

Better than Me?! How Adolescents with and without Migration Background in Germany Perceive Each Others' Performance in Class

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Is the perception of academic performance among peers biased to the disadvantage of students with migration background (MB)? What role does friendship among peers play for the perception of performance differences? In a quasi-experimental study, 9th graders with and without MB attending school in Germany rated the performance of a comparison partner relative to their own performance after taking a mathematics test. Degrees of correspondence between *perceived* and *actual* performance in *intragroup* (both partners with or without MB) and *intergroup* (comparer or partner with migration background) situations were tested in multilevel analyses. In both *intragroup* comparison situations, students evaluated their partners' performances benevolently. In contrast, in *intergroup* situations students with MB overestimated the performance of partners without MB relative to their own. Only students without MB judging partners with MB showed no such positivity bias. The pattern was replicated in the sub sample of friends, suggesting a subtle, yet powerful negative performance stereotype towards students with MB.

Keywords: Performance Evaluations; Students with Migration Background; Performance-Related Stereotypes; Social Comparison

Introduction

Imagine Murat, a student whose parents were born and raised outside of the country where he is attending school, ask himself the following questions: How well did I score on that math test? How did my friend Peter—a native of that country—do, better or worse than me? Questions like these are typical in classrooms where students engage in social comparison with fellow classmates to evaluate and improve their abilities (Dijkstra, Kuyper, van der Werf, Buunk, & van der Zee, 2008). The answers to these questions depend on the actual *difference* between Murat's and Peter's performance. If Murat scored higher on the test than Peter, and both of them knew each other well, Murat should expect to have outperformed Peter. But would he?

Previous research suggests that negative performance-related stereotypes about minority group students hinder their academic success (Sinclair, Hardin, & Lowery, 2006; Steele, Spencer, & Aronson, 2002; Taylor & Walton, 2011). Indeed, school achievement studies have consistently replicated substantial performance gaps between students with migration background and their fellow students without migration background across countries, but particularly in Germany (Park & Sandefur, 2010; Stanat, Rauch, & Segeritz, 2010). Because performance estimates have been found to shape students' academic self-con-

cepts, which in turn have an impact on academic achievement (Trautwein, Lüdtke, Roberts, Schnyder, & Niggli, 2009), understanding perceptions is the key. Social comparison among peers is a powerful source of self- and other-perception in educational settings (Dijkstra *et al.*, 2008). No previous research, however, has examined the extent of bias in peers' *perceptions* of each other's performance.

We argue that perceptions of the academic performances among peers are guided by a negative performance-related stereotype towards students without migration background, possibly even among friends. Such a stereotype about students with migration background can impact students' perceptions of their own achievements and that of their classmates, particularly in *intergroup* comparison where group membership is the most salient (Brewer & Weber, 1994). By implication, *differences* between own and the comparison partner's performance can be misjudged in *intergroup* comparison. Biased perceptions of actually existing performance differences, in turn, can powerfully shape academic interactions such as help-seeking and collaborative work among peers—to the disadvantage of students with migration background.

In laboratory research, friendship has been found to buffer the detrimental effects of stereotypes on person perception (Brewer, 1988).

In the present study we examine whether this also holds in a

naturalistic educational setting.

Perceiving Performance Differences

Individuals' evaluations of their own and others' performances arise from social comparisons. In large-scale educational field studies, researchers have shown that the relatively better performance of others entails decreased self-perceptions and vice versa (e.g., Preckel & Brüll, 2010). Perceiving the performance of others as better is comprised of a rating of one's own and the other's performance (i.e., a self-other difference). Previous field research has focused on self-ratings, implicitly assuming that when comparing self with others, others' performances are perceived in an unbiased manner. Actual performance of others is typically not assessed. Laboratory studies classically focus either on the accuracy of self-ratings or the accuracy of other ratings. In applied settings, however, bias emerges in perceptions of performance *differences* which—rather than mere self or other ratings—ultimately guide social interactions (Ridgeway, 2001), for instance when seeking for better performing peers who can give academic advice.

The present study addresses these issues by having comparers *estimate* their own performance and the performance of their partners. To simulate a naturalistic situation, we let students freely choose their comparison partners. Going beyond previous research, we additionally measured the *actual* difference by assessing comparers' and partners' performances with a standardized test. Importantly, this allows mapping the full range of naturally occurring (upwards and downwards) comparisons. Moreover, it enables us to identify patterns of bias in students' perceptions of performance differences by examining the *correspondence* of perceived and actual performance differences.

Migration Background as Relevant Category

We argue that a socially shared stereotype—according to which students with migration background perform more poorly in academic domains than students without migration background—should bias students' perceptions of performance differences in the direction of the stereotype whenever one of the two persons in the comparison situation is a member of that stereotyped group.

In Germany, research on the *contents* of stereotypes regarding students with migration background is scarce and outdated. The few available studies attest to a negative sentiment of native Germans towards individuals with migration background (Asbrock, 2010; Asbrock, Lemmer, Wagner, Becker, & Koller, 2009; Kahraman & Knoblich, 2000).

Additionally, the results of the well-known *Programme for International Student Assessment* of the OECD (i.e., PISA study) have been frequently communicated to the general public by directly comparing the performance of students with and without migration background (Stanat & Christensen, 2006).

Therefore, in a performance situation in the classroom the category *with/without migration background* should be contextually meaningful and task-relevant (Quinn & Macrae, 2005). Accordingly, the related stereotype of minority students as underachievers is applicable in performance comparisons among classmates.

Intergroup and Intragroup Comparison

Stereotypes have been shown to guide information process-

ing by serving as cues that allow for making judgments whenever they are potentially applicable (Bodenhausen & Macrae, 1998). Whether they are activated, however, depends on whether the category is salient in the comparison (Mummendey, Klink, & Brown, 2001). If both comparison partners *share* membership in the category (*intragroup* comparison) the stereotype associated with the category is of little predictive value in the comparison of performance; comparison partners are more likely to draw back on individuating information. If comparison partners *do not share* membership in the category (*intergroup* comparison) stereotypical knowledge that substantiates differences between individuals will most likely be used (Fiske & Neuberg, 1990; Mussweiler & Bodenhausen, 2002).

Thus, the impact of stereotypes about students with migration background should be potentially low in *intragroup* comparison but high in *intergroup* comparison. Importantly, the negative performance-related stereotype about students with migration background implies opposite predictions for *intergroup* comparisons: comparers with migration background should perceive actually existing performance differences positively biased in favor of their comparison partners without migration background. Comparers without migration background on the other hand should perceive actually existing performance differences negatively biased to the disadvantage of their comparison partners with migration background. In contrast, in *intragroup* comparisons the negative stereotype about students with migration background should be irrelevant such that performance difference perceptions should adequately reflect actual differences, irrespective of whether both partners have a migration background or both partners have no migration background.

Stereotypic Perceptions among Friends

According to recent research in educational settings students prefer to compare their performance to those of friends (e.g., Lubbers, Kuyper, & van der Werft, 2009). Laboratory research indicates that stereotypes bring about their strongest effects when the relationship between perceiver and target is *not* characterized by a strong interpersonal orientation (dual-process model; Brewer, 1988).

Thus, it needs to be examined whether a positive interpersonal relationship between student and comparison partner can “buffer” the impact of a negative performance-related stereotype. We expect friendship between comparer and partner to attenuate—but not eliminate—the impact of the stereotype such that the social category “student with migration background” should also be relevant if the *intergroup* comparison partners are friends.

The Present Study

Using a large-scale sample, we tested two hypotheses. Our first hypothesis predicts that the degree to which *perceived* performance differences match the *actual* performance differences (as indicated by test scores) should vary depending on whether comparison partners share (*intragroup* comparison) or do not share (*intergroup* comparison) group membership.

The second hypothesis pertaining to the two *intergroup* comparison situations reads that a negative performance-related stereotype towards students with migration background should produce an asymmetric pattern depending on whether the com-

parer has 1) a migration background and thus compares to a member of the supposedly superior group or 2) does not have a migration background and thus compares to a member of the supposedly inferior group. In the first situation, comparers with migration background should perceive actually existing performance differences in favor of their comparison partners without migration background. In the second situation, comparers without migration background should perceive actually existing performance differences to the disadvantage of their immigrant comparison partners. We further examine whether our hypotheses apply if the comparison partners are friends.

Method

Participants

Participants were 831 9th graders in 39 classrooms in Germany. Of the 39 classrooms, 29 ($n = 662$ students, 80%) were higher-level track (*Gymnasium*) and 10 ($n = 169$ students, 20%) were lower-level track (*Realschule* and *Hauptschule*). Students' mean age was 15.45 years ($SD = 0.81$), 55.7% were female. Of the 807 students who provided information on migration background, 272 (33.7%) reported themselves or at least one parent as being born outside of Germany and were categorized as "having a migration background". Countries of origin for both students and parents were heterogeneous ($N > 60$), although students with Turkish ($\approx 20\%$) and Polish ($\approx 13\%$) backgrounds were the dominant groups. Study participation was voluntary but encouraged by a lottery in which participating students could win prizes (e.g., *iPod*).

Procedure

Questionnaires were administered by teachers or research assistants during regular school hours. Before starting to take the test students were asked to first choose a comparison partner whom they would like to compare their performance to after taking the test. To simulate a realistic situation, students were not given any further instructions on who this comparison partner should be. Cover names were provided for every student in the classroom so that anonymity was guaranteed while partner information could be matched. Out of 831 students, 43 (5.2%) did not choose a comparison partner. Students then completed a standardized performance tests on mathematics (the first part of the survey). After working on the test for 15 minutes, they were prompted to stop working on the test and to estimate how well both they and their comparison partner had performed. To verify that students in fact referred to the previously indicated partner they were instructed to write down the cover name again. Finally, students were asked to indicate whether they were friends with their partner and to provide demographic and family background information.

Measures and Materials

Actual Performance Difference

We developed a performance test of 20 items from the "Third International Mathematics and Science Study" (TIMSS) item pool (Baumert et al., 1999). Reliability was satisfactory ($\alpha = .72$). To determine the *actual comparison direction* participants' actual test scores were matched with the actual test scores of the chosen comparison partner.

Perceived Performance Difference

After taking the test, students were instructed to evaluate their own test performance, and right below, to estimate their partner's test performance on a continuous line, ranging from 0 mm = "rather poor" to 60 millimeters = "rather good". To obtain the perceived performance difference between self and comparison partner self-evaluation scores were subtracted from other-evaluation scores. We refrained from asking students to explicitly and verbally indicate whether they thought their partner had performed worse or better than they had on the test to prevent social desirability effects. To prevent priming of category membership and minimize effects of stereotype threat (Stricker & Ward, 2004), migration background (MB) of participant and partner were obtained indirectly using the cover names and the socio-demographic information provided at the survey's end.

Data and Analysis

Because our classroom data were hierarchical, with individual students (level 1) nested within classrooms (level 2), we used multilevel modeling (MLM; Nezlek, 2008, 2011) via HLM 6 (Raudenbush, Bryk, Cheong, & Congdon, 2004). Migration background was coded: $-0.5 =$ no migration background (No-MB), $+0.5 =$ migration background (MB).

Results

Preliminary Analyses

In a first step, we analyzed students' comparison choices with regards to frequency of intra-versus *intergroup* choices (migration background and gender), comparison direction (upwards, downwards, lateral comparison), and friendship between comparison partners. Out of the 746 students who made a valid comparison choice, 345 who had no migration background chose a comparison partner who also had no migration background (48.9%, No-MB \rightarrow No-MB), 131 students had no migration background and chose a comparison partner with migration background (18.6%, No-MB \rightarrow MB), 129 students with migration background chose a comparison partner without migration background (18.3%, MB \rightarrow No-MB), and 101 students who had a migration background chose a comparison partner who also had a migration background (14.3%, MB \rightarrow MB). The majority of dyads were same-sex (88.8%). Most students (702 out of 746, 94.1%) chose a friend as comparison partner. Across the four possible MB combinations, students were equally likely to choose friends as comparison partners, $\chi^2(3) = 4.65$, *ns*. On average, students chose a similar performing comparison partner ($M = 1.17$, $SD = 16.37$), which is consistent with previous findings of social comparison studies conducted in the educational settings (cf., Dijkstra et al., 2008).

In the second analysis we examined whether the actual performance differences between comparer and comparison partner were equally distributed across the four comparison situations. For the subsequent analyses, raw test scores ($M = 14.02$, $SD = 3.92$) were summed and transformed into percentages ($M = 64.01\%$, $SD = 17.52\%$). To determine actual performance differences, participants' test scores were subtracted from their partner's test score so that *positive* scores reflected a *better* performance of the comparison partner relative to the participant. The distribution of this performance difference score was approximately normal, with the majority of students choosing a

partner who performed similarly on the test (range: -59.1% to 54.6% ; $M = 1.17$, $SD = 16.37$, $t(736) = 1.93$, $p = .054$). Next, we conducted an omnibus ANOVA, showing no differences among the four conditions, $F(3,702) = 0.14$, $p > .94$, partial $\eta^2 = .001$.

To obtain our criterion variable—the perceived difference between own and the partners' performance—comparers' raw rating scores were transformed into percentages, ranging from 0% to 100% for evaluation of own ($M = 65.79\%$, $SD = 21.72\%$) and partners' performance ($M = 70.51\%$, $SD = 20.48\%$).

On average, students evaluated their partners' performance more positively than their own, $t(726) = -6.24$, $p < .001$, $d = -0.46$. Evaluations of own and other's performance were positively correlated, $r = .53$, $p < .001$. To obtain the perceived performance difference between self and comparison partner (criterion variable), participants' evaluation of their own performance was subtracted from their evaluation of their chosen comparison partner's performance. Positive scores indicated that the participant evaluated the performance of the comparison partner to be better than his or her own performance, and negative values indicated that the participant evaluated the performance of the comparison to be worse than his or her own performance. Students judged their partner's performance as slightly better than their own (range: -100 to 91.67 ; $M = 4.76$, $SD = 20.55$). Differences in evaluation were available for 728 out of the 746 students (97.45%) who had made a valid comparison choice.

Following the procedures described by McClelland (2000; Judd, McClelland, & Ryan, 2009), we inspected whether the models' residual errors were normally distributed; they were.

Main Analyses

To test our hypotheses, following the procedures for decomposing interactions (Aiken & West, 1991), we examined the four slopes representing the covariation (or "correspondence") between actual performance differences and perceived performance differences in conditions where 1) the comparison partner had a migration background or not (Figure 1, lower vs. upper panel) and 2) the comparer had a migration background or not (Figure 1, dashed vs. solid line).

The model included two dichotomous predictors: migration backgrounds of comparer and comparison partner, with lower or higher numbers (-0.5 vs. $+0.5$) representing students without or with migration background, respectively. Actual difference in performance between comparer and chosen comparison partner was entered *uncentered* into the model because zero is a meaningful value (indicating no difference). Slopes and intercepts were allowed to vary randomly for each level-2 unit (classroom).

The predicted three-way interaction was significant, $\gamma_{70} = -0.47$, $t(37) = -2.14$, $p = .039$, $d = -0.70$ (Figure 1). The intercept was positive with a value of about 5%, $\gamma_{00} = 4.98$, $t(37) = 5.58$, $p < .001$, $d = 1.83$, indicating that, across conditions, comparers expected their comparison partner's performance to be about 5% better than their own.

Hypothesis 1 states that the covariance between actual and perceived performance difference should vary depending on whether comparison partners share (*intragroup* comparison) or do not share (*intergroup* comparison) group membership because in *intergroup* comparison situations—but not in *intragroup* comparison situations—accessible stereotypes should shape participants' perceptions. To examine this prediction, we

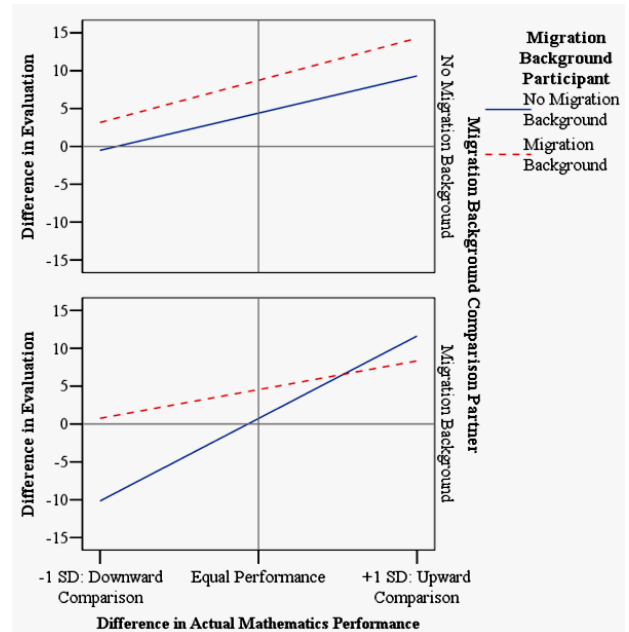


Figure 1.

Three-way interaction of actual performance difference (other minus own), migration background of participant, and comparison partner in predicting in perceived performance difference (other minus own).

first decomposed the significant three-way interaction to compare *intra-* and *intergroup* comparisons (Aiken & West, 1991). Confirming our predictions, there was a significant two-way interaction for *intergroup* comparisons ($\gamma_{30} = -0.31$, $t(37) = -2.24$, $p = .031$, $d = -0.74$; Figure 1, top panel dashed line vs. bottom panel solid line), but none for *intragroup* comparisons ($\gamma_{30} = -0.11$, $t(37) = -0.59$, $p = .56$, $d = -0.19$; Figure 1, top panel solid line vs. bottom panel dashed line). Thus, the comparers' perception of differences varied depending on whether they belonged to the supposedly inferior or superior group in the *intergroup*—but not *intragroup*—comparison situations.

We also tested the simple effects of migration background in the *intragroup* comparison. That is, given Figure 1, we tested for differences in evaluation differences (y-axis) between the solid line in the top panel and the dashed line in the bottom panel at -1 , 0 , and $+1$ SDs from the mean actual performance difference (x-axis; Aiken & West, 1991). Consistent with our predictions, there were no significant differences between the two *intragroup* types (MB \rightarrow MB vs. No-MB \rightarrow No-MB) regardless of whether the partner performed actually lower (-1 SD: $\gamma_{10} = 3.10$, $t(37) = 0.99$, $p = .327$, $d = 0.33$), at an equal level (at the mean: $\gamma_{10} = 1.42$, $t(37) = 0.81$, $p = .425$, $d = 0.27$), or better ($+1$ SD: $\gamma_{10} = -0.37$, $t(37) = -0.10$, $p = .925$, $d = -0.03$). Thus, perceptions of comparers with and without migration background were similar when comparisons were *intragroup*.

The second hypothesis states that in *intergroup* comparison situations, a negative performance-related stereotype towards students with migration background should produce an asymmetric pattern depending on whether the comparer a) had a migration background and thus compared his or her performance to a member of the supposedly superior group (MB \rightarrow No-MB) or b) did not have a migration background and thus compared his or her performance to a member of the supposed-

edly inferior group (No-MB \rightarrow MB). Therefore, comparers with migration background should perceive actual performance differences as *positively* biased in favor of their comparison partners without migration background. Comparers without migration background should perceive actual performance differences as *negatively* biased to the disadvantage of their comparison partners with migration background. This prediction was examined via simple effects tests of migration background in the *intergroup* comparison situations (Aiken & West, 1991; **Figure 1**, top panel dashed line vs. bottom panel solid line, respectively) in which we can examine *where* and *in what way* comparers' perceptions in the two *intergroup* comparison situations differed from each other. Confirming our predictions, the difference between comparers' perceptions in the two *intergroup* comparison situations were significant when students compared to a lower-performing partner (-1 SD: $\gamma_{10} = -13.34$, $t(37) = -3.87$, $p = .001$, $d = -1.27$), and when students compared to an equally-well-performing partner (at the mean: $\gamma_{10} = -8.28$, $t(37) = -3.41$, $p = .002$, $d = -1.12$); both of these significant differences were in the expected direction. Only when the partner performed actually better was there no difference between the two *intergroup* comparison situations ($+1$ SD: *ns.*).

In Hypothesis 2 we also predicted that comparers with migration background would *overestimate* their partners' performance relative to their own (**Figure 1**, top panel dashed line) and comparers without migration background would *underestimate* their partners' performance relative to their own (**Figure 1**, bottom panel solid line). To examine this prediction, we tested the slopes representing the two different *intergroup* comparison situations at the two specific points for which the previous analyses had revealed a significant difference for the two *intergroup* comparison situations (Aiken & West, 1991): where the partner performed markedly lower (-1 SD) and equally well (at the mean). Consistent with our predictions, perceptions of students in the second situation (MB \rightarrow No-MB) were positively distorted: students with migration background overestimated the performance of their partners without migration background and expected actually-lower-performing partners to perform at least as well, even slightly better than them (medium effect size, *ns*). This was indicated by the positive value of the intercept of the respective slope at -1 SD, $\gamma_{00} = 3.62$, $t(37) = 1.42$, $p = .16$, $d = 0.47$. At the same time, students without migration background expected actually lower-performing immigrants to perform markedly lower ($\approx 10\%$) than themselves, $\gamma_{00} = -9.71$, $t(37) = -4.46$, $p < .001$, $d = -1.47$. This was the only one of the four comparison situations in which the lower performance of the partner was expected and indicated by the comparer.

Next, we examined the situation in which the partner performed equally well. Again, students with migration background overestimated the performance of their partners without migration background and expected equally-performing partners to outperform them. This was indicated by a positive, significant intercept of the slope at the mean difference, $\gamma_{00} = 9.19$, $t(37) = 4.44$, $p < .001$, $d = 1.46$. The expectations of students without migration background, in contrast, were accurate, $\gamma_{00} = 0.91$, $t(37) = 0.67$, $p = .51$, $d = 0.22$. The direction of the asymmetry—the difference between the two *intergroup* comparison situations—was consistent with the stereotype that students without migration background perform poorly. Replicating the analysis of the three-way interaction using the subsample of only those participants who had indicated they were friends with the comparison partner they chose ($N = 695$, 39

classrooms; $M = 17.82$ students per classroom, $SD = 6.24$) we found that the critical three-way interaction remained significant, $\gamma_{70} = -0.53$, $t(37) = -2.38$, $p = .023$, $d = -0.78$.

Discussion and Conclusions

In this study we examined perceptions of performance differences in classrooms in Germany. We tested the claims that the social category *migration background* is known, salient, and socially meaningful to adolescent students when making social comparisons of academic performances and that students' perceptions are shaped by a negative performance-related stereotype pertaining to students with migration background. Going beyond previous research, we simultaneously considered 1) the actual existing performance difference between comparison partners as it naturally occurred, 2) whether they shared or did not share having a migration background, and 3) being friends or not. Because all students completed a standardized mathematics test, we were able to examine the extent to which comparers' perceptions reflected actual performance differences between themselves and their chosen comparison partner.

Findings confirmed our predictions of the impact of shared (vs. unshared) social group membership on how students perceive differences in their own performance and that of classmates. Findings also confirmed our predictions of an asymmetrical pattern in two *intergroup* comparison situations: to the advantage of students who did not have a migration background and to the disadvantage of students with migration background, consistent in the direction of a negative stereotype towards students with migration background.

We found the strongest stereotype-consistent bias among students with migration background who actually outperformed their partners without migration background but expected them to perform equally well and even better than themselves. In contrast, students without migration background who outperformed their partners with migration background accurately perceived their partners' performance to be lower.

In addition, the perceptual pattern was replicated in the subsample of only those students who reported being friends with the comparison partner they had chosen.

The “Pal Effect”—Not for Minority Friends of Majority Students

While people *self-enhance* on average (Alicke & Sedikides, 2010), we found benevolent ratings of partners' competence in all but one experimental condition; in the situation in which students without migration background compared themselves to students with migration background, students' ratings were in favor of their partners rather than to their own advantage.

Two aspects of this finding are worth discussing. The first is the benevolence of students' ratings of their comparison partners' performance, which we call the “pal effect”. For instance, in situations where the comparison partner actually performed lower than the participant, participants expected their partners to perform at least as well as themselves. Considering several lines of research on perceptions of friends and close others, our finding are unsurprising. Consistent with other research (Lubbers et al., 2009), most students picked friends as their comparison partners, most likely resulting in *similarity testing* (Mussweiler & Rüter, 2003). In this case, comparers will generate information that is most likely to confirm a focal hypothesis of similarity (to the comparison target), given a quick, holis-

tic assessment of the similarity of comparer and the comparison partner's (cf., Mussweiler, Epstude, & Rüter, 2005) indicated similarity. This could explain why students were so optimistic about the performance of comparison partners who actually performed worse than themselves. Thus, perceivers strongly attenuated the actually existing downward performance gap.

This finding is also consistent with the *extended model of self-evaluation maintenance* (Beach & Tesser, 1993), which explains affective reactions to performance differences in close relationships. According to this model, partners respond sympathetically to each other and regulate comparison outcomes in such a manner that (anticipated) negative emotional reactions for both self and partner are avoided in the first place. The present research suggests that stating one's superior performance and indicating clear performance differences to the *disadvantage* of their comparison partner is avoided and rather evokes negative emotions, at least in three of the four conditions.

Nevertheless, participants' ratings were also benevolent insofar as in situations where comparison partners performed similarly, participants expected their partners to *outperform* themselves. The tendency to rate close acquaintances even more positively than oneself (i.e., "*pal enhancement*") as a strategy for relationship maintenance has been shown in recent research studying self and other attractiveness ratings (Swami, Stieger, Haubner, Voracek, & Furnham, 2009; Barelds & Dijkstra, 2009). This finding stands in apparent contrast to the recent studies showing a "better than average effect" (BTA) in educational settings. The BTA effect indicates that most students often believe they are superior to their classmates at school-related tasks. The BTA effect is especially pronounced among ethnic minority students (Kuyper, Dijkstra, Buunk, & van der Werf, 2011). Yet in BTA studies, students are asked to rate whether they were more or less athletic, or more or less attractive than *most* of their classmates. This constitutes a very different frame of reference than the one applied in the present study, where students choose *specific* comparison others and, mostly, friends. The general formulation of BTA items leaves more room for self-enhancement than the task of comparing one's own performance to that of a self-selected target directly in a concrete testing situation.

The second aspect relates to the exclusiveness of the pal-enhancement effect. The effect was shown in all comparison situations but one: it did not hold in *intergroup* comparison situations in which majority students without migration background compared their performance to those of their partners with migration background. Here the perception of differences was not positively or negatively biased but, in fact, *more accurate* than in the other conditions: when minority students performed lower, majority students expected them to perform lower; when minority students performed similar, majority students expected them to perform similar. Thus, ratings in this condition were more accurate. Ironically, it is the accuracy of those ratings, the lack of optimism and overestimation regarding the performance of comparison partners with migration background that constitutes the subtle but powerful disadvantage in their peer groups, even among friends.

To our knowledge, the current research provides the first empirical evidence for pal-enhancement in students' competence ratings in classrooms. Future studies may wish to consider systematically disentangling the underlying mechanisms.

One important limitation of our study is that gender as an additional factor was not included in the analyses. While gender

has been included as an independent variable in more recent analyses, interactions as well as social comparisons are strongly gender segregated (Mehta & Strough, 2010; Dijkstra et al., 2008). As such, comparison partners mostly *share* their membership in this social category and migration background should be more relevant. Additionally, from a methodological standpoint, a stable model that additionally included both the sex of comparer and partner could not be reliably estimated given that only a fraction of students chose comparison partners of the opposite sex. Another important limitation is that, based on the present data, we can only infer rather than directly demonstrate the impact of performance-related stereotypes. Clearly, more research is necessary to directly examine the mechanism suggested here. At present, we cannot think of any equally powerful explanation for this pattern of results.

Taken together, the findings of our quasi-experimental study offer an explanation for how performance perceptions among peers can impede the academic development of students with migration background. Overall, the observed pattern of perceptual asymmetry implies that relatively lower expectations regarding the performance of students with migration background are held by the members of both groups: students with and without migration background. Benevolent expectations towards the comparison partners characterize the ratings of all students except in one situation: no pal enhancement was found when students without migration background rated their own performance in comparison to students with migration background. The disadvantage lies within the lack of benevolence and optimism regarding the abilities of students with migration background: importantly, in their own perception as well.

Relatively lower expectations regarding the academic performance of minority students, particularly in *intergroup* constellations, will likely feedback into minority students' self-concepts of ability. These, in turn, have been shown to strongly impact actual performances and academic development (Trautwein et al., 2009). Moreover, lower expectations held by both minority and majority peers may subtly impact academic interactions among peers such as the exchange of school-related help. The perceptual asymmetry may result in students with migration background choosing less competent partners than their classmates without migration background in cooperative tasks (Zander, Hannover, & Webster, in prep.). If students with a migration background doubt their capabilities relative to their cooperation partners without migration background, then they are more likely to be less active and more insecure in their contributions, even when these cooperation partners are their friends (Cohen & Lotan, 1995).

In this vein, a lowered self-concept of ability, together with disadvantages in social interactions, could jointly serve as self-fulfilling prophecies (Guyl, Madon, Prieto, & Scherr, 2010), thus hindering the academic development of students with migration background in a subtle way: their behaviors may confirm initial, erroneous expectations and thus further alter self- and partner perceptions consistent with the initial expectations or hypotheses. Our findings suggest that these processes apply to *intergroup* but not *intragroup* situations, where comparison others are rated benevolently irrespective of their migration background.

To our knowledge, this is the first study to examine the impact of shared social category membership on comparison outcomes tested in an applied naturalistic setting, by taking into account actual and perceived relative performance differences

between comparers and comparison partners. Despite the vital importance of peers in adolescent research, their role has not yet been taken into account to identify paths to explain disadvantages in the academic development of students with migration background. The present research suggests that both friendship and having a migration background shape students' perception of performance differences.

Yet, the unique and interactive contribution of these factors to the perception of ability differences should be investigated systematically. In fact, the present findings evoke important questions for future research: Is it the migration background per se that suggests superiority and inferiority of self and others in the test situations? Migration background is a category that oversimplifies the diversity of persons within it. Yet, so does the category gender. Broad categorizations serve as an important starting point, particularly in applied settings. Future research should explore the boundaries of the category and its predictive power for stereotypic patterns. Comparing students of different ethnic groups is just one possible approach. What role does it play whether students with migration background hold a passport of the host country? Or their length of stay? Or whether they went to a kindergarten in the country where they now attend school? What role does it play how immigrant students' think their ethnic group is being perceived by members of the host country? The present research suggests that migration background is a diverse but powerful category for students in naturalistic classroom settings, yet it is just a beginning.

Interestingly, we also found the stereotypical perceptual pattern in the subsample of only those students who reported being friends with the comparison partner they had chosen. Friendship among participants could not buffer the effects of a negative performance-related stereotype. One reason for this finding could be that students were asked to indicate whether they were friends with the comparison partner *after* they had compared their scores. Recent research suggests that changing the order would entail a different pattern of results. Walton, Paunesku and Dweck (2012) report that the detrimental effect of a stereotype on participants' *performance* could be buffered by priming them with own (or even other persons') friends and family. Similarly, students' perception of own and others' abilities could be less stereotypic if they were asked to think about their friendship to a comparison partner *before* comparing their performances. Our results, however, suggest that in natural comparison situations—unless asked to do so—students do not draw back on this valuable resource to countervail the negative impact of a stereotype.

Although our findings remain tentative and require replication (including the systematic variation of forced and deliberate comparison choice to extend the generalizability of these results), they may serve as an explanation for the prevalent underachievement of students with migration background that has not previously been investigated in a real-world setting.

Additionally, they suggest that “having a migration background” is known, salient, and socially meaningful to students when making their comparisons and imply the existence of a stereotypic belief that students with migration are academic underachievers.

We are convinced that by virtue of future research on the topic, and the comparison of patterns across countries, we may open up a further route to improve opportunities for the positive academic development of students who have a migration background.

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