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EFFECTS OF ACTIVATING NEGATIVE STEREOTYPES ABOUT TURKISH-ORIGIN STUDENTS ON PERFORMANCE AND IDENTITY MANAGEMENT IN GERMAN HIGH SCHOOLS

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Effects of activating negative stereotypes about Turkish-origin students on performance and identity management in German high schools

Effets de l'activation des stéréotypes négatifs sur les performances et les stratégies identitaires des élèves d'origine Turque scolarisés dans les lycées allemands

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Abstract

The activation of negative performance-related stereotypes can lead to underperformance of stereotyped group members (*stereotype threat*). From a social identity perspective, stereotype activation threatens people's need for a positive social identity, thereby creating a motivation to counteract this threat. Stereotype activation was experimentally manipulated for Turkish-origin and German students ($N = 148$) in ninth grade high school classrooms. Then, participants completed a math test and measures assessing ethnic group identification and the belief in the meta-stereotypes about

Résumé

L'activation de stéréotypes négatifs de compétence peut conduire à une détérioration des performances des membres des groupes qui en sont la cible (*menace du stéréotype*). Du point de vue de l'identité sociale, l'activation du stéréotype menace le besoin des individus d'avoir une identité sociale positive, créant ainsi une motivation pour contrer cette menace. L'activation du stéréotype a été manipulée expérimentalement auprès de lycéens allemands et de lycéens d'origine turque ($N = 148$). Ensuite, les participants ont passé un test de mathématiques et complété des mesures d'identification à leur

Key-words
Stereotype threat, immigration, group identification, meta-stereotypes

Mots-clés
Menace du stéréotype, immigration, identification groupale, méta-stéréotypes

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Germans' and Turkish-origin migrants' math ability. As predicted, stereotype activation interacted with ethnicity to affect performance. Identity management occurred only for Turkish-origin students: After stereotype activation they identified more strongly with their ethnic ingroup and expressed less endorsement for the positive meta-stereotype about German's math ability. Implications for integrating stereotype threat theory into social identity theory and for teaching and testing in European multicultural educational settings are discussed.

groupe ethnique et d'adhésion aux méta-stéréotypes concernant les capacités mathématiques des Allemands et des migrants d'origine turque. En accord avec nos prédictions, l'activation du stéréotype interagit avec l'origine ethnique des participants pour affecter leurs performances. Des stratégies de gestion identitaire n'ont été observées que chez les lycéens d'origine turque : Après activation du stéréotype, ils se sont identifiés plus fortement à leur groupe d'appartenance ethnique et ont exprimé moins d'adhésion au méta-stéréotype positif concernant les capacités mathématiques des Allemands. La discussion met l'accent sur l'intégration des théories de la menace du stéréotype et de l'identité sociale, mais aussi sur l'enseignement et l'évaluation dans les milieux éducatifs européens multiculturels.

Highly competitive Western societies rely on the belief that intellectual competition is a valid basis for differentiating between successful and unsuccessful people. This belief is based on the assumption that academic performance is determined by individual intellectual ability and not by membership in social groups (e.g., ethnic groups). However, as negative performance-related stereotypes about immigrants' ability are widespread, it seems possible that the activation of these stereotypes impairs immigrants' academic performance and thereby their intellectual success. Research from the United States found that ethnic minorities such as African American university students (e.g., C. M. Steele, 1997; C. M. Steele & Aronson, 1995) and children (e.g., Shelvin, Rivadeneyra, & Zimmerman, 2014), Hispanics (e.g., Gonzales, Blanton, & Williams, 2002; for a meta-analysis, see Nadler & Clark, 2011), and second-generation Afro-Caribbeans

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(Deaux et al., 2007) show decreased academic performance when confronted with negative stereotypes about their intellectual abilities.

Although the number of immigrants and their offspring has steadily increased in Europe in the last decades and their integration has generated an ongoing political debate, few studies have investigated stereotype threat effects for immigrants in Europe (Appel, 2012; Chateignier, Dutrévis, Nugier, & Chekroun, 2009; Froehlich, Martiny, Deaux, Goetz, & Mok, 2014). In Germany nearly one third of the families of students in elementary and middle schools have migrated to Germany (Bundesamt für Migration und Flüchtlinge, 2010). Turkish-origin immigrants are the largest group (18.5%; Statistisches Bundesamt, 2012). Not only do Turkish-origin students underperform compared to German students in standardized performance tests in different academic domains (e.g., PISA, Klieme et al., 2010; TIMSS, Bos, Wendt, Köller, & Selter, 2012), but negative stereotypes about this group are widespread (e.g., Asbrock, 2010; Kahraman & Knoblich, 2000). Thus we argue that it is especially important to explore whether the low performance levels of Turkish-origin migrants in Germany can at least partly be explained by the activation of negative stereotypes in achievement situations.

Integrating stereotype threat theory into a social identity approach

Stereotype threat theory has focused mainly on the consequences of stereotype activation on performance-related and motivational outcomes (for an overview see Inzlicht & Schmader, 2012). However, in our multicultural world the question arises of whether the activation of negative performance-related stereotypes might also have consequences for group members' relationships to their ethnic in- and outgroups.

The effects of threat on the relationship between individuals and their ingroups and on intergroup relations have been studied extensively in the social identity research tradition (e.g., Brown, 2000; Ellemers, 1993; Ellemers, Wilke, & van Knippenberg, 1993; Martiny & Kessler, 2014; Martiny, Kessler, & Vignoles, 2012).

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Social identity theory (Tajfel & Turner, 1986) states that people have a strong need for a positive personal and social identity. Group members receive information about the value of their group by comparing the ingroup to an outgroup on a relevant dimension. Whenever this comparison is negative, the ingroup members' social identity is threatened and group members are motivated to use so-called identity management strategies to cope with the threat.

As C. M. Steele, Spencer, and Aronson (2002) have argued, salient negative performance-related stereotypes in achievement situations can be understood as a specific kind of social identity threat. In these situations the activated negative performance-related stereotypes can threaten one's positive group-view because they imply that the ingroup does worse in a relevant ability domain compared to an outgroup (i.e., negative comparison outcome). Because the activation of negative performance-related stereotypes is a threat to the ingroup's positive social identity, stereotyped group members should not only show a decrease in performance, but should also try to psychologically cope with this threat.

Coping with social identity threat

In addition to examining performance, we investigate two group-related consequences of stereotype threat: group identification and the belief in the meta-stereotypes about Germans' and Turkish-origin migrants' math ability, that is what a person thinks others think about the in- and outgroup in a specific domain (i.e., math). Concerning group identification, Tajfel and Turner (1986) claimed that social identity threat can increase identification with the threatened ingroup. In the words of Branscombe, Schmitt, and Harvey (1999), "if one cannot gain acceptance in the group with much of society's power and prestige, the most adaptive response might be to increase one's investment in one's own group, or to 'love the one you're with'" (p. 137). This hypothesized pattern has considerable empirical support (e.g., Dion & Earn, 1975; Gurin, Gurin, Lao, & Beattie, 1969; Jetten, Branscombe, Schmitt, & Spears, 2001). Increased identification with a negatively stereotyped group can be understood as a coping strategy

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in that increased identification following rejection is positively related to well-being (e.g., Branscombe et al., 1999).

Surprisingly, however, the prediction that the activation of negative performance-related stereotypes increases identification with the threatened group has seldom been considered in stereotype threat research. At first glance this hypothesis might seem contradictory to earlier work that has shown that group members tend to distance themselves from *specific aspects* of the negatively stereotyped ingroup that are related to the negative stereotype (Pronin, C. M. Steele, & Ross, 2004; C. M. Steele & Aronson, 1995; von Hippel, Walsh, & Zouroudis, 2011). However, the ingroup has a variety of meanings to its members and cannot simply be reduced to aspects related to the negative stereotype (e.g., Pronin et al., 2004). Thus, it is plausible that overall identification with the ingroup might increase, rather than decrease, under stereotype threat, especially when group boundaries are perceived as impermeable (Ellemers, van Knippenberg, de Vries, & Wilke, 1988). At the same time group members could distance themselves from certain stereotypical aspects of the ingroup.

Concerning the targeted group members' belief in the stereotype, previous research has investigated it mainly as a potential moderator for stereotype threat effects. Generally this research shows that stronger beliefs in the stereotype are associated with lower performance by ingroup members (e.g., Aronson & C. M. Steele, 2005; Blanton, Christie, & Dye, 2002; Schmader, Johns, & Barquissau, 2004). However, Jones, Ruff, and Paretti (2013) investigated stereotype endorsement as dependent variable by assessing engineering students' stereotype endorsement at the end of their first year and found that women reported significantly lower levels of stereotype endorsement and significantly higher levels of engineering ability perception compared to men.

In the present work we extended this line of investigation to the belief in meta-stereotypes about Germans' and Turkish-origin migrants' math ability. Expressing less endorsement for the stereotype can be understood as a strategy to protect one's social identity. Therefore, we predicted that when Turkish-origin students are confronted with a negative performance-related stereotype they will show less endorsement of the meta-stereo-

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types than when not confronted with a negative stereotype. Germans' level of belief in the meta-stereotypes should not be influenced by stereotype activation.

The present research

In the present work we investigated the effect of activating negative performance-related stereotypes on the performance of Turkish-origin high school students in German classrooms. Extending earlier research, we did not only test the effects of stereotype activation on performance, but also on group identification and the belief in the meta-stereotypes about Germans' and Turkish-origin migrants' math ability. We predicted that activating negative performance-related stereotypes will significantly decrease the performance of Turkish-origin students in comparison to Germans and in comparison to the Turkish-origin control group. Further, we expected stereotype activation to evoke identity management strategies (i.e., stronger identification with the ethnic ingroup and less belief in the meta-stereotypes) for Turkish-origin students, but not for German students.

We investigated these hypotheses in a sample of adolescent high school students with Turkish-origin or German background. We think that this age group ($M = 15.0$) is particularly interesting, as social identity development theory (Nesdale, 1999) predicts that a child's concept of an ethnic group is elaborated and clarified and ethnic prejudice has emerged at the age of 10 to 11 years (Nesdale, Durkin, Maass, & Griffiths, 2005). Therefore, students in our sample clearly satisfy the preconditions for finding effects of the activation of negative performance-related stereotypes about ethnic groups. Some theories (e.g., Erikson, 1968) suggest that identity processes are particularly critical in the teenage years; further, because ninth-grade students in Germany are in their last year of compulsory general education and will soon be entering the labor market, they are likely to be considering identity issues. The likelihood that Turkish-background students will encounter some negative stereotypes in the job market makes it especially important to investigate their reactions to the presence of negative stereotypes.

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In Germany, negative stereotypes about Turkish-origin migrants target numerous ability domains (Froehlich, Martiny, Deaux, & Mok, 2014). Not surprisingly, given the challenges of second-language learning, stereotypes about migrants' verbal abilities are widespread, and first evidence shows that stereotype activation plays a performance-hindering role in the verbal domain (Froehlich, Martiny, Deaux, Goetz, & Mok, 2014). Here we aimed to test the generalizability of stereotype threat by considering performance in mathematical domains, an area less dependent on language proficiency.

Method

Design

We used a 2 (Ethnicity: Turkish-origin migrants vs. Germans) x 2 (Stereotype Activation: yes vs. no) factorial design. Performance on a difficult math test, ethnic group identification, and beliefs in the meta-stereotypes about Germans' and Turkish-origin migrants' math ability were the dependent variables.

Participants

In total, 230 students (112 male, 116 female students, and two unknown) of nine 9th grade classes of three schools (*Realschule*[1]) participated in the study. We used the self-categorization of participants as Turkish-origin migrants versus Germans to define ethnicity[2] (see the exact item below): 73 students categorized themselves as Germans (43 female; 33 stereotype activation condition) and 75 as Turkish-origin migrants[3] (34 female; 39 stereotype activation condition). Their ages ranged from 13 to 17 years ($M = 14.52$, $SD = 0.69$)[4].

1. German schools have three educational tracks: lower (*Hauptschule*), middle (*Realschule*), and higher (*Gymnasium*). We conducted the present study in the middle track because it is the only one with equivalent proportions of migrant and German students.

2. A recent meta-analysis (Appel, Weber, & Kronberger, 2014) showed that ethnic self-categorization yields stronger stereotype threat effects than "objective" measures such as family migration background.

3. Non-Turkish migrants ($N = 82$) were excluded because stereotypes vary between immigrant groups (e.g., Lee & Fiske, 2006).

4. Ninth grade students in Germany are typically 14 to 16 years old. Removing three outliers in our sample (two age 13, one age 17) did not fundamentally change our results and so the three were retained in all analyses.

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Materials and procedure

Before conducting the study we gained consent from the principals and the teachers in charge of all three participating schools. The study was conducted during regular school hours with teachers present. The experimenters, two graduate university students, invited students to participate in the study on a voluntary basis and consent was given verbally. Before starting the study, students were informed that the data collection was anonymous and that data would only be used for scientific purposes.

Three separate booklets were distributed to students. The first part provided information about the study and included the randomly-assigned manipulation of stereotype threat (or control materials). After reading the information the students began to work on the second part, three sections of a difficult math test, with a time limit of 20 minutes. Finally, they received a questionnaire assessing ingroup identification, ingroup bias, comprehension of test instructions[5], and socio-demographic information (e.g., gender, migration background, school). The complete study took approximately 45 minutes. Students were debriefed and received a chocolate bar for participation.

Manipulation of stereotype activation. In the first booklet, participants were informed that they would be asked to work on a math test. In the *stereotype activation condition* participants read that there are "performance differences between Germans and Turkish-origin migrants" in the test. In the *no stereotype activation condition*, participants received information that there are "no performance differences between Germans and Turkish-origin migrants" in the test (Keller, 2007; Spencer, C. M. Steele, & Quinn, 1999).

Math test. Participants were asked to take a difficult math test assessing mathematical problem solving strategies including seven problems from the reasoning ability section of a nonverbal intelligence test (Raven's Standard Progressive Matrices; Horn, 2009), three problems from the mathematical PISA test (Kunter et al., 2002), which in total had six sub-problems, and four mental

5. We also assessed self-concept in math, task motivation, domain identification in math, and own belief in the stereotype, but these variables are not reported here.

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rotation problems (Peters & Battista, 2008). The Raven's Matrices and the mental rotation problems were each awarded one point; the PISA sub-problems were awarded up to three points. Because we were interested in a broad variety of mathematical problem solving, we created a sum score of all problems. Two of 17 problems were excluded because they lowered the internal consistency. The remaining 15 problems showed an acceptable $\alpha = .58$ and had a maximum score of 20 points. Participants' performance scores in the present study ranged from 0 – 15 points.

Questionnaire. Participants were categorized into one of the two ethnic groups (Turkish-origin migrants vs. Germans) based on their answer to the following question: "To which ethnic group do you feel to belong (for example Germans, Turks, German-Turks, Italians, or another group)? Please choose the ethnic group that is most important to you and write it down: ____". Participants who labeled themselves as Turkish, German-Turkish, or as Turkish in combination with any other ethnic group if Turkish was listed first were classified as Turkish-origin students. Only students who labeled themselves solely as Germans were classified as German to ensure that no other immigrant groups were part of the German sample[6]. Then participants were asked to answer three items assessing ingroup identification on 7-point Likert scales ranging from "I strongly agree" to "I strongly disagree" with regard to the group they had chosen ("Being a member of this group is an important part of myself", "Being part of this group is important to me", "I like being part of this group"). These items were combined in a group identification scale ($\alpha = .93$). Belief in the meta-stereotypes about Germans' and Turkish-origin migrants' math ability was measured with two items that asked participants what they thought others think about the math abilities of each group ("How do most people evaluate the math abilities of Turkish-origin migrants/Germans?"; ranging from 1 "very bad" to 7 "very good"). Because these items were not correlated ($r = .05, p = .60$), separate analyses for each item were conducted.

6. Three students who would have been categorized as Turkish origin using demographic criteria were included as Germans, because they categorized themselves that way. This decision is consistent with SIT's conception of self-categorization.

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Results

Math Performance

To test the prediction that Turkish-origin students' performance would decrease when a negative performance-related stereotype was activated, we conducted a univariate ANOVA with stereotype activation and ethnicity as independent variables and math performance as the dependent variable. The main effect for stereotype activation was not significant, $F(1,144) = 0.48$, $p = .49$. The main effect for ethnicity was significant, $F(1,144) = 7.94$, $p = .006$, $\eta^2 = .05$; Germans overall performed better ($M = 7.40$, $SE = 0.31$) than Turkish-origin migrants ($M = 6.18$, $SE = 0.31$). This main effect was qualified by the predicted interaction between ethnicity and stereotype activation, $F(1,144) = 4.20$, $p = .04$, $\eta^2 = .03$ (see Figure 1). To investigate this interaction in detail, we conducted LSD post hoc tests. In the no stereotype activation condition, the performance of Germans ($M = 7.11$, $SE = 0.42$) and Turkish-origin migrants ($M = 6.78$, $SE = 0.44$) did not differ significantly, $p = .58$. However, in the stereotype activation condition, Germans ($M = 7.71$, $SE = 0.46$) outperformed Turkish-origin migrants ($M = 5.58$, $SE = 0.42$), $p = .001$. Germans' performance did not significantly differ between conditions, $p = .34$. However, Turkish-origin migrants' performance was lower after stereotype activation compared to the control condition, $p = .053$[7],[8].

Group identification

We argued that whereas Turkish-origin migrants' identification with their ethnic group would be influenced by stereotype activation, Germans' would not. We computed an ANOVA with stereotype activation and ethnicity as independent variables and identification with ethnic ingroup as dependent variable. The main effect of stereotype activation was not significant, $F(1,143) = 2.24$, $p = .12$. The main effect of ethnicity was significant,

7. When conducting the same ANOVA with all 17 math problems ($\alpha = .53$), the results remained the same: The main effect for stereotype activation was not significant, $p = .39$. The main effect for ethnicity was significant, $F(1,144) = 6.59$, $p = .011$, $\eta^2 = .04$, and the predicted interaction between ethnicity and stereotype activation was also significant, $F(1,144) = 4.85$, $p = .03$, $\eta^2 = .03$.

8. There was no main effect of gender and no interaction effects, all ps $> .12$.

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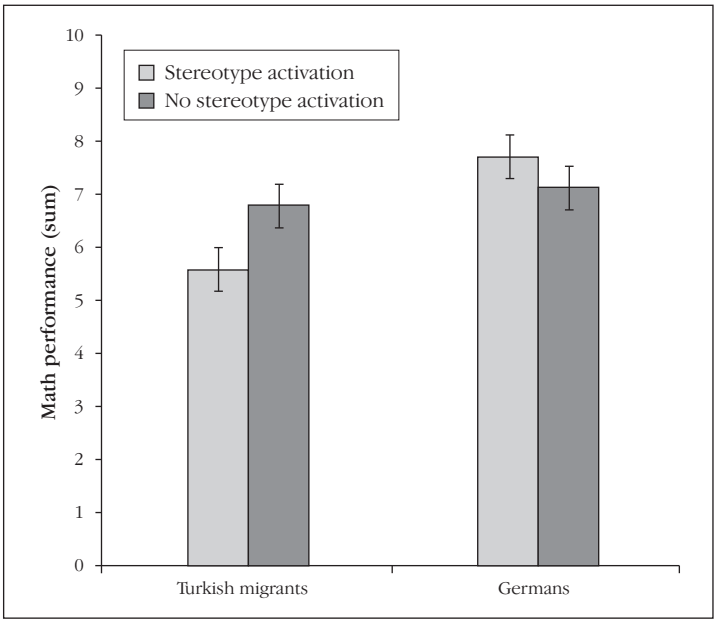

FIGURE 1:
Interaction between stereotype activation and ethnicity on math performance (N = 148; error bars reflect +/- 1 *SE*).

$F(1,143) = 23.83$, $p < .001$, $\eta^2 = .14$, indicating that Turkish-origin migrants ($M = 5.90$, $SE = 0.18$) reported stronger group identification than Germans ($M = 4.59$, $SE = 0.19$). The interaction between stereotype activation condition and ethnicity was marginally significant, $F(1,143) = 3.05$, $p = .08$, $\eta^2 = .02$ (see Figure 2). LSD post hoc tests indicated that the stereotype activation did not influence Germans' identification with their ethnic ingroup (stereotype activation: $M = 4.57$, $SE = 0.28$; no stereotype activation: $M = 4.62$, $SE = 0.25$, $p = .89$). In contrast, Turkish-origin migrants reported stronger identification with their ethnic ingroup after stereotype activation ($M = 6.30$, $SE = 0.25$) compared to the no stereotype activation condition ($M = 5.44$, $SE = 0.26$), $p = .02$.

Belief in the meta-stereotypes about Germans' and Turkish-origin migrants' math ability

Next we tested the prediction that the activation of a negative performance-related stereotype would motivate Turkish-origin migrants to restore their positive social identity by denying the

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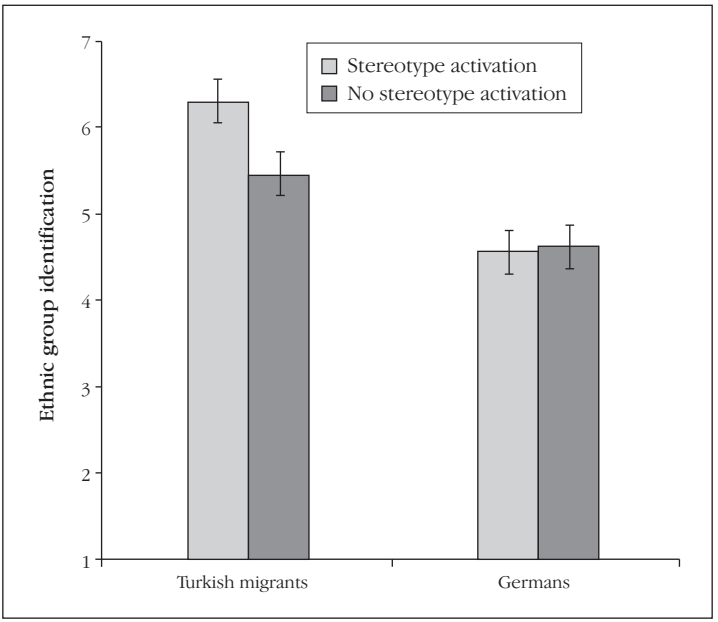

FIGURE 2: Interaction between stereotype activation and ethnicity on ethnic group identification (N = 148; error bars reflect +/- 1 SE).

meta-stereotypes about Germans' and Turkish-origin migrants' math ability, whereas Germans would not need to deploy identity management strategies. We conducted two multivariate ANOVAs with the stereotypes about Germans' and Turkish-origin migrants' math ability as dependent variables and stereotype activation and ethnicity as independent variables. For the belief about Germans' math ability, neither main effect was significant, stereotype activation: $F(1,138) = 2.73, p = .13$, ethnicity: $F(1,138) = 0.30, p = .58$. But, as predicted, the interaction was significant, $F(1,138) = 4.11$, $p = .045$, $\eta^2 = .03$ (see Figure 3). LSD post hoc tests indicated that stereotype activation did not influence how Germans reported others would evaluate their group's math ability (stereotype activation: $M = 4.87$, $SE = 0.28$; no stereotype activation: $M = 4.74$, $SE = 0.25$), $p = .73$. In contrast, Turkish-origin migrants reported that others think that Germans' math ability is significantly lower after stereotype activation ($M = 4.49$, $SE = 0.25$) compared to no stereotype activation ($M = 5.41$, $SE = 0.26$), $p = .01$.

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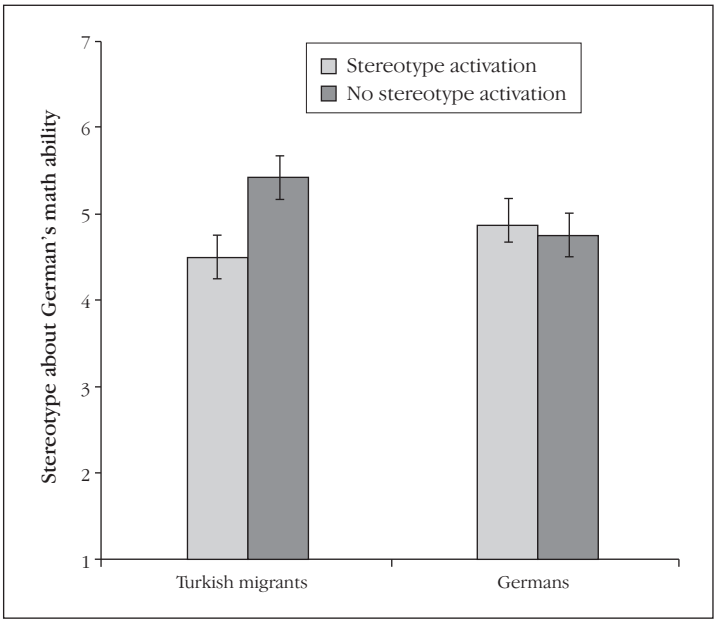

FIGURE 3:
Interaction between stereotype activation and ethnicity on belief in the meta-stereotype about Germans' math ability (N = 148; error bars reflect +/- 1 SE).

For Turkish-origin students' math abilities the main effect of stereotype activation was not significant, $F(1,137) = 0.76$, $p = .38$; the main effect of ethnicity was significant, $F(1,137) = 16.60$, $p < .001$, $\eta^2 = .11$. Turkish-origin migrants ($M = 4.57$, $SE = 0.18$) thought that others evaluated their group's math ability significantly higher than did German students ($M = 3.50$, $SE = 0.19$). The interaction was not significant, $F(1,137) = 2.54$, $p = .11$ (Germans/stereotype activation: $M = 3.40$, $SE = .28$; Germans/no stereotype activation: $M = 3.60$, $SE = .25$; Turks/stereotype activation: $M = 4.89$, $SE = .26$; Turks/no stereotype activation: $M = 4.24$, $SE = .26$).

Discussion

This study provides evidence for performance decreases for Turkish-origin students in German high schools when working on a difficult math test after activating a negative stereotype about their ethnic ingroup. Results further showed that Turkish-origin (but not German) students increased their identification

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with the ethnic ingroup and expressed less endorsement for the positive meta-stereotype about German's math ability when facing a negative performance-related stereotype. In addition, results showed that Turkish-origin migrants -independently of the activation of a stereotype- thought that others evaluated their group's math ability higher than did German students. Taken together, these results extend previous work showing that the activation of negative performance-related stereotypes not only affects performance levels in a non-verbal domain, but also that it affects the threatened group members' appraisal of ingroup and outgroup. These findings have important theoretical and practical implications.

Theoretical implications

From a general theoretical perspective, the findings support social identity development theory (Nesdale, 1999) by demonstrating that adolescent Turkish-origin and German high school students have developed an elaborated understanding of ethnic in- and outgroups. In addition, they support the argument that stereotype threat can be understood as a specific form of social identity threat (C. M. Steele et al., 2002). They show that stereotype threat has similar consequences for intergroup relations as do other kinds of social identity threats. In this context the question arises if the two strategies indeed fulfill their function to restore group members' threatened social identity and question the existing intergroup relations. An increased identification with the stereotyped ethnic ingroup can be a favorable strategy, as it is associated with increased well-being (Branscombe et al., 1999). Long-term intergroup relations are implicated as well. Research has shown that highly identified threatened group members use collective identity management strategies when facing social identity threat, aimed at increasing the status of the whole group (e.g., Martiny et al., 2012) and thereby fostering social change. Threatened group members' denial of the favorable meta-stereotype about Germans could also be interpreted as a group-level strategy, as challenging existing stereotypes might initiate social change. Beliefs about the ingroup's ability in the domain showed only a main effect for ethnicity: Turkish-origin migrants believed

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that the ingroup's ability is high independent of stereotype threat. Thus, in general the migrants did not accept the negative stereotype about their ingroup.

Our work considers two specific strategies for coping with social identity threat. Past research has identified many other ways for group members to deal with these threats (e.g., Abrams & Hogg, 1988; Martiny et al., 2012; Mummendey, Kessler, Klink, & Mielke, 1999; Pronin et al., 2004; J. Steele, 2003; Tajfel & Turner, 1986, von Hippel et al., 2011). Further work should examine the conditions under which stereotype threat elicits various forms of identity management strategies.

Practical implications

This study demonstrated that the performance of Turkish-origin high school students in Germany can be hindered by the activation of negative performance-related stereotypes, adding support to the sparse work examining stereotype threat for migrants in Europe (reviewed by Appel et al., 2014). Importantly, we tested whether negative stereotypes about Turkish-origin migrants generalize beyond the verbal domain (Froehlich, Martiny, Deaux, Goetz, & Mok, 2014) to mathematics. Our results suggest that negative stereotypes might contribute to explaining the low performance of Turkish-origin students not only in standardized tests (e.g., PISA), but more generally in the German educational system where German and math are given priority. Because our study was conducted in classrooms, we had high ecological validity and provide further support for Aronson and Dee's (2012) argument that stereotype threat has real-life consequences for the achievement of negatively stereotyped students.

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