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A Cross-cultural Study of Possible Iatrogenic Effects of Gifted Education Programs: Tenth grader's Perceptions of Academically High-performing Classmates*

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Abstract

Previous empirical studies have yielded inconclusive results about peer perceptions of academically high-performing students. The purpose of this study was to investigate students' perceptions of the intellectual ability, positive social qualities, and popularity of a hypothetical new high-performing classmate. Participants were 1060 Vietnamese, South Korean, British, Australian, Peruvian, and Spanish boys and girls in 10th grade. The results revealed that the perceptions of academically high-performing classmates differed by country group. Positive perceptions of intellectual ability and social qualities were commonly found in all countries except the two Asian countries (Vietnam and South Korea) where the students reported more neutral views of high-performers. In conclusion it is argued that there is no evidence for possible iatrogenic effects of gifted education programs aiming at high achievements.

Keywords: iatrogenesis; peer perceptions; high-achiever; intellectual ability; popularity; cross-cultural study

Introduction

The study of iatrogenic effects refers to the investigation of potential unintentional negative consequences of treatments. It is a well-established area in medical research with ca. 30,000 articles tagged with the term “Iatrogenesis” in PubMed. In recent years iatrogenic effects also started to receive some interest within psychological research (e.g., Barlow, 2010; Bootzin, & Bailey, 2005; Castonguay, Boswell, Constantino, Goldfried, & Hill, 2010). With regard to gifted education iatrogenic effects might be defined as unintentional negative effects precipitated, induced, or exacerbated by gifted education. However, such negative effects have not yet been systematically studied, with some noteworthy exceptions. For example, Freeman (2006a, 2006b) and Heller (2000, 2004) were interested in the possible negative effects which can arise with ‘labelling’ the gifted as gifted. According to Heller it is one of the most serious problems in gifted education (Heller, 2004; Heller, Reimann, & Senfter, 2005) which might lead among other things to social isolation, the formation of egoistic attitudes and various disturbances in the course of personality development. Other potential iatrogenic effects include controlling socializations, especially by parents (Garna & Jolly, 2015; Vialle, 2013).

In this article we are interested in another possible iatrogenic effect: Negative attitudes of peers toward academically exceptional students. At the heart of gifted education is the well-intentioned aim to help gifted students to live up to their potential. However, what if the implementation of this very aim unintentionally lead to serious negative side-effects that might even jeopardize gifted students school adjustment and emotional health? Negative attitudes of peers might countervail gifted education in two ways. Firstly, a gifted student may be reluctant to pursue extraordinary achievement goals if they perceived success would lead to unpopularity among their peers. Secondly, if the gifted student is not discouraged and succeeds in attaining extraordinary learning goals, s/he may face unpleasant attitudes or feel alienated by their peers.

In recent years a wide range of studies has been conducted cross nationally that are relevant to understanding the attitudes of peers toward academically exceptional students (e.g., Händel, Duan, Sutherland, & Ziegler, 2014; Händel, Vialle, & Ziegler, 2013; Quatman, Sokolik, & Smith, 2000; Sankofa, Hurley, Allen, & Boykin, 2005). However it is difficult to form a coherent picture of the often contradictory results. On the one hand there is ample evidence that exceptional attainments in school can generate difficulties in social relationships within a peer group. Intellectually high-performing students are usually well aware of these problems. In many countries they experience a tension between their need for peer acceptance and their willingness to aim for high achievement levels (e.g., Jung, McCormick, & Gross, 2012; Pérez, Domínguez, & Díaz, 1998; Read, Francis, & Skelton, 2011). Evidence suggests that the risk of being stereotyped as a “nerd” is high for high-performers, putting them at risk of taking a passive attitude towards achievement and of social isolation (Renold, 2001; Warrington, Younger, & Williams, 2000; Younger & Warrington, 1996). However, there is also research showing that the bullying and victimization rates for high-performing students due to social stigmatization were not different compared to average students (Hoover, Larson, & Baker, 2013;

Nowicki, 2003; Peters & Bain, 2011). Rather high achievement was observed as a distinct feature of students being well liked and accepted by peer groups from elementary school to high school (Austin & Draper, 1984; Wentzel, 1993).

There is a rich research tradition that investigates possible adverse circumstances of high-performers in the context of incongruent gender identity (e.g., Bailey, 2004; Cobbett, 2014; Freeman, 2004; Leder, 2004; Martino, 1999; Pérez et al., 1998; Warrington et al., 2000). One consistent finding is that for many boys the preservation of their status among a group of boys requires them to avoid adopting the image of someone who works hard towards academic goals. Diligent behavior is associated with femininity and thus is perceived as a potential challenge to masculinity. In some studies both male and female students did not want to confidently express their academically outstanding competence, however academically able female students were still comparatively more accepted by their social groups than academically able males (e.g., Warrington et al., 2000). This result is also more consistent with the frequent finding that classmates assume that girls invested more effort for high achievements in school than boys (Blatchford, 1996; Warrington et al., 2000; Welsh, Parke, Widaman, & O'Neil, 2001). Indeed, girls are supposed to take a stance on high achievement that is characterized by maintaining a modest attitude about success, attributing it to hard work rather than competence, and downplaying or even hiding achievements (Francis, Skelton, & Read, 2010; Renold & Allan, 2006). Moreover many studies based on interviews and observations of academically successful female students revealed an identity conflict between being a high-performer and being attractive (Cobbett, 2014; Kramer, 1991; Renold & Allan, 2006). In order to minimize the gender related image of a high-performer (Cobbett, 2014; Francis, 2009; Renold, 2001; Renold & Allan, 2006) gifted girls take a keen interest in displaying traditionally feminine categories like their looks or having a boyfriend. And indeed, those girls who maintain this balance had a more positive academic and social reputation with teachers and peer groups. However, there were also some high-performing girls who deliberately kept their distance from traditional gender roles and positioned themselves as more mature and competent (Francis, 2009). They were more likely to be perceived as selfish, arrogant, and man-like by their peer groups.

In summary we found that the empirical evidence to date is inconclusive. In our view this is mainly due to four reasons. First, the exact wording of questions seem to be crucial. For example, the questions of Quatman et al. (2000) gave additional information. The vignette used in the study was designed to represent a same-aged peer with high academic achievement who sits next to the participant in an English class. Thus, the image of the high-performing student is confounded with the attributes of this student. Secondly, gender seemed to be a factor that affects the image of a high-performer in two ways. Both the sex of the perceiving student as well as the sex of the perceived high-performing student seems to have an influence.

Thirdly, the inconclusive data might be caused by subject specific expectations. For example, in many countries STEM is typically considered as a male domain whereas languages are more

considered a female domain (Händel et al., 2013; Lu & Luk, 2014; Millard, 1997). This can evoke gender-specific expectations towards high-performing students. For example, Händel et al. (2013) found that students who prefer languages to science tend to exhibit more positive characteristics in social competence and popularity.

A fourth important reason for the inconsistent research findings are cultural influences. One widely accepted model of cultural dimension developed by Hofstede (2001) and Triandis (1995) was used to examine the cultural differences of Australian students with high IQ scores (Jung, Barnett, Gross, & McCormick, 2011). The study demonstrated that students with a vertical allocentrism toward friend or family face a goal conflict between pursuing their own academic achievement on one hand and receiving acceptance by peer groups on the other hand. In addition, students who emphasize being different from other students and constantly try to become dominant were less likely to feel a tension between friends' attitude and high performances. Another study that highlights cultural influences was conducted by Händel et al. (2014). One important finding from this study was that high-performing students were much more popular among their peers in China than in Russia or Germany.

The Current Study

The main objective of the current study was to learn more about the perception of academically high-performing students among their classroom peers and in particular to find out if practitioners in gifted education should take possible iatrogenic effects of any gifted intervention into consideration. The preceding review of the literature review has led to mixed results, highlighting four main challenges that are addressed within the current study.

First we aimed to avoid the problems with wordings evident in previous studies by reducing the amount of information provided to the minimum necessary. We used vignettes that described the scenario of a new high-performing girl or high-performing boy joining a class. Such a description implicitly provides the age of the new student (roughly the same as the participants age because they will soon be in the same grade) and explicitly states the achievement level and gender of the hypothetical new student. Gender was included as an explicit variable because it was identified as one of the explanations for the inconclusive research findings. We treated it as a between-factor, thus rendering for analyses four groups: girls perceiving high-performing girls and boys, and boys perceiving high-performing girls and boys. A third explanation for the inconclusive research findings was argued to be the subject domain in which the high-performers excelled. Therefore, in our vignettes we only mentioned that this student was the highest-performing in his/her former school implying that the student showed well-rounded achievements.

The fourth factor that influenced the perceptions of a high performing student was culture (Jung et al., 2011). We included in this study Peru, South Korea and Vietnam three collectivist countries according to the Hofstede Centre (2015), with Australia and United Kingdom two individualistic countries with the sixth country of our study, Spain, in between. According to the recent PISA study in

2012 (OECD, 2014) with 65 countries, 34 thereof OECD members, 15-year-old students in South Korea, Vietnam, and Australia performed better than average in mathematics, reading and science. Performance of students in the United Kingdom was ranked around the average of OECD, the scores of students in Spain and Peru were below the OECD average. The results were similar to the findings from assessments of fourth grader's math and science achievement in TIMSS 2011 (Martin & Mullis, 2013). In TIMSS across 49 countries including Australia, South Korea, Spain, England, and Ireland (TIMSS 2011) and in the international assessment in reading comprehension (PERLS 2011) including Ireland, England, Australia, and Spain, all of the current study's participating countries' achievements were above average with the exception of mathematics achievement of Spain. Specifically, South Korea was one of highest-performing countries in PISA 2012 as well as in TIMSS 2011, whereas the mean score of Peru was the lowest according to the PISA study. In accordance with the high level of achievement found in South Korea and Vietnam, a substantial number of students in Vietnam and South Korea reported positive attitudes toward school (enjoy receiving good grade, perception of usefulness of school etc.). Korean parent's expectations about their children earning a university degree and a professional or managerial post in their future careers ranked highly. Interestingly, the self-reports of the level of happiness experienced by students were in part contrary to the performance level. Most of the students in Peru, Spain, Vietnam, and the United Kingdom agreed that they were happy in school, whereas Australian and Korean students' happiness index was below the OECD average (less than 80% of the respondents). Specifically, more than 95% of Peruvian students claimed to feel happy at school in contrast to just 60% and of South Korean students reporting the same claim (OECD, 2014).

In choosing our dependent variables we followed Händel et al. (2013). We asked the participants for their perceptions of a new high-performing student in their class on three dimensions: Intellectual ability, positive social qualities, and popularity.

Method

Subjects

Participants of our study were 1060 tenth grade students ranging in age from 13 to 18 ($M = 15.81$, $SD = .50$). They were recruited from six countries: 239 from Vietnam (132 males, 107 females), 187 from South Korea (91 males, 96 females), 143 from the United Kingdom (69 males, 74 females), 113 from Australia (52 males, 61 females), 198 from Peru (110 males, 88 females), and 180 from Spain (95 males, 85 females). Though in each country the number of girls and boys did not differ significantly ($p < .05$), the students of the United Kingdom were slightly younger than the average (mean age = 14.93; $SD = .40$ years; $p < 0.01$). All data were collected personally by each local researcher and on site in schools in urban areas.

Measures

The current study used similar vignettes to those that have been previously successfully administered in other cross-cultural studies (Aljughaiman, Duan, Händel, Hopp, Stoeger, & Ziegler, 2012; Händel et al., 2014) and in a study with a sample of German tenth-graders (Händel et al., 2013). The 14 items were translated from English into Spanish, Korean, and Vietnamese and retranslated into English. Native speakers who were proficient in English double-checked the adequacy of the translation.

They described a hypothetical situation:

“For the following statements, we want to know what expectations you have when a new girl (boy) comes into your class. The only thing you know about her is that she was the best student in her previous school. Read each statement and colour the circle that best describes your feelings about the statement.”

Participants received two vignettes with a male and a new female student in counter-balanced order. No order effect was found in any country (p 's > .05).

After reading each vignette participants received the 14-items-questionnaire from Oh et al. (2013) that assessed three dimensions: intellectual ability, positive social qualities, and popularity. Responses were given on Likert-like scales ranging from 1 (totally disagree) to 6 (totally agree). Examples of the questions include “I would expect that the new classmate, who I only knew was the best in her previous school, can think very well” (intellectual ability), “I would expect that the new classmate, who I only knew was the best in her previous school, shares interests with other students (positive social qualities), and “I would expect that the new classmate, who I only knew was the best in her previous school, will be popular in the class” (popularity). In the current study, Cronbach's alpha reliability coefficients were somewhat smaller than in the study by Oh et al. (2013), but still acceptable. They were for the “Intellectual ability” of a new high-performing male student (INT_M, 4 items) $\alpha = .76$, the “Popularity” of a new high-performing male student (POP_M, 6 items) $\alpha = .59$, the “Positive social qualities” of a new high-performing male student (SOC_M, 4 items) $\alpha = .81$, the “Intellectual ability” of a new high-performing female student (INT_F, 4 items) $\alpha = .74$, the “Popularity” of a new high-performing female student (POP_F, 6 items) $\alpha = .59$, and the “Positive social qualities” of a new high-performing female student (SOC_F, 4 items), $\alpha = .81$.

Results

Descriptive statistics are shown in Table 1. A series of three 6 (country) x 2 (gender of respondent) repeated measures ANOVAs were computed. The dependent variables were the perceptions of the new high-performing male student and new high-performing female student as repeated measures variables. The three repeated measures ANOVAs targeted intellectual ability, positive social qualities, and popularity. They were followed by post-hoc univariate F tests of country differences with Hochberg's GT2 to test for Type I error. Simple effects tests examined further significant interaction effects. As the interaction of country, gender, and target gender was significant for “Intellectual ability” ($F(5,1048) = 2.32, p < .05, \text{partial } \eta^2 = .011$) and for “Positive social qualities” ($F(5,1048) = 2.52, p < .05, \text{partial } \eta^2$

= .012) univariate ANOVAs were further conducted to separately examine the perceptions about the male and female vignette. The results are summarized in Table 2.

Table 1. Descriptive statistics of the perceptions of high-performing female and male students by country and by gender

Perception	Vietnam	South Korea	UK	Australia	Peru	Spain
	Boys					
	Intellectual ability					
High-performing male	4.53 (.68)	4.30 (.92)	4.91 (.73)	4.91 (.62)	4.58 (.66)	4.74 (1.11)
High-performing female	4.57 (.71)	4.47 (.64)	4.80 (.67)	5.00 (.59)	4.50 (.63)	4.78 (1.06)
	Positive social qualities					
High-performing male	3.74 (.58)	3.34 (.64)	4.48 (.71)	4.30 (.64)	4.24 (.52)	4.76 (.86)
High-performing female	3.80 (.62)	3.48 (.65)	4.27 (.77)	4.32 (.56)	4.28 (.47)	4.76 (.83)
	Popularity					
High-performing male	3.78 (.38)	3.38 (.62)	3.94 (.57)	3.95 (.52)	3.71 (.39)	3.80 (.60)
High-performing female	3.79 (.40)	3.46 (.57)	3.89 (.57)	3.89 (.57)	3.75 (.45)	3.80 (.56)
	Girls					
	Intelligent ability					
High-performing male	4.58 (.82)	4.50 (.70)	4.56 (.94)	4.78 (.78)	4.46 (.70)	5.12 (.82)
High-performing female	4.55 (.80)	4.46 (.67)	4.62 (.96)	4.93 (.64)	4.40 (.72)	5.03 (1.02)
	Positive social qualities					
High-performing male	3.57 (.60)	3.53 (.60)	4.38 (.66)	4.25 (.68)	4.19 (.52)	4.94 (.70)
High-performing female	3.63 (.59)	3.48 (.56)	4.40 (.60)	4.46 (.60)	4.22 (.49)	4.92 (.77)
	Popularity					
High-performing male	3.57 (.60)	3.53 (.60)	4.38 (.66)	4.25 (.68)	4.19 (.52)	4.94 (.70)
High-performing female	3.74 (.37)	3.42 (.55)	3.87 (.45)	3.88 (.50)	3.75 (.45)	3.81 (.60)

Table 2. Repeated measures ANOVAs

Variables	Effect	MS	df	<i>F</i>	Partial η^2
Intellectual Ability	Country	14.80	5	13.71***	.061
	Gender of Respondent	.03	1	.03	.000
	Country x Gender of Respondent	3.33	5	3.08**	.014
	Error	1.08	1048		
	Target Gender	.05	1	.32	.000
	Country x Target Gender	.34	5	2.02	.010
	Gender of Respondent x Target Gender	.08	1	.47	.000
	Country x Gender of Respondent x Target Gender	.39	5	2.32*	.011
	Error	.17	1048		
	Positive Social Qualities	Country	95.25	5	151.39***
Gender of Respondent		.15	1	.24	.000
Country x Gender of Respondent		1.36	5	2.22	.010
Error		.63	1048		
Target Gender		.35	1	1.88	.002
Country x Target Gender		.36	5	1.98	.009
Gender of Respondent x Target Gender	.15	1	.84	.001	

	Target Gender				
	Country x Gender of Respondent x Target Gender	.46	5	2.52*	.012
	Error	.18	1048		
Popularity	Country	9.16	5	24.41***	.104
	Gender of Respondent	.00	1	.01	.000
	Country x Gender of Respondent	.18	5	.48	.002
	Error	.38	1048		
	Target Gender	.13	1	1.07	.001
	Country x Target Gender	.08	5	.66	.003
	Gender of Respondent x Target Gender	.07	1	.60	.001
	Country x Gender of Respondent x Target Gender	.20	5	1.67	.008
	Error	.12	1048		

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$

Perceptions of a High-Performing Classmate's Intellectual Ability

The repeated measure ANOVA with intellectual ability as dependent variable yielded a significant main effect for country ($F(5,1048) = 13.71, p < .001$, partial $\eta^2 = .061$) and a significant interaction between country and gender ($F(5,1048) = 3.08, p < .01$, partial $\eta^2 = .014$). The perceptions of the intellectual ability of a male and female high-performing student according to country are presented in Figure 1. All in all perceptions were quite positive. Post-hoc comparisons indicated that perceptions of students in Peru, South Korea, and Vietnam were slightly lower than the perceptions of students in Spain, and Australia. The British subjects' average scores were higher than those of the South Korean students, but were not significantly different from the scores of the Peruvian and Vietnamese students, respectively. However, as already mentioned the significant main effect was qualified by a country by gender interaction. Simple pairwise comparisons revealed that perceptions between male and female subjects of Spain were significantly different on INT_M and INT_F subscales, $p < .05$. Spanish girls tended to have higher perceptions of high-performing males as well as female students than Spanish boys, whereas the British boys reported higher perceptions than the British girls. Students from Vietnam, South Korea, Australia, and Peru exhibited equal perceptions of successful male and female students' intellectual ability.

The repeated measure ANOVA revealed furthermore a significant interaction of country, gender and target gender ($F(5,1048) = 2.32, p < .05$, partial $\eta^2 = .011$). A subsequent ANOVA yielded a significant interaction effect for country x gender on the perception of the intellectual ability of a new high-performing male student (INT_M: $F(5,1048) = 4.33, p < .01$, partial $\eta^2 = .020$), but no effect on the perception of the intellectual ability of a new high-performing female student (INT_F: $F(5,1048) = 1.54, p > .05$, partial $\eta^2 = .007$). Regarding the difference between the perceptions of high-performing male and female students, South Korean boys, $p < .01$, and Australian girls, $p < .05$, revealed

significantly different gender perceptions. Both perceived a higher intellectual ability among high-performing female students.

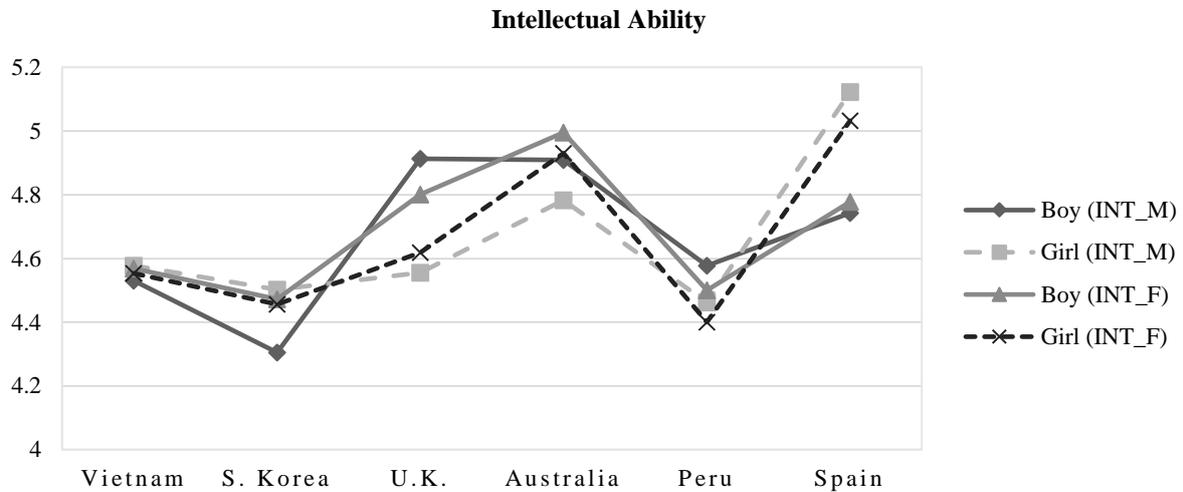


Figure 1. Country means in the perception of intellectual ability of a new high-performing male and a new high-performing female student by gender of the perceiving and the perceived student.

Perception of a High-Performing Classmate's Positive Social Qualities

With respect to positive social qualities there was a significant main effect for country of the participants ($F(5,1048) = 151.39, p < .001, \text{partial } \eta^2 = .419$) and a marginally significant interaction between country and gender ($F(5,1048) = 2.22, p = .05, \text{partial } \eta^2 = .010$). In addition, analyses revealed a significant interaction between country x gender x target gender ($F(5,1048) = 2.52, p < .05, \text{partial } \eta^2 = .012$). Subsequent 6 (country) x 2 (gender) ANOVAs for SOC_M as well as for SOC_F indicated a significant effect of country for the perception of the positive social qualities of a high-performing male student ($F(5,1048) = 121.88, p < .001, \text{partial } \eta^2 = .368$) as well as female student ($F(5,1048) = 113.46, p < .001, \text{partial } \eta^2 = .351$). The interaction between country and gender was only significant for SOC_M ($F(5,1048) = 2.55, p < .05, \text{partial } \eta^2 = .012$).

Differences in expected positive social qualities of a high-performing male or female student per country are depicted in Figure 2. Post-hoc tests showed that the Spanish students' perceived positive social qualities of high-performing male as well as female student were the highest, whereas the Korean students' perceptions were the lowest, respectively. Vietnamese students' perceptions were the second lowest and were significantly higher than those of the South Korean students. The respective perceptions of Peru, Australia, and United Kingdom as a homogeneous group were not significantly different ($p > .05$). All in all the perceptions of positive social qualities shown by Vietnamese and South Korean students were with scale means between 3 and 4 neutral regardless of the target gender, whereas the British, Australian, Peruvian, and Spanish students showed positive perceptions with scale means above 4.

Only the Vietnamese and South Korean boys and girls revealed significantly different perceptions. Boys in Vietnam perceived more positive social qualities of high-performing male and

female students than girls in Vietnam did, whereas girls in South Korea perceived more positive social qualities of successful male and female students than boys in South Korea did. Only the scores on SOC_M of Vietnam and South Korea reached statistical significance ($p < .05$). Gender different perceptions were not found among British, Australian, Peruvian, and Spanish students.

When comparing boy's perception of a high-performing male and a high performing female student, South Korean and British boys showed significantly different perceptions of their positive social qualities. South Korean boys perceived higher positive social qualities among the high-performing female student. In contrast, British boys perceived more positive social qualities of the male student ($p < .05$). When comparing the female subjects' perceived positive social qualities of high-performing males and female students, only Australian females showed significant differences. Their perception of the high-performing female student exceeded that of the high-performing male student ($p < .01$).

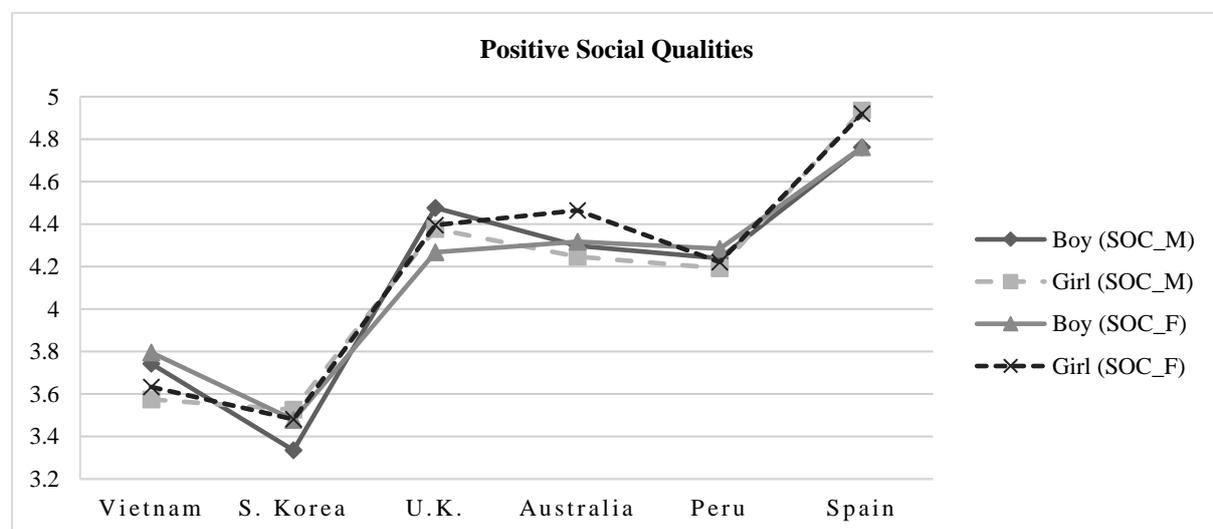


Figure 2. Country means in the perception of positive social qualities of a new high-performing male and a new high-performing female student by gender of the perceiving and the perceived student.

Perception of a High-performing Classmate's Popularity Regarding students' perceptions of the popularity of the new high performing classmate, the ANOVAs revealed only a significant effect for country ($F(5,1048) = 24.41, p < .001, \text{partial } \eta^2 = .104$). The means were rated between of 3.0 and 4.0 (see Figure 3). The results of post-hoc tests showed that South Korean students were significantly less likely to perceive high-performers as popular. The score of the Peruvian students was the second lowest, but was not significantly different from the score of the Vietnamese and Spanish students. Students from the United Kingdom and Australia revealed relatively higher perceptions of the popularity of the high-performing new students than their peers from the other four countries.

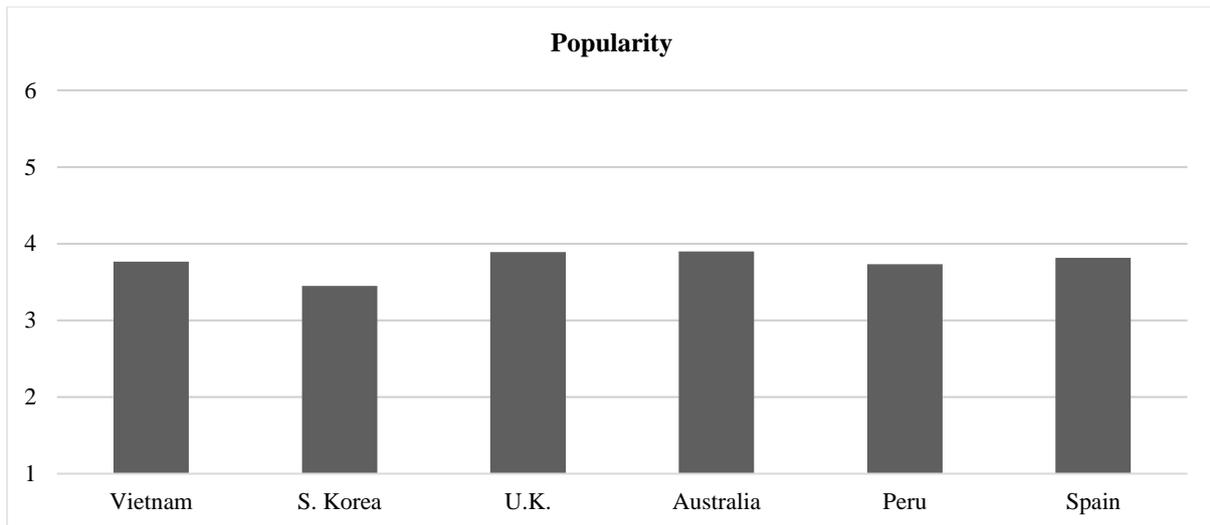


Figure 3. Country means of perceived popularity of a new high-performing student

Conclusions

Main aim of the present study was to investigate if there is evidence for expecting an iatrogenic effect for gifted students of gifted educational interventions due to the possible low popularity of high-performing students. An extensive literature review in the area led to inconclusive results. We identified four possible explanations for the inconclusive nature of previous research findings, which we wanted to address in the present study. We endeavored to provide as minimal information as possible in the vignettes besides mentioning a high-performing student. By doing this we wanted to measure the stereotype as purely as possible and as confounded by other variables as possible. In particular we made no mention of any specific domain in which the high-performing student excelled. The possible influence of culture and students' gender were controlled as between-subject factors and in the case of the target students' gender described in the vignette this was controlled as a within-factor.

The most important result of our study was that tenth graders in Vietnam, South Korea, United Kingdom, Australia, Peru, and Spain did not exhibit the feared negative perceptions of their high-performing peers. In particular students across all of the participating countries recognized the high intellectual ability of academically successful male and female students. The highest perceptions were held by Spanish students, the relatively lowest by the Vietnamese and the South Korean students. The Spanish students positive perceptions are in line with previous studies (Hernández-Torrano, Ferrándiz, Ferrando, Prieto, & Fernández, 2014; Hernández-Torrano, Prieto, Ferrándiz, Bermejo, & Sáinz, 2013; Sánchez, Fernández, Rojo, Hernández, & Prieto, 2008) in which Spanish secondary school students ascribed academic intelligence and social competence to high-ability students. High-ability secondary students' linguistic intelligence, logistic-mathematical intelligence, and social intelligence were positively perceived by their peers, parents and teachers. Indeed, the peers, parents, and teachers rated the high-ability students' social intelligence usually even higher than their intellectual abilities. The relatively low perceptions of South Korean students might be due to their attributional style. They

attribute academic achievement mainly to effort and support by significant other peoples (e.g., financial support of parents, private education) (Park & Kim, 1998). Vietnamese students' beliefs of learning seemed to be similar to that of South Korea. For example, in the recent PISA study (OECD, 2014) 86% of the Vietnamese students agreed that trying hard at school is important and around 90% of the South Korean and Vietnamese students associated mathematical achievement with perseverance in mathematics.

Interestingly, Vietnamese and South Korean students had neither positive nor negative views of high-performing students' social qualities. This is in contrast to the students of the United Kingdom, Australia, Peru, and Spain who showed consistently favorable views. Taken together these results contradict the notion that academically high-performing student are likely to be perceived as not sociable within their peer group.

The students of all countries perceived the popularity of a high-performing classmate above average with the exception of Korean students whose perceptions were rather neutral. Thus the results of this survey did not provide evidence for the fear that high-performers are stigmatized as unpopular students amongst peers.

Besides country differences in the perception of high-performing students, our study revealed some interactions between country and gender. For example, Australian girls and South Korean boys revealed higher perceptions of the intellectual ability and social qualities of a high-performing female student compared to those of a high-performing male student. Another interaction was found among students in Vietnam, South Korea, United Kingdom and Spain. Spanish girls expected higher intellectual ability of a high-performing male as well as a high-performing female student than Spanish boys, whereas British boys had higher perceptions of a high-performing male and a high performing female student than British girls. Vietnamese boys had higher perceptions of the social ability of a high-performing male and a high-performing female student than Vietnamese girls, whereas South Korean girls had higher perceptions of positive social qualities of a high-performing male and a high performing female student than South Korean boys. However, these findings do not fit in a coherent picture. In addition, though statistically significant the effect sizes were so small as to be virtually non-existent.

In summing up the main finding of the present study is that the findings give no reason to fear iatrogenic effects of gifted programs aiming at high achievements of gifted students. Their peers ascribe to them intellectual abilities that are well above the scale mean, social qualities that are either average (South Korea and Vietnam) or above average (Australia, United Kingdom, Peru) or even high (Spain). The perceived popularity is usually above the average with the exception of South Korea where it is still very close to the average.

Limitations

Finally, we want to direct the readers' attention to four short-comings of the present study. First, convenience samples were used in the studies, so their representativeness is limited. Second, the sample

sizes of Australian and British students were relatively low compared to the number of samples in Vietnam, South Korea, Peru, and Spain. Third, the internal consistency of the scale for assessing high-performing students' popularity should be increased in further studies. One reason for the low internal consistency might be that the concept of popularity could be different in different countries. Fourth, we used vignettes that described a hypothetical situation while giving minimal information. Though this might be an excellent approach to measuring a pure stereotype, one has to consider that ecological validity might be compromised by this method.

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