (see Table 1 for descriptive statistics). In line with the government agency Statistics Sweden (SCB, 2002), the students' migration background was defined as follows: (a) students with a Swedish background are those who were born in Sweden and have at least one parent born in Sweden; (b) students with a foreign background are those who were born in Sweden and whose parents were both born abroad; and (c) foreign-born students are those who were born abroad regardless of where their parents were born. Moreover, also in line with Statistics Sweden (SCB, 2002), the students' gender was dichotomously defined as girls or boys.

Design

This study was based on cross-sectional data for the time period 2012–2016. For each year, the data included students in Grades 6 and 9 and Year 1 in upper secondary school. Moreover, individual data comprised students' gender, migration background, and PE grades. The study was conducted in two steps. The study design is illustrated in Figure 1.

Step one: To explore national trends in PE grades, students' mean school grade was calculated and presented in figures separately for gender, migration background, the years 2012–2016, and the Grades 6 and 9 and Year 1 in upper secondary school. Thereafter, the percentage difference in school grades between students with a Swedish background and both students with a foreign background and foreign-born students was calculated separately for boys and girls in the years 2012–2016 and Grades 6 and 9 and Year 1 in upper secondary school.

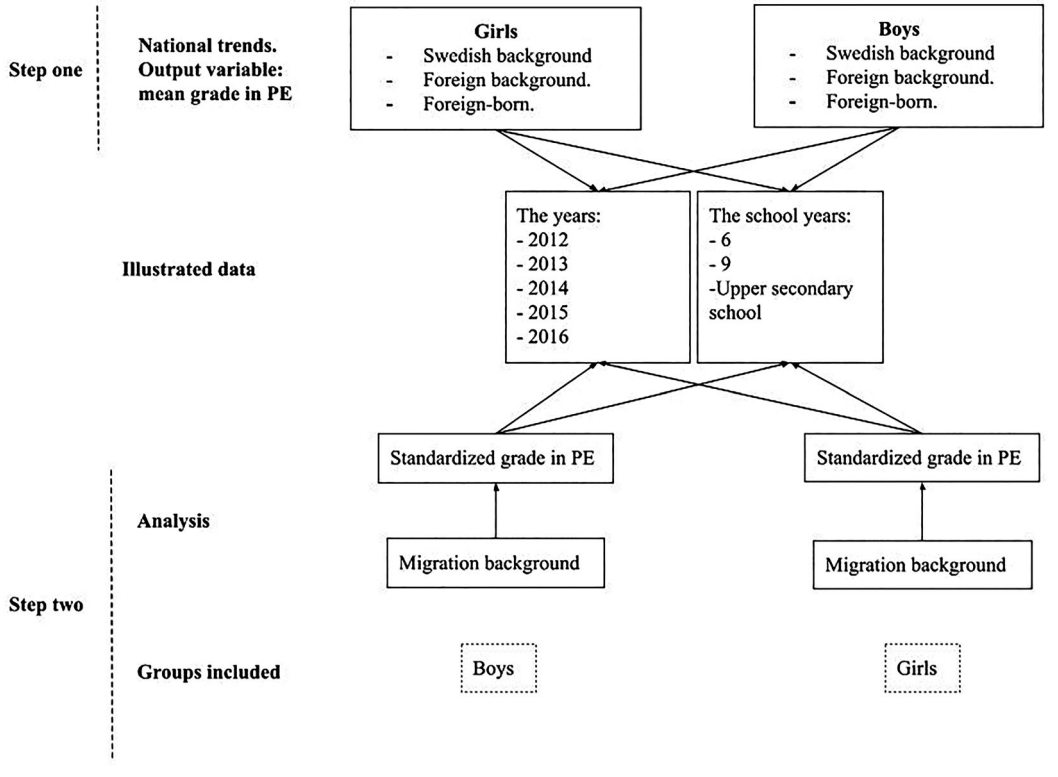

Figure 1. Study design—an illustration of the analyses (step one and step two), the data, and categorizations.

Table 1. The total number and percentage distribution of the students' migration background, divided by gender, for Grades 6 and 9 and Year 1 of upper secondary school for the years 2012–2016.

		Swedish background			Foreign background			Foreign-born					
Grade	Year	Girls	Boys	Total	Girls	Boys	Total	Girls	Boys	Total	Total all girls	Total all boys	Total all
Grade 6	2012	36,617	38,914	75,531	4,558	4,778	9,336	3,279	3,353	6,632	44,454	47,045	91,499
	2013	36,978	39,486	76,464	4,822	4,884	9,706	3,430	3,406	6,836	45,230	47,776	93,006
	2014	39,171	41,142	80,313	5,017	5,134	10,151	3,614	3,436	7,050	47,802	49,712	97,514
	2015	40,312	42,603	82,915	5,334	5,489	10,823	3,642	3,334	6,976	49,288	51,426	100,714
	2016	40,737	43,100	83,837	5,597	5,981	11,578	3,932	4,084	8,016	50,266	53,165	103,431
Total		193,815	205,245	399,060	25,328	26,266	51,594	17,897	17,613	35,510	237,040	249,124	486,164
Percent (MB)		49%	51%	100% (82%)	49%	51%	100% (11%)	50%	50%	100% (7%)	49%	51%	100% (100%)
Grade 9	2012	35,403	37,297	72,700	4,441	4,554	8,995	3,613	3,783	7,396	43,457	45,634	89,091
	2013	35,223	37,654	72,877	4,581	4,824	9,405	3,862	3,990	7,852	43,666	46,468	90,134
	2014	35,068	37,140	72,208	4,575	4,608	9,183	3,819	4,160	7,979	43,462	45,908	89,370
	2015	35,834	38,413	74,247	4,570	4,834	9,404	4,211	4,360	8,571	44,615	47,607	92,222
	2016	36,104	39,012	75,116	4,741	4,836	9,577	4,557	4,633	9,190	45,402	48,481	93,883
Total		177,632	189,516	367,148	22,908	23,656	46,564	20,062	20,926	40,988	220,602	234,098	454,700
Percent (MB)		48%	52%	100% (81%)	49%	51%	100% (10%)	49%	51%	100% (9%)	49%	51%	100% (100%)
Upper secondary school	2013	36,988	39,268	76,256	3,909	4,270	8,179	2,828	3,186	6,014	43,725	46,724	90,449
	2014	36,254	38,247	74,501	3,996	4,332	8,328	3,380	3,917	7,297	43,630	46,496	90,126
	2015	34,000	36,536	70,536	3,882	3,970	7,852	3,685	4,398	8,083	41,567	44,904	86,471
	2016	33,581	36,649	70,230	3,978	4,273	8,251	3,980	4,619	8,599	41,539	45,541	87,080
Total		140,823	150,700	291,523	15,765	16,845	32,610	13,873	16,120	29,993	170,461	183,665	354,126
Percent (MB)		48%	52%	100% (82%)	48%	52%	100% (9%)	46%	54%	100% (9%)	48%	52%	100% (100%)
Total all		512,270	545,461	1,057,731	64,001	66,767	130,768	51,832	54,659	106,491	628,103	666,887	1,294,990
Percent (MB)		48%	52%	100% (82%)	49%	51%	100% (10%)	49%	51%	100% (8%)	49%	51%	100% (100%)

Note: (MB) stands for migration background and illustrates the percentage distribution of students with a Swedish background, students with a foreign background, and foreign-born students.

Step two: To analyze how gender moderates the relationship between migration background and PE grades, several regression analyses were conducted. The analyses were conducted separately for boys and girls, the predictor being migration background and the outcome variable being standardized school grade in PE. Figure one presents the analyses separately for the years 2012–2016 based on grade (i.e. school level).

Students' school grades in physical education

In line with the SNAE (2018) and Holmlund et al. (2020), students' school grades in PE were coded as follows: 'A' (score 20), 'B' (score 17.5), 'C' (score 15), 'D' (score 12.5), 'E' (score 10), and 'F' (score 0). The letters A to E represent the grades that students can receive, where A is the highest and F is the lowest school grade. In cases where students' knowledge in PE could not be assessed (e.g. due to the students being absent), students do not receive a grade, which was marked in our data with a dash (-). Only students who received a grade (between A and F) were included in the present study (cf. Holmlund et al., 2020; SNAE, 2018). To correct for school grade inflation, the grades were standardized annually. Thereby, the relationship between PE grades and the background variable becomes more comparable between different years. Based on recommendations from several other studies, students' grades were standardized as follows: students' school grades (s), years (y), $zgrade = grade_{sy} - Mgrade_{y} / SDy$ (Gustafsson & Yang Hansen, 2018; Holmlund et al., 2020; SNAE, 2018). Based on previous research and guidelines from PISA (Kastberg et al., 2017, p. 7), we have also corrected for students who have had less than one year of schooling in the Swedish school system by excluding those values (see also SCB, 2016; SNAE, 2018).

Data analysis

The data analysis was conducted in two steps. First, descriptive statistics in terms of unstandardized mean PE grades to represent the data were presented (see Figures 2–4). Figures 2–4 present these statistics for the period 2012–2016 for six groups: (1) girls with a Swedish background, (2) girls with a foreign background, (3) foreign-born girls, (4) boys with a Swedish background, (5) boys with a foreign background and, (6) foreign-born boys. In Table 2, unstandardized mean PE grades are used to calculate the percentage difference between students with a Swedish background and both students with a foreign background and foreign-born students.

Second, regression analyses with Wald tests were conducted. Both the regression analyses and the Wald tests were conducted in Mplus version 7.4 (Muthén & Muthén, 1998–2017), with the maximum likelihood (MLR) estimation method. In the analyses, students' migration background was the predictor and their standardized school grades constituted the outcome variable. The analyses were conducted separately based on gender for the 2012–2016 for Grades 6 and 9 and Year 1 in upper secondary school. As presented in Table 3, a total of 28 regression analyses were conducted. Thereafter, the Wald test was used to estimate the effect of gender, that is, to determine whether the coefficient estimates in the boys' and girls' models differ significantly. As shown in Table 3, a total of 14 Wald test analyses were made. A significant result on the Wald test shows whether gender significantly moderates the relationship between migration background and PE grades. In all the analyses, the significance level was set at $p < .01$.

Results

The results are presented in two sections. In the first section, general trends in students' school grades in PE in Sweden are presented. The second section presents the moderating effect of gender on the relationship between migration background and school grades in PE.

Table 2. The percentage difference in PE grades between students with a Swedish background and both those with a foreign background and foreign-born students, presented by gender, for the years 2012–2016.

	Swedish background vs Foreign background	Swedish background vs Foreign-born	Swedish background vs Foreign background	Swedish background vs Foreign-born
Upper secondary school	Girls		Boys	
2013	6,35%	7,93%	0,41%	2,75%
2014	7,08%	7,90%	0,77%	3,60%
2015	6,86%	8,05%	2,41%	3,52%
2016	7,20%	8,59%	2,03%	3,05%
Average difference	6,87%	8,12%	1,41%	3,23%
Difference 2013–2016	0,85%	0,67%	1,62%	0,48%
Grade 9				
2012	7,85%	12,31%	3,48%	3,89%
2013	9,08%	10,82%	3,28%	4,46%
2014	8,77%	10,97%	3,55%	4,90%
2015	8,79%	10,56%	4,13%	5,16%
2016	9,47%	12,07%	5,04%	6,87%
Average difference	8,79%	11,34%	3,89%	5,06%
Difference 2012–2016	1,62%	−0,23%	1,55%	2,98%
Grade 6				
2012	10,33%	9,83%	6,59%	6,52%
2013	10,91%	9,90%	7,23%	6,36%
2014	10,47%	10,17%	7,20%	6,54%
2015	10,95%	9,78%	7,71%	6,58%
2016	11,58%	11,48%	8,43%	8,10%
Average difference	10,85%	10,23%	7,43%	6,82%
Difference 2012–2016	1,25%	1,65%	1,84%	1,59%

The 'gaps' have increased and are larger among girls in comparison to boys

In Grade 6, there is a school 'grade gap' between students with a Swedish background and other students, namely, students with a foreign background and foreign-born students (see Figure 2). As presented in Table 2, the *average* percentage 'gap' for the period 2012–2016 is larger for girls than for boys. For girls, the difference is as follows: The difference for students with a Swedish background compared to students with a foreign background is 10.85% and compared to foreign-born students is 10.23%. For boys, there is a difference between students with a Swedish background and those with a foreign background (7.43%) and foreign-born students (6.82%). Furthermore, during the study period, the 'gap' has slightly increased for both girls and boys. For girls, the difference has increased between students with a Swedish background and those with a foreign background by

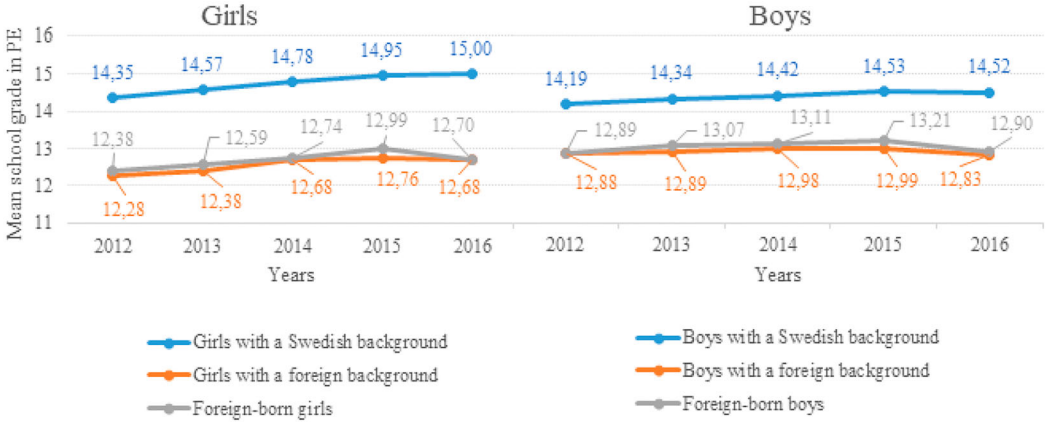

Figure 2. Students' PE grades for Grade 6 for the period 2012–2016, presented by gender and migration background.

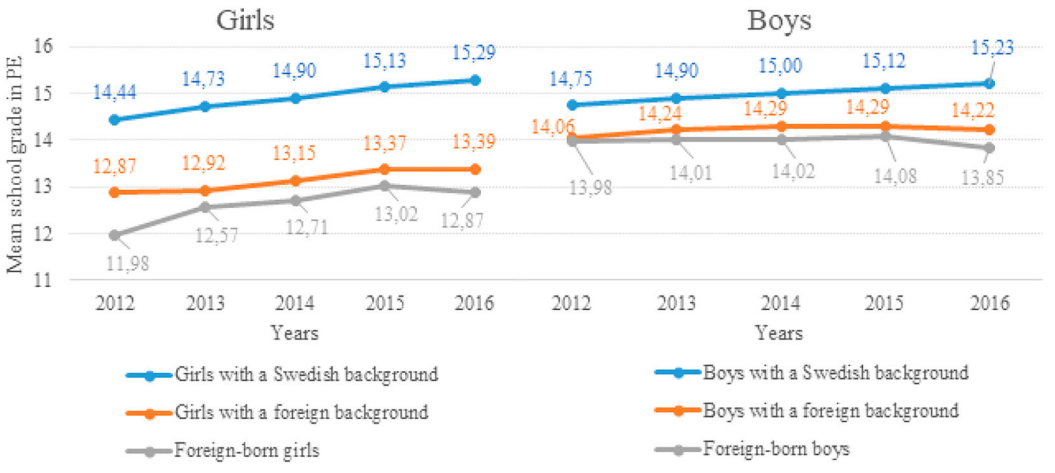

Figure 3. Students' PE grades for Grade 9 during the period 2012–2016, presented by gender and migration background.

1.25% and foreign-born students by 1.65%. For boys, the increase in difference between students with a Swedish background and students with a foreign background is 1.84%, and between them and foreign-born students, it is 1.59%.

In Grade 9, there is a 'gap' in PE grades between students with a Swedish background and both students with a foreign background and foreign-born students (see Figure 3). As presented in Table 2, for the period 2012–2016, the *average* percentage 'gap' is larger for girls than for boys. For girls, the difference between students with a Swedish background and students with a foreign background is 8.79%, and between them and foreign-born students, it is 11.34%. For boys, the difference is as follows: For students with a Swedish background compared to students with a foreign background, the difference is 3.89%, and compared to foreign-born students, it is 5.06%. For girls, the 'gap' has slightly increased between students with a Swedish background and students with a foreign background (1.62%), but it has slightly decreased between girls with a Swedish background and foreign-born students (−0.23%). For boys, the difference has increased as follows: Students with a Swedish background differ by 1.55% compared to students with a foreign background and by 2.98% compared to foreign-born students.

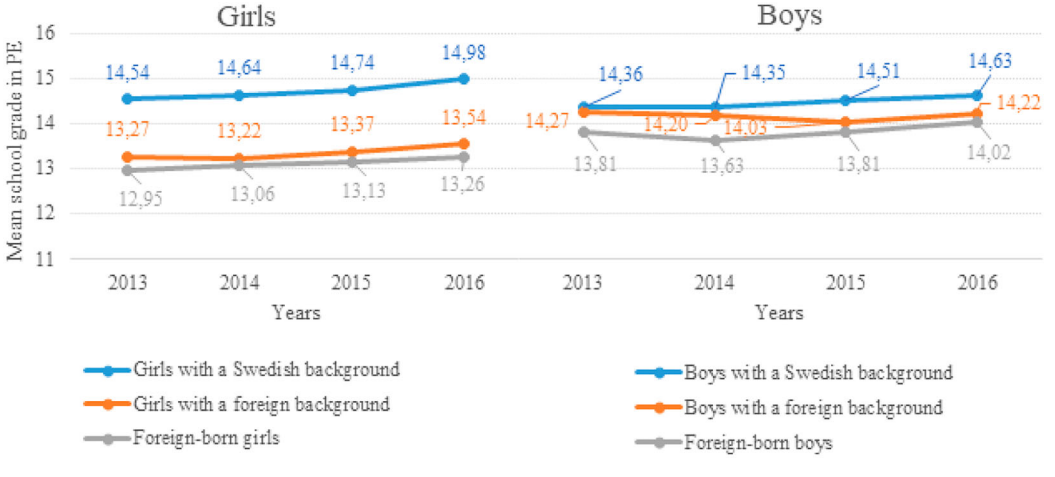

Figure 4. Students' PE grades for Year 1 in upper secondary school during the period 2012–2016, presented by gender and migration background.

Table 3. Results from the linear regression analyses between migration background and PE grades for the period 2012–2016.

			Migration background					Wald Test		
Grade	Gender	Year	r^2	Estimate	SE	Est/SE.	*p*	Value	DF	*p*
Grade 6	Girls	2012	.016	−.126	.005	−24.44	< .001	36.73	1	< .001
	Boys	2012	.007	−.081	.005	−16.47	< .001			
	Girls	2013	.016	−.125	.005	−24.52	< .001	56.33	1	< .001
	Boys	2013	.005	−.070	.005	−14.33	< .001			
	Girls	2014	.015	−.123	.005	−25.03	< .001	36.49	1	< .001
	Boys	2014	.006	−.079	.005	−16.58	< .001			
	Girls	2015	.016	−.125	.005	−26.01	< .001	31.59	1	< .001
	Boys	2015	.007	−.084	.005	−18.22	< .001			
	Girls	2016	.019	−.137	.005	−29.25	< .001	36.49	1	< .001
	Boys	2016	.010	−.098	.005	−21.47	< .001			
Grade 9	Girls	2012	.017	−.131	.005	−26.47	< .001	104.39	1	< .001
	Boys	2012	.003	−.059	.005	−12.54	< .001			
	Girls	2013	.029	−.171	.005	−32.30	< .001	192.62	1	< .001
	Boys	2013	.005	−.070	.005	−13.85	< .001			
	Girls	2014	.015	−.123	.005	−25.15	< .001	79.99	1	< .001
	Boys	2014	.004	−.062	.005	−13.25	< .001			
	Girls	2015	.016	−.125	.005	−26.38	< .001	68.95	1	< .001
	Boys	2015	.005	−.069	.005	−15.01	< .001			
	Girls	2016	.019	−.137	.005	−29.09	< .001	63.91	1	< .001
	Boys	2016	.007	−.084	.005	−18.51	< .001			
Year 1 in upper secondary school	Girls	2013	.007	−.083	.004	−18.63	< .001	91.55	1	< .001
	Boys	2013	.000	−.021	.005	−4.67	< .001			
	Girls	2014	.007	−.081	.005	−18.03	< .001	50.31	1	< .001
	Boys	2014	.001	−.036	.005	−7.84	< .001			
	Girls	2015	.009	−.094	.005	−20.77	< .001	78.48	1	< .001
	Boys	2015	.001	−.038	.005	−8.51	< .001			
	Girls	2016	.010	−.100	.004	−22.27	< .001	94.71	1	< .001
	Boys	2016	.001	−.038	.005	−8.29	< .001			

In upper secondary school, particularly among girls, there is also a 'grade gap' between students with a Swedish background and both students with a foreign background and foreign-born students (see Figure 4). As presented in Table 2, the *average* percentage 'gap' for the period 2012–2016 is larger for girls than for boys. For girls, the difference between students with a Swedish background and students with a foreign background is 6.87%, and between them and foreign-born students, it is 8.12%. For boys, the difference is as follows: Students with a Swedish background differ by 1.41% compared to students with a foreign background and by 3.23% compared to foreign-born students. Furthermore, the 'gap' has slightly increased for both girls and boys. For girls with a Swedish background, the increased difference is 0.85% compared to students with a foreign background and 0.67% compared to foreign-born students. For boys with a Swedish background, the difference increase is by 1.62% compared to students with a foreign background and 0.48% compared to foreign-born students.

The intersection of gender and migration background is related to unequal school grades in physical education

The relationship between students' migration background and school grades in PE is significant for all years 2012–2016 and for Grades 6 and 9 and Year 1 in upper secondary school. Although all the analyses are significant, the estimate shows that there is a very weak relationship between students' migration background and PE grades both for boys (r^2 ranging between <.001 and .010) and for girls (r^2 ranging between .007 and .029). Undoubtedly, this result shows that migration background is a weak predictor. Nonetheless, the Wald test shows that gender significantly moderates the relationship between migration background and PE grades. The results also show that there is a stronger relationship between migration background and school grades for girls than for boys. As such,

girls' migration background has a stronger effect on school grades in PE than that of boys. The results from the regression analyses and Wald test are presented in Table 3.

Discussion

The results of this study can be summarized as follows: First, in Sweden, there are school 'grade gaps' in PE between students with a Swedish background and students with a foreign background and foreign-born students. Second, the 'gaps' have slightly increased over the period 2012–2016 in all Grades; 3) Third, the 'gaps' are larger among girls than boys. Moreover, the most significant 'gap' is between girls with a Swedish background and foreign-born girls. The results have been confirmed by a moderation analysis, which shows that migration background has a significantly stronger effect on PE grades for girls than for boys. Taken together, our findings are in line with earlier educational research, which also shows that the largest 'gap' in students' school grades is between students with a Swedish background and students that are born abroad (see Grönqvist & Niknami, 2017; Holmlund et al., 2020; Sjögren, 2017). Furthermore, our findings are also in line with previous educational research in showing that the 'gap' has increased, especially among girls (see SNAE, 2018; Voyer & Voyer, 2014; Yang Hansen & Gustafsson, 2019).

As argued earlier, 'gaps' in school grades between students with different migration backgrounds —which additionally increase when factoring in gender—can be considered strong indicators of inequality (see Holmlund et al., 2020, p. 40; SNAE, 2010a, p. 60). Thus, the results from this study indicate gender equality issues in relation to students' school grades in PE. Most prominent are the gender equality issues between girls with a Swedish background and girls born abroad. In contrast to the few studies that have examined equality of outcome in PE, several studies have focused on equality of opportunity. During the past 30 years, studies have addressed various aspects of equality of opportunity in PE, such as race and ethnicity (Blackshear, 2020; Dagkas & Hunter, 2015); the significance of socially just guidelines in curricula and policies (Gerdin et al., 2019); school reforms, privatization, and neoliberalism (Evans, 2014; Evans & Davies, 2017); and norms, objectification, and sexuality (Larsson et al., 2011).

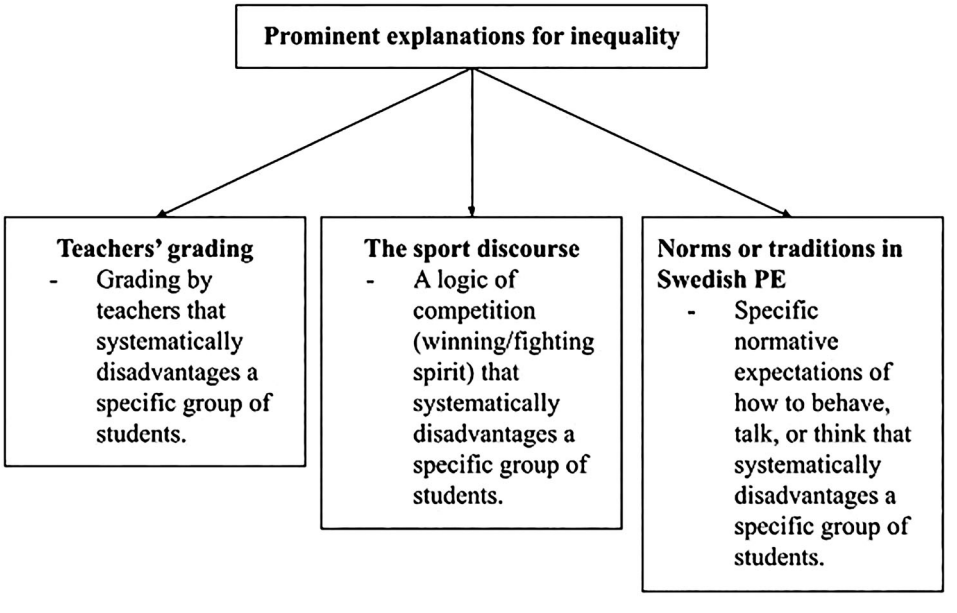

Figure 5. Prominent explanations for equality issues and unequal PE grades in schools in Sweden.

Research on PE suggests serval explanations for the results in the present study. Three prominent explanations concern teachers' grading, the sport discourse and norms or traditions in Swedish PE (see Figure 5 for an illustration and summary).

A first possible explanation is that teachers could base their grading on what they consider important rather than on the knowledge requirements, which would result in inaccurate school grades. In essence, instead of providing students with school grades grounded in the national knowledge requirements, teachers award students 'too high' or 'too low' school grades based on their own perceptions of what they consider to be important characteristics. This potential explanation is drawn from previous research which states that PE grades in Swedish schools could be incorrectly based on students' progression (rather than knowledge), attitudes, and behavior towards others (including the teacher). In sum, grading in PE is sometimes influenced by teachers' personal beliefs, thereby resulting in a high(er) grade (Annerstedt & Larsson, 2010; Redelius et al., 2009; SNAE, 2010b; SNAE, 2019; Svennberg, 2017; Svennberg et al., 2014; Svennberg et al., 2018). Previous research describes how several PE teachers think that an important goal of PE is to be fun and that the students should learn that PE is fun (see Redelius et al., 2009). One study shows that PE teachers favor positivity, that is, 'to be positive, to think it is fun, and to show appreciation of the subject as well as openness and curiosity' (Redelius et al., 2009, p. 253). According to some teachers' own determined criteria, students that express these feelings, attitudes, and characteristics have fulfilled the goal of PE and deserve a high(er) grade in PE. In addition to the aforementioned studies, which focus on teachers' subjective reality of grading, other studies show that students' perceptions of grading also clearly differ from the national knowledge requirements (see Annerstedt & Larsson, 2010; Redelius & Hay, 2009). More precisely, Redelius and Hay (2009) argue that some students internalized which characteristics their teachers appreciated and, as a result, knew what was required 'to do' and 'to say' to achieve a high(er) grade in PE: 'the students learnt, through the process and outcomes of assessment, the valued characteristics and behaviors necessary for acquiring the institutional cultural capital of high grades' (p. 289). Hence, the results in the present study can possibly be explained by students, particularly girls born abroad, having incorrectly and systematically been awarded 'too low' school grades compared to students with a Swedish background (see Svennberg, 2017; Svennberg et al., 2014; Svennberg & Högberg, 2018).

A second possible explanation is related to the strong sport discourse in PE. It is well established that PE in schools has a long history of being influenced by the Swedish non-profit sports movement and commercial sports actors. According to previous research, the sports movement and commercial sports have a clear influence on the (learning) activities conducted during PE lessons (SSI, 2018). In addition, PE teachers often have a personal involvement in the sports movement and in specific commercial sports, which can influence their choices of (learning) activities and their expectations on how such activities are to be conducted correctly. As a result, PE lesson content often focuses on teaching specific sports, developing specific skills, teaching ball games, and emphasizing physical training and competition. For example, Redelius et al. (2009) assert that PE is 'more about to be and to do—and less about to know' (p. 259; see also Larsson & Redelius, 2008; Lundvall & Meckbach, 2010; SSI, 2018). Due to the strong focus on sports and physical activities, several studies have highlighted that students who participate in sports outside PE will benefit from this (Lundvall & Meckbach, 2010; Thedin Jakobsson et al., 2012). Considering that foreign-born girls tend to participate less in sports during leisure time (Norberg, 2016), this may affect their capability in PE and consequently result in lower(er) school grades in PE (see Barker, 2019; Barker et al., 2014; Gerdin et al., 2019; Walseth, 2015).

The third possible explanation is related to norms and traditions in Swedish PE. Previous research has identified a strong Swedish 'norm' in PE that categorizes some physical activities as 'typically' Swedish, indicating that there is an expected and desirable traditional behavior (see Barker, 2019). Although girls with a foreign background undoubtedly form a heterogenic group (Dagkas & Hunter, 2015), several studies have highlighted the complex and problematic situation in PE for some girls with a foreign background, often from a Muslim culture (Barker & Lundvall, 2016;

Dagkas et al., 2011; Hamzeh & Oliver, 2012). Walseth (2015) highlights that some girls with a foreign background describe that they sometimes feel excluded in PE as a result of the subject's focus on specific activities. One example of this may be traditional Swedish dances and, in particular, the national requirement to be able to swim in order to 'pass' in PE. Altogether, this makes students with a foreign background, and foreign-born girls in particular, disfavored by the PE practice in Sweden, resulting in lower(er) school grades in PE (see Blackshear, 2020; Dagkas & Hunter, 2015; Larsson et al., 2011).

In summary, the results, which show that 'gaps' across equality-relevant groups have increased, indicate that equality in PE in Sweden has deteriorated. Given that the Swedish school system, including PE, should be equal and compensate for students' different conditions and backgrounds (Holmlund et al., 2020), the results from this study have valuable insights for future improvement. One implication is that equality in PE, concerning equality-relevant student groups and based on students' school grades, should be carefully examined moving forward. This would provide policy makers with better conditions for deciding on measures to improve equality and for evaluating whether these measures have the desired effect on equality. Although a discussion of measures to strengthen equality (for suggestions of measures, see Holmlund et al., 2020) falls outside the scope of this paper, the results call into question whether enough has been done to strengthen the conditions for the equality-relevant group of foreign-born girls.

This study has its limitations. Although we use the same definition of migration background and gender as Statistics Sweden (SCB, 2002), we recognize that the dichotomous categorization of gender excludes those students who do not identify as either a girl or a boy. Moreover, we recognize that the categorization of migration background includes a wide variation of students with different backgrounds, and that the category 'girls with a foreign background' is in no way a homogeneous group (see Dagkas & Hunter, 2015). Therefore, future studies should also consider including data on students' socioeconomic background and participation in sports during leisure time. Previous research describes that both aspects are clearly connected to students' school grades in PE (Grönqvist & Niknami, 2017; SNAE, 2018; Wiium & Säfvenbom, 2019).

Conclusions

This study concludes that there are 'gaps' in school grades in PE between students with a Swedish background and both students with a foreign background and foreign-born students. Not only have the gaps increased since the implementation of a new grading system in Sweden in 2011, but they are also larger among girls than boys. The results from this study establish that (a) the intersection of gender and migration background is related to unequal grades in PE, (b) there are gender equality issues in relation to students' grades in PE, and (c) the most prominent equality issues concern the group of foreign-born girls. Taking seriously that the Swedish school system and PE should be equal and compensate for students' different backgrounds, this study questions the extent to which the group of foreign-born girls have received equal opportunities; it also questions whether enough has been done within the PE subject to compensate for their different conditions.

Note

1. 'Physical Education and Health' is the correct term in Sweden. However, in this article, we will use the international term 'physical education' and its abbreviation, PE.

Acknowledgments

The authors would like to thank the anonymous reviewers for their insightful suggestions and careful reading of the paper.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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