

Popular and smart? A cross-cultural study of students' perspectives on their peers

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Abstract

The present study aimed to investigate adolescents' expectations of successful peers in three different school subjects with particular consideration of the effects of gender and country. We investigated whether students from three different countries, namely China, Germany, and Russia, held different expectations of their successful peers in the school subjects of mathematics, languages and sports. Gender differences were studied with regard to participants' gender and the gender of the successful peer. Participating students were asked to imagine a fictitious female/male classmate who was the highest achieving student in the respective school subject in the previous year. Students indicated their expectations about the new classmate in relation to social status and eagerness. The results clearly demonstrate for all three subjects of mathematics, languages, and sports that the premise that it is possible to be "successful and still popular" is true for Chinese students but not for German and Russian students.

Keywords: cross-cultural, gender stereotype, peers, perception, academic performance

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Students' motivation to succeed at school is regarded as one significant factor in educational performance (Dweck, 1986). Within the extensive research examining the relationships between motivation and academic outcomes, individuals' attitudes and behaviours in the context of their environment need to be acknowledged (cf., Wilson & Buttrick, 2016). For example, research indicated that social comparisons have an impact on individuals' motivation to achieve well at school; that is, students are influenced by personal perceptions of their peers' academic performance (e.g., Wheeler & Suls, 2005). There are many potential factors that influence students' perceptions of their peers. In recent work, for example, Muenks, Miele, and Wigfield (2016) examined how students' determinations of their classmates' abilities were affected by the source of their efforts (i.e., task-elicited vs. self-initiated). Other research demonstrated that students' perceptions of their peers differed between school subjects (Händel, Vialle, & Ziegler, 2013; Hannover & Kessels, 2004; Quatman, Sokolik, & Smith, 2000). Hence, we still need to better understand the potential influences on students' expectations related to their classmates' abilities and behaviors, especially from a cross-cultural perspective (Chen, Chung, & Hsiao, 2009; see also Händel, Duan, Sutherland, & Ziegler, 2013, whose research detected country differences of students' perceptions of successful peers in science education).

The current study researched whether students characterize their successful peers differently as a function of the school subject in which they attain their high achievements and with respect to the country in which the students are being educated. We investigated whether Chinese, German, and Russian students differ with respect to their expectations of successful peers in the school subjects of mathematics, language, and sports. In addition, effects of the gender of the students as well as the gender of successful peers (i.e., target gender) were taken into account.

Theoretical Background

Comparisons of Countries

China, Germany, and Russia reflect quite different approaches to schooling and education (for a detailed description about education in each of the countries, see Michael & Gu, 2016; Potapova & Trines, 2017; Trines, 2016). For example, German schooling is based on a tracking system after four to six years of primary education; that is, students are assigned to secondary schools according to their academic performance in primary school. By contrast, in China and Russia, students undergo nine years of basic general education, irrespective of their academic ability. The three countries also seem to differ with regard to their individualistic or collectivist cultures, which might influence behavioural variables such as social perceptions, attributions, achievement motivation, and competition versus cooperation (Kagitcibasi, 1997). Although collectivist cultures report lower values in achievement motivation, they are very successful in international competitive tests (Kagitcibasi, 1997). Furthermore, Chinese teachers and parents, for example, have positive attitudes toward high marks in academic tests (Asia Society, 2006).

Therefore, we would expect to observe differences in the perceptions that school students have of their academic peers.

All three countries share a commitment to the improvement of educational standards within their respective nations. For example, they all participate in the Programme of International Student Assessment (PISA) and in various international competitions that display students' academic outcomes in several domains. Nevertheless, the countries differ in their national performance statistics. Recent results from PISA in the years 2009 (OECD, 2010), 2012 (OECD, 2014), and 2015 (OECD, 2016) demonstrate clear differences among the three countries in terms of their performance in mathematics and reading. In mathematics, Chinese and German students were above the OECD average, with highest scores for Chinese students. Russian students, by contrast, were always below the OECD average. A similar pattern can be found for mathematical self-efficacy in the PISA results of 2012. For reading, Chinese and German students ranked at or above the OECD average score across the three PISA studies 2009, 2012, and 2015. Russian students, again, had the lowest reading competence scores compared to Chinese and German students, and lower scores than the OECD average reading score.

As our study focuses on high achieving students in China, Germany, and Russia, it is also useful to review each countries' success in international Olympiads. The international Olympiads are world championship competitions for high school students. For example, the International Mathematical Olympiad (IMO) (for more information we refer to <https://www.imo-official.org/>) takes place annually, in a different host country each year, and attracts more than 100 participating countries, including all G20 countries. Each participating country dispatches a team comprising a maximum of six students who compete on an individual level, as well as representing their home country. The IMO results show that students from all three countries have consistently been successful in this international competition. Over the past 15 years, China has always been ranked first or second, Russia has been ranked within the top five countries (except in 2015 when it ranked eighth), and Germany has been ranked within the top 10 to 30. Data for the International Linguistics Olympiad (ILO) (for more information we refer to <http://www.ioling.org/>) are less reliable as the three countries have not consistently participated. Nevertheless, all three countries have received several medals (China: seven medals from four events; Germany: two medals from four events; and Russia: 57 medals in 13 events). For sports, we are unaware of any international sports Olympiad in the school context. Therefore, we refer to the all-time medal table of the Olympic Games (cf., https://en.wikipedia.org/wiki/All-time_Olympic_Games_medal_table) in which Russia ranks in second place, Germany in third place, and China in seventh place. In summary, then, the education systems of all three countries produce successful students in mathematics, language, and sports, albeit with different ranks in the different domains. These differences in student competencies (please note that the data about sports refers to adults and not adolescent students) across the three countries may be an indication of differential expectations of successful students among the respective student populations.

The Importance of Expectations for Academic Outcomes

The role of motivation in successful school outcomes has long been of interest in psychology. An influential theory, the expectancy-value model, proposed originally by Fishbein (1963) and subsequently developed by Eccles, Wigfield and colleagues (see, for example, Alexander, Wigfield, & Eccles, 2000; Eccles, Wigfield, & Schiefele, 1998; Heckhausen, 1991; Wigfield & Tonks, 2002) underpins the current study. In the context of education, the model proposes that students' behaviours and their scholastic outcomes are strongly influenced by the interplay of two factors: their expectations of being successful in a task (i.e., expectancy) and the value they place on that task (i.e., value) (Liem, Lau, & Nie, 2008). Eccles (1994) argued that individuals' behaviours and outcomes, at school and beyond, derive from their balancing of these two factors. Further, the balancing equation is likely to vary according to cultural norms, experiences, and aptitudes (Eccles, 1994). Research has shown that individuals' attainments were associated with students' ambition values and career aspirations (Ashby & Schoon, 2010).

Nevertheless, the impact of expectations is not confined to the individual. Wigfield and Tonks (2002) demonstrated that 'significant socializers' contribute to individuals' expectancies and values (see Bøe, 2012; Cerinsek, Hribar, Glodez, & Dolinsek, 2013). In one study, the activation of cultural and gender stereotypes had a demonstrable effect on students' success on a mathematics task (Shih, Pittinsky, & Ambady, 1999). Therefore, we posit that expectations of self and expectations of others, including peers, parents and teachers, are important influences on students' scholastic achievements (Kiuru, Aunola, Vuori, & Nurmi, 2007; Stake & Nickens, 2005; Vitoroulis, 2012; Wentzel, 2009).

Expectations of Successful People

The ways in which individuals perceive those who perform well in particular fields may serve as a proxy measure for the ways in which they value success in those domains. That is, if successful peers are connected with positive attributes, success becomes valuable to the individual. Conversely, if success is attributed negatively, this lowers an individual's motivation to be successful. Ryan (2001), for example, showed that students' peer group context had an influence on the development of their liking and enjoyment of school and their achievement over the school year. Moreover, students' personal expectations and the expectations of their peers in relation to specific subjects seem to influence their values, motivation, personal behaviour and future choices (Andre, Whigham, Hendrickson, & Chambers, 1999; Ashby & Schoon, 2010). Similar observations have been made for the role of teachers and parents on adolescents' behaviours and scholastic outcomes (Bøe, 2012; Cerinsek et al., 2013). Research by Juvonen and Murdock (1995) indicated that, while secondary school students recognized that they could enhance teacher approval through diligence in their studies, they also recognized that peer popularity might be increased if they expended low levels of effort. That is, eager students may try to hide their work effort in order to be popular among peers.

Hence, doing well in school may have the opposite effect on one's social standing (Allen, Porter, McFarland, Marsh, & McElhaney, 2005; Kessels, 2005). These results are in line with the 'tall poppy syndrome' (Feather, 1989; Gross, 1999), which is the tendency in some cultural contexts to denigrate peers with outstanding achievements. For this reason, some gifted students – especially gifted girls (Callahan, Cunningham, and Plucker, 1994; Kramer, 1991) – may hide their abilities in an attempt to be socially accepted (Gross, 1989; Kerr, Colangelo, & Gaeth, 1988) and will resist being labelled 'gifted' to avoid accusations of being a nerd or other derogatory terms (Manaster, Chan, Watt, & Wiehe, 1994). In a related study, Rentzsch, Schütz, and Schröder-Abé (2011) found that high achieving students who expended effort on their schoolwork were less liked by their peers (cf., Carrington, 1993; Carrington & Bailey, 2000). In our study, we focus on expectations of successful peers regarding social status as a positive attribute and eagerness as a negative attribute.

Domain-Specific Expectations

Given the stereotypes that pertain to different school disciplines, it is likely that students will have differing expectations of what success looks like across those varying school subjects. That is, the potential negative impacts of being labelled gifted or achieving well may be more acute in particular school subjects. In the light of these potential negative outcomes, students may not be motivated to perform well in a school subject if they anticipate that success will affect their social status (cf., Juvonen & Murdock, 1995). While there is some evidence to suggest that high achievement is equated with negative social impact, it is not clear whether this applies across all school subjects. Rather, the expectations of successful performance in some school subjects might lead to positive social outcomes. For example, high achievements in sports were associated with enhanced popularity in Carrington's studies (Carrington, 1993; Carrington & Bailey, 2000). Students' expectations of successful peers differ according to the school subject concerned (see Händel et al., 2013). In one study with a German sample, high-achieving peers in the sciences and mathematics – representing the difficult, male-dominated mathematics and 'hard' science subjects – were considered more conscientious and less socially minded than were their high-achieving peers in languages or sports subjects. Further, high-achieving peers in languages were regarded as more conscientious and less socially minded than were their high-achieving peers in sports subjects. Pelkner and Boehnke (2003) also revealed that the fear of being labelled a nerd is strongly associated with high achievements in the subject of mathematics. Again, being eager and dedicated to study seemed to result in negative consequences, at least in mathematics. In a study with students participating in science competitions or sports competitions, Höffler, Bonin, and Parchmann (2017) found several differences in learning goals and self-concept, which were higher for science than for sports.

Domain-specific expectations and culture. The influence of such peer pressure may be a culture-specific issue. For the school subject of science, for example, Händel et al. (2014) found that Chinese students hold the most positive expectations about successful

peers in science; they regarded successful peers as more popular and less eager than did the students in Germany or Russia.

Similarities and differences among countries have been evident in several studies. For example, a study by Dong, Weisfeld, Boardway, and Shen (1996) investigated which personal characteristics were related to social status in a sample of Chinese and US students. For Chinese students, social status was correlated with intelligence and physical attractiveness, however, social status was not significantly correlated with intelligence in the US sample. A study with Chinese and German students by Frenzel, Thrash, Pekrun, and Goetz (2007) investigated emotions in mathematics. Chinese students were found to experience higher levels of anxiety in mathematics than did German students. They were also found to experience more enjoyment, pride, and shame, along with less anger than did the German students. This corresponds to Li's (2002) observation that Chinese people place a high value on learning. A cross-cultural study by Boehnke (2008) examined the relationship between mathematics achievement and peer pressure for participants from Canada, Germany, and Israel. German students were far more likely to report strong peer pressure in favour of academic achievement than were the Canadian and Israeli students; concomitantly, the only significant correlation between fear of social exclusion and academic achievement was found for the high-achieving German participants. Boehnke (2008) concluded that negative peer pressure is less likely in cultures that value high academic achievements.

In sum, besides cultural differences, differences between domains or school subjects are apparent within cognitive domains – such as mathematics as a hard, male-dominated subject and languages as a more female-related domain – but also between cognitive domains and non-cognitive ones such as sports.

Domain-specific expectations and gender. As well as the cultural differences indicated above, research has demonstrated that gender differences are also apparent (Hollinger, 1991). There is evidence that girls and boys may hold different views of success in different subjects within and across countries (Stetsenko, Little, Gordeeva, Grasshof, & Oettingen, 2000). Jacobs, Lanza, Osgood, Eccles, and Wigfield (2002) investigated gender differences according to the expectancy-value model and observed differences in the domains of languages, mathematics, and sports. They found different competence beliefs for male and female students from Grade 6 in different school subjects. For example, males believed that they were more competent in the domains of mathematics and sports than females; females believed that they were more competent in languages than males. The developmental pattern for gender differences, however, differed between school subjects.

Lupart, Cannon, and Telfer (2004) also demonstrated gender differences with regard to values and expectations in different domains with boys scoring higher for mathematics and science and girls scoring higher for English and languages. Finally, female students showed more anxiety at being labelled a 'nerd' in the field of mathematics than did their male counterparts (Pelkner & Boehnke, 2003). That is, higher performance in mathematics might lead to a loss of image for girls. The results of a cross-cultural study of mathematical success led Boehnke (2008) to conclude that 'the role of culture and gender in

moderating the relationship between fear of social exclusion and academic performance clearly needs further attention in research to be undertaken in the future" (p. 158). Hence, the association of domains or school subjects as being typically male or typically female may have significant impact on future life and careers as they may influence study choices (cf., Endepohls-Ulpe, 2008; Stöger & Sonntag, 2009). For example, students may select to study subjects that correspond to their own gender. Girls are often less likely to enrol in higher levels of mathematics than boys because they consider mathematics as less important, less useful and less enjoyable (Eccles, 1994); similar results pertain for the choice of computer courses (Dickhäuser & Stiensmeier-Pelster, 2003).

Purpose and Research Questions

Drawing on the expectancy-value theory and previous research, we sought to investigate students' expectations of their high performing peers (male and female) in three school subjects (mathematics, languages, and sport) across three countries (Germany, China, and Russia). Our aim was to examine whether differences existed in expectations across the countries of interest, gender, and school subjects. Consequently, our study addressed three broad questions.

With respect to cross-cultural patterns, we focused on any differences for the three cohorts of students in their expectations of successful peers in the three school subjects and across the dimensions of attributed social status and eagerness. Previous results indicated that Chinese students might hold the most positive views of successful students. However, the question remains whether this result can consistently be achieved across different domains.

Our second focus was on any gender differences in the expectations ascribed to successful peers. We also examined whether there were any differences in our sample according to whether the successful peer was male or female (i.e., the target gender). Earlier results in the domain of mathematics indicated disadvantageous expectations for girls; however, it might be that results differ for languages as a female-dominated domain.

Our third objective was to determine the interaction effects among our study variables. In particular, we focused on the following interaction effects: whether the gender of the participant and that of the hypothetical successful peer led to differing patterns in expectations; whether there were any within-country gender effects; and whether country, gender, and target gender interacted with each other.

Method

In order to address our research questions, we asked students from Germany, China and Russia to complete a questionnaire on their expectations of successful peers in three different school subjects. The questionnaire was administered during the regular classroom lessons of the participants.

Sample

The sample originally comprised 420 students in grades 9 to 11 (aged 14 to 17) from schools in Germany, China and Russia. Located in urban or suburban environments, the sample schools largely catered to students from a medium socioeconomic level. Forty-three students were eliminated from the analysis because of missing data. Consequently, the final sample comprised 377 students, reasonably evenly spread across the three countries (see Table 1 for frequencies of study participants). The gender ratio slightly favoured females at 55.4% of the total sample while males represented 44.6%.

Table 1:
Samples Sizes, Reported are Frequencies of Study Participants per Gender and Country

Gender	Chinese	German	Russian	Total
Male	60	57	51	168
Female	69	63	77	209
Total	129	120	128	377

Instruments and Analysis

Data were collected through a questionnaire constructed for the study in consultation with experts from each of the participant countries. The instrument comprised a paragraph describing a hypothetical student. Six hypothetical students were introduced to cover the gender and school subject variables (i.e., male/mathematics; female/mathematics; male/languages; female/languages; male/sport; female/sport). The scenarios indicated that each of the hypothetical students had been the top achieving student in the specific school subject at their previous school. The vignette for a successful girl in mathematics, for example, was the following. ‘There is a new female student in your class. The only thing you know about her is that she was the best in mathematics in her former class. What do you think of her?’ Hypothetical students described as high achieving were utilized to ensure that confounding variables such as physical attractiveness were avoided.

Each scenario was followed by eight questions that probed their expectations of each of the hypothetical students. The questions attached to each scenario assessed the participants’ expectations of the hypothetical student’s social status (e.g. ‘She is cool’ or ‘She will be popular’), and eagerness (e.g. ‘She seeks to be the teacher’s pet’). The responses were placed on a 6-point Likert scale, ranging from 1 (*totally disagree*) to 6 (*totally agree*). Hence, 48 items were included in the questionnaire. Each participant (of both genders) rated all items, that is, eight items per school subject (mathematics, languages, and sport) and target gender (male/female).

The selection of school subjects was deliberately designed to tap into expected stereotypes related to cognitive versus physical domains (i.e., mathematics and languages were in the cognitive domain while sports was in the physical domain) and gender (i.e., math-

ematics and sports are stereotypically associated with male superiority while languages are associated with female superiority).

The instrument was provided in the language of each country's participants. The original questionnaire was constructed in German and translated by native language speakers into Chinese and Russian respectively. Another fluent speaker of those languages translated the items back to German language. This process ensured that the items were accurately translated and that comparisons could be validly inferred across the three language cohorts.

As can be seen in Table 2, the internal consistency (Cronbach's α) for the social status and eagerness scales is satisfactory across the three school subjects. Hence, the scale for social status encompasses items about being liked and being popular; the scale for eagerness has a negative connotation with items about being excessively hard working and not caring about others.

Table 2:
Internal Consistencies (Cronbach's α) for Each Country, Separately Displayed by Gender and School Subject

Scale	Country	Fictive successful female student			Fictive successful male student		
		Mathematics	Languages	Sports subjects	Mathematics	Languages	Sports subjects
Social status (5 items)	China	0.92	0.93	0.94	0.90	0.92	0.91
	Germany	0.88	0.90	0.91	0.90	0.90	0.91
	Russia	0.87	0.88	0.85	0.90	0.92	0.90
	Total	0.90	0.90	0.91	0.90	0.92	0.90
Eagerness (3 items)	China	0.56	0.65	0.67	0.72	0.77	0.69
	Germany	0.82	0.74	0.70	0.84	0.77	0.72
	Russia	0.69	0.63	0.65	0.84	0.83	0.74
	Total	0.71	0.68	0.67	0.78	0.78	0.73

In order to determine how students' expectations of their successful peers were affected by the variables of country, participant gender and target gender (i.e., the gender of the hypothetical high-achieving student) along with any interaction effects, six MANOVAs were conducted. For both dependent variables, social status and eagerness, MANOVAs were calculated for each of the three school subjects. The between-subject factors were the participants' gender and their country affiliation; the gender of the hypothetical students was treated as a within-subject factor. In the case that the initial analyses revealed a significant main effect for the variable of country, we conducted post-hoc tests utilizing the Bonferroni correction to determine the nature of the differences among the three countries. We examined the significant interaction effects of the between-subject factors through simple effect analyses.

Results

Table 3 shows students’ expectations of their high-achieving peers and gives insight into the country-specific expectations of the adolescents. These include the descriptive statistics for the scales on social status and eagerness. An overview of the MANOVA results is provided in Table 4. The estimated marginal means for each scale per school subject and country are displayed in Figure 1.

One interesting result is that, in general, the scores for the scale on eagerness are lower than are the scores for social status. Descriptive scores for expected eagerness are lower than the scale median whereas those for social status are higher than the scale median.

Table 3:

Adolescents’ Expectations (Means and Standard Deviations) of Successful Male and Female Peers in Mathematics, Language and Sports Subjects, Separated by Gender and Country

Gender	Country	mathematics		languages		sport subjects	
		male target	female target	male target	female target	male target	female target
Social Status							
male	China	4.18 (1.21)	4.31 (1.23)	4.32 (1.22)	4.38 (1.21)	4.23 (1.19)	4.18 (1.34)
	Germany	3.67 (0.83)	3.56 (0.74)	3.80 (0.78)	3.86 (0.72)	4.30 (0.91)	4.38 (0.92)
	Russia	3.81 (0.73)	4.15 (0.94)	4.10 (0.66)	4.24 (0.84)	4.04 (0.89)	4.19 (0.83)
	total	3.89 (0.98)	4.00 (1.05)	4.08 (0.95)	4.16 (0.98)	4.20 (1.01)	4.25 (1.07)
female	China	4.54 (0.97)	4.50 (1.07)	4.54 (1.04)	4.54 (1.03)	4.57 (0.99)	4.46 (1.11)
	Germany	3.39 (0.84)	3.44 (0.90)	3.70 (1.00)	3.77 (1.02)	4.09 (1.06)	4.09 (1.07)
	Russia	3.54 (1.09)	3.56 (0.92)	3.82 (1.12)	3.82 (1.00)	3.96 (0.99)	3.75 (0.97)
	total	3.83 (1.10)	3.83 (1.07)	4.02 (1.12)	4.04 (1.07)	4.20 (1.04)	4.09 (1.09)
total	China	4.37 (1.10)	4.41 (1.15)	4.44 (1.13)	4.47 (1.11)	4.41 (1.10)	4.33 (1.23)
	Germany	3.53 (0.84)	3.50 (0.83)	3.75 (0.90)	3.81 (0.89)	4.19 (0.99)	4.23 (1.01)
	Russia	3.65 (0.97)	3.79 (0.97)	3.93 (0.97)	3.99 (0.96)	3.99 (0.95)	3.93 (0.94)
	total	3.86 (1.05)	3.91 (1.06)	4.04 (1.05)	4.10 (1.03)	4.20 (1.03)	4.16 (1.08)
Eagerness							
male	China	2.62 (1.14)	2.24 (1.06)	2.73 (1.24)	2.47 (1.20)	2.59 (1.18)	2.33 (1.08)
	Germany	3.12 (1.01)	3.01 (0.96)	2.94 (0.89)	2.91 (0.97)	2.15 (0.66)	2.27 (0.82)
	Russia	3.27 (1.04)	3.04 (1.13)	3.35 (1.02)	3.17 (1.13)	3.05 (0.95)	2.88 (1.04)
	total	2.99 (1.10)	2.74 (1.11)	2.99 (1.09)	2.83 (1.13)	2.58 (1.02)	2.48 (1.01)
female	China	2.31 (0.89)	2.04 (0.67)	2.38 (0.96)	2.05 (0.79)	2.35 (1.01)	2.21 (0.99)
	Germany	2.72 (1.00)	2.71 (1.08)	2.58 (0.84)	2.46 (0.83)	2.08 (0.82)	2.09 (0.86)
	Russia	3.27 (0.92)	3.13 (0.91)	3.22 (1.04)	3.04 (0.88)	2.84 (0.98)	2.68 (0.89)
	total	2.79 (1.01)	2.64 (1.00)	2.75 (1.02)	2.54 (0.93)	2.45 (0.99)	2.35 (0.95)
total	China	2.45 (1.02)	2.13 (0.88)	2.54 (1.11)	2.25 (1.02)	2.46 (1.09)	2.27 (1.03)
	Germany	2.91 (1.02)	2.85 (1.03)	2.75 (0.88)	2.67 (0.92)	2.11 (0.75)	2.18 (0.84)
	Russia	3.27 (0.96)	3.09 (1.00)	3.27 (1.03)	3.09 (0.99)	2.92 (0.97)	2.76 (0.95)
	total	2.88 (1.05)	2.69 (1.05)	2.85 (1.06)	2.67 (1.03)	2.51 (1.01)	2.41 (0.98)

Table 4:
MANOVA Results for the Dependent Variables Social Status and Eagerness with Target Gender as Within-Subject Factor and Participants' Gender and Country as Between-Subject Factors

Effect	Variable	Mathematics (<i>F</i> (2, 371))	Languages (<i>F</i> (2, 371))	Sport subjects (<i>F</i> (2, 371))
Country	Social status	29.94, <i>p</i> < .001, $\eta^2 = .139$	16.73, <i>p</i> < .001, $\eta^2 = .083$	4.75, <i>p</i> = .009, $\eta^2 = .025$
	Eagerness	30.57, <i>p</i> < .001, $\eta^2 = .141$	23.55, <i>p</i> < .001, $\eta^2 = .113$	20.41, <i>p</i> < .001, $\eta^2 = .099$
Gender	Social status	1.53, <i>p</i> = .217, $\eta^2 = .004$	0.82, <i>p</i> = .365, $\eta^2 = .002$	0.44, <i>p</i> = .507, $\eta^2 = .001$
	Eagerness	3.90, <i>p</i> = .049, $\eta^2 = .010$	10.41, <i>p</i> < .005, $\eta^2 = .027$	3.22, <i>p</i> = .074, $\eta^2 = .009$
Target gender	Social status	2.82, <i>p</i> = .094, $\eta^2 = .008$	2.18, <i>p</i> = .141, $\eta^2 = .006$	0.36, <i>p</i> = .549, $\eta^2 = .001$
	Eagerness	23.51, <i>p</i> < .001, $\eta^2 = .060$	22.85, <i>p</i> < .001, $\eta^2 = .058$	9.25, <i>p</i> = .003, $\eta^2 = .024$
Gender by Country	Social status	4.93, <i>p</i> = .008, $\eta^2 = .026$	2.67, <i>p</i> = .071, $\eta^2 = .014$	3.59, <i>p</i> = .029, $\eta^2 = .019$
	Eagerness	1.55, <i>p</i> = .215, $\eta^2 = .008$	0.90, <i>p</i> = .408, $\eta^2 = .005$	0.06, <i>p</i> = .942, $\eta^2 = .000$
genderofstudent by Country	Social status	2.87, <i>p</i> = .058, $\eta^2 = .015$	0.11, <i>p</i> = .896, $\eta^2 = .001$	0.80, <i>p</i> = .448, $\eta^2 = .004$
	Eagerness	3.65, <i>p</i> = .027, $\eta^2 = .019$	2.87, <i>p</i> = .058, $\eta^2 = .015$	6.58, <i>p</i> = .002, $\eta^2 = .034$
genderofstudent by Gender	Social status	2.28, <i>p</i> = .132, $\eta^2 = .006$	0.74, <i>p</i> = .391, $\eta^2 = .002$	4.95, <i>p</i> = .027, $\eta^2 = .013$
	Eagerness	1.59, <i>p</i> = .208, $\eta^2 = .004$	0.47, <i>p</i> = .495, $\eta^2 = .001$	0.00, <i>p</i> = .973, $\eta^2 = .000$
genderofstudent by Gender by Country	Social status	3.63, <i>p</i> = .027, $\eta^2 = .019$	0.23, <i>p</i> = .795, $\eta^2 = .001$	1.72, <i>p</i> = .181, $\eta^2 = .009$
	Eagerness	0.00, <i>p</i> = 1.00, $\eta^2 = .000$	0.12, <i>p</i> = .890, $\eta^2 = .001$	1.05, <i>p</i> = .350, $\eta^2 = .006$

Note. Significant effects are printed in bold

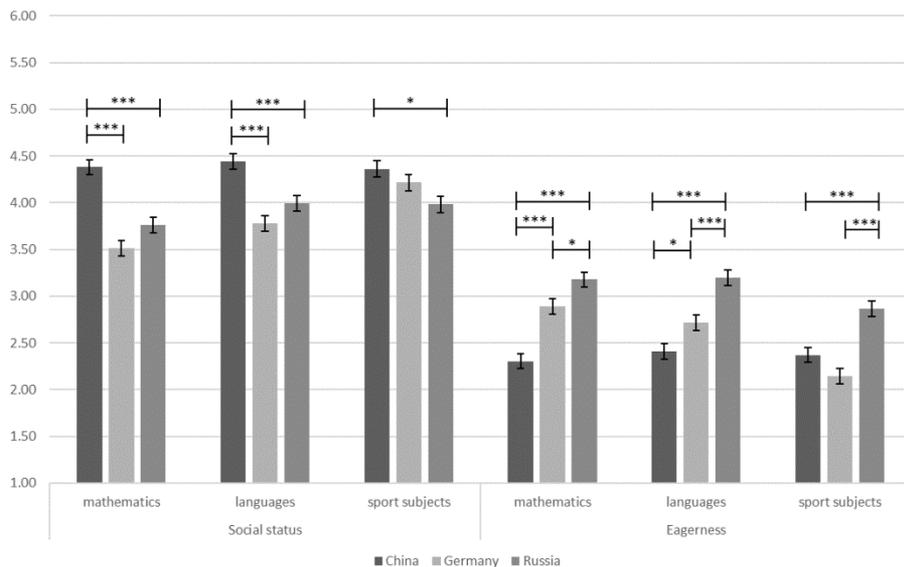


Figure 1: Estimated marginal means and standard errors of the scales expected social status and eagerness per subject and country; significant country effects are indicated via asterisks (*: $p < .05$, ***: $p < .001$)

Perceived Social Status

We identified a significant effect in relation to country for perceived social status for all three subjects under investigation. For the cognitive subjects, mathematics and languages, Chinese students expected the highest social status, compared to Russian students (moderate values) and German students (lowest values) (post hoc tests are all $p < .001$). German and Russian students did not significantly differ from each other ($p = .219$). In the sports subjects, the Chinese students showed significantly higher values compared to the Russian students, who had the lowest scores (post hoc: $p = .002$), but no significant difference with the German students, who ranked in the middle ($p = .557$), further, German and Russian students did not significantly differ in their expectations ($p = .131$). For gender, target gender, and interaction of target gender and country, there were no significant differences concerning perceived social status.

In mathematics and sports subjects, we detected significant effects for the interaction of gender and country. Simple effect analysis shows significant gender difference for Chinese ($p = .046$ in mathematics, $p = .053$ in sports) and Russian students ($p = .006$ in mathematics, $p = .047$ for sports). Whereas female Chinese students viewed high achieving peers as more social than did their male counterparts, the pattern was reversed for Russian students. No significant gender differences were evident for the German sample ($p = .184$ for mathematics, $p = .172$ for sports).

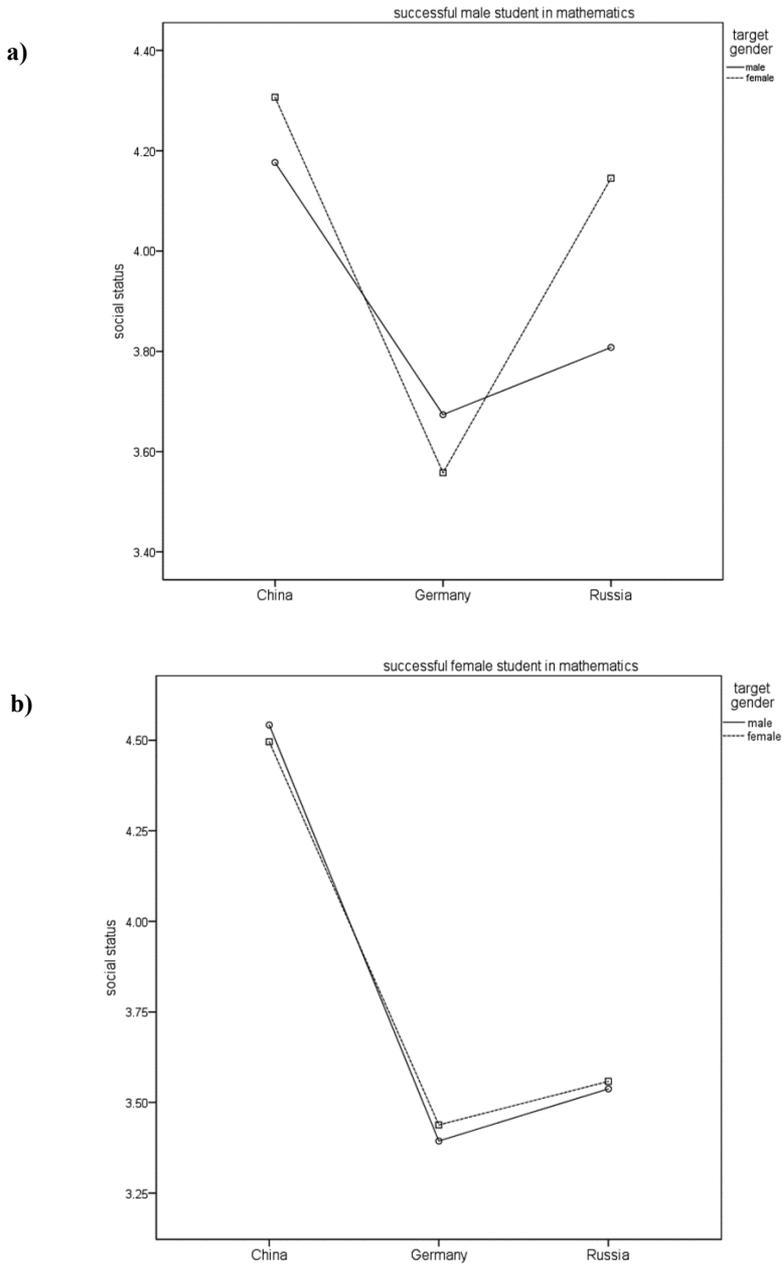


Figure 2:

Expected social status for successful male (Figure a) and successful female (Figure b) students in mathematics for male and female participants as well as students of the three participating countries (3-way interaction)

The interaction effect of gender by target gender was of statistical significance only for sports. Students expected that successful students of the same gender would be less social and popular than successful students of the other gender. Finally, a significant three-way interaction concerning social status occurred for success in mathematics (see Figures 2a and 2b). While female participants did not differ in their expectations regarding successful male or successful female students across all three countries, there were differences for male students, especially for Russian students. Russian male students expected successful female students in mathematics to be more social and popular than successful male students in mathematics ($p = .034$).

Perceived Eagerness

Students from the three different countries had significantly different expectations concerning the eagerness of their high achieving peers for all three investigated subjects. Post-hoc tests show that Russian students scored higher on eagerness than Chinese students in all three subjects ($p < .001$, respectively). German students expected more eagerness than Chinese students did in mathematics ($p < .001$) and languages ($p = .020$), but a similar degree in sports ($p = .153$). Furthermore, Russian students had more unfavourable expectations than did German students in mathematics ($p = .029$), languages and sports (each: $p < .001$).

In addition, male and female students had different expectations in mathematics and languages. Namely, male students attributed 'nerd' characteristics to successful students to a stronger degree than did female students. The same effect resulted for target gender in all three subjects: male successful students were expected to be more eager than female successful students were expected to be.

Significant interaction effects in relation to target student and country could be detected for mathematics and sports. In both subjects, Chinese (each: $p < .001$) and Russian ($p = .009$ in mathematics and $p = .003$ in sports) students expected successful male students to be more eager than they expected female successful students to be. German students, in contrast, did not significantly differ in their expectations regarding target gender of the successful students ($p = .378$ in mathematics and $p = .256$ in sports). No further effects were significant.

Discussion

Acknowledging the role of significant socializers (Wigfield & Tonks, 2002) such as peers in students' academic behaviors and attainments, we sought to examine whether differences pertained across gender, country, and school subjects. We used a scenario-based survey with young people from China, Germany, and Russia to elucidate their expectations of high-achieving classmates with respect to their social status and eagerness.

First, it needs to be noted that across gender and countries, students, in general, hold positive views of successful peers in different domains. The values for expected social status are higher than those for perceived eagerness are.

Overall, our findings demonstrate that there are significant differences between countries and gender. Results that were consistently obtained across all three domains under investigation were those for the independent variables of country, gender, and target gender. The strongest effect sizes were observed for the country variable. The country effects for all characteristics were significant across the three school subjects. However, differences existed with regard to the school subjects under investigation. Chinese students expected successful students to be most social across all school subjects and to be least eager in the cognitive domains (mathematics and languages). The results indicate that the pattern that it is possible to be 'successful and still popular' is true for Chinese students but not for German and Russian students. Hence, Chinese students scored highest for perceived social status and lowest for perceived eagerness. The somewhat negative views of success held by German students in the cognitive domains seem to be in line with results by Boehnke (2008) who found that German students experience peer pressure. This might also be true for Russian students.

For sports only, German students had a positive view of successful peers similar to that of the Chinese students. It is notable that only German students seem to differ in their expectations of successful peers in sport subjects as a non-cognitive domain in comparison to mathematics and languages. Hence, German students in our sample seem to have a more positive view about success in sports compared to success in cognitive domains. That is, German students in our sample had similar expectations regarding sports as described by Carrington (1993). For German students, success in sports seems to be attributed positively but success in mathematics and languages is not.

In line with the earlier results for science (Händel et al., 2014), significant gender effects could be only found for the variable of eagerness, and only for the cognitive domains. Male students, when compared to female students participating in the study, expected more eagerness from successful students. That is, male students are probably more likely to label successful students as 'nerds'. Consistent effects of the variable of target gender across all three domains could be detected for eagerness with successful male students regarded as more eager than are successful female students. That is, gender and target gender effects resulted in a similar pattern. Namely, male students rated the perceived eagerness of successful students more highly, and male successful students were regarded as more eager by both genders. These results correspond to the vignette study by Rentzsch et al. (2011) where male students showing effort were less liked, and also male students liked effortful students less than did the female students. However, considering the school subjects under investigation in our study, it is surprising that results do not differ among the domains. For example, previous research in the domain of mathematics suggested that successful female students are those who suffer most from negative labels such as nerds (e.g., Pelkner & Boehnke, 2003). Interestingly, the direction of gender differences does not depend on the stereotypical labels of mathematics and sports as male domains and languages as a female domain; rather, male students, across domains,

score higher on eagerness than do female students and successful male students are considered to be more eager than are successful female students.

Students' varying expectations of successful male or female students regarding eagerness, however, differed between countries (significant 2-way interaction effects for eagerness in mathematics and sports). Interestingly, only Chinese and Russian students differed in their expectations in relation to the gender of the successful student. This is a rather surprising result, as previous research with German students indicated that they may be sensitive to being labelled a nerd and feel negative peer pressure. This result is inconsistent with the country-specific gender gaps in the PISA study 2015: in mathematics and reading, male and female Russian students did not differ in the PISA competence scores whereas Chinese and German students differed in gender outcomes above the OECD score, with higher scores recorded for male students (compare <http://www.compareyourcountry.org/pisa/country/deu?lg=en>). Hence, further studies need to study potential influencing factors for these results. Nevertheless, the effects for expected eagerness regarding the interaction with country occurred only for target gender and not for gender, that is, there were no significant differences between participants' gender among the three countries under investigation.

The interaction effects of gender by target gender as well as of gender by target gender by country occurred for perceived social status only, were not consistent across domains, and were inconclusive.

Limitations and Future Perspectives

This study sought to determine the nature of differences in students' expectations of social status and eagerness of hypothetical high-achieving classmates. Building on previous work, we were particularly interested in whether there would be gender, country, or subject domain differences in the participants' responses. The results of the current study certainly indicated a number of differences that pertain across the three countries, suggesting that cultural values may play a part in how successful students are perceived. Interestingly, the Chinese students in our study, who had the most favourable views of high performing students, scored more highly in the latest PISA study results and Russian students showed the reverse pattern. As we cannot derive any causation from our study, however, it would be very interesting to supplement our study design with measures on performance. This could provide more insights into the counter-intuitive results for target gender differences across countries regarding perceived eagerness.

Our sample was relatively small to be making comparisons between countries. Hence, results need to be replicated in a different and larger sample, in particular, in a different age group or with several age groups (cf., Jacobs et al., 2002). In addition to gender, personality traits of the students might influence the expectations. For example, Rentzsch, Schröder-Abé, and Schütz (2013) conducted a study with students and showed that being labelled a 'streber' (a geek or nerd) and labelling others as 'strebers' were related to intra- and extraversion as well as to conscientiousness.

Our study focused on students' expectations of successful peers. A quite similar approach had been conducted by Bernardo and Ismail (2010). It would be valuable to also explore the expectations held by other stakeholders such as parents or teachers (e.g., Ercole, 2009). In particular, the values placed upon education in different cultures might also mitigate the influence of parents (cf., Dandy & Nettelbeck, 2002). Therefore, future studies should supplement our findings by investigating the expectations of teachers and/or parents.

Given the use of self-report questionnaires in the current study, we cannot extrapolate as to how these cultural values may play out in the behaviours of individuals within those countries. In addition, culture-specific answer patterns according to questionnaire items might have played a role. However, as we observed different scale means in relation to school subject, this should not have been a major influence on our results. However, the self-reporting may be different from respondents' actions in everyday life. Future research, therefore, should explore the relationships among participant perceptions, evidence of stereotypes within the culture, and observations of participants' actions.

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