EVALUATING TEACHERS' AND PRE-SERVICE TEACHERS' STEREOTYPES, ATTITUDES, AND SPONTANEOUS JUDGMENTS OF MALE ETHNIC MINORITY STUDENTS

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ABSTRACT

The present study examined implicit stereotypes, attitudes, and explicit cognitions about male ethnic minority pupils held by German preservice and experienced teachers. Study 1 used the Implicit Association Test to measure implicit negative stereotypes and found that preservice and experienced teachers linked ethnic minority students more strongly than ethnic majority students with bad learning and working practices. Unconscious prejudice against pupils from ethnic minorities was evident in Study 2. Positive explicit cognitions were found in both investigations. Study 2 not only described the attitudes of teachers but also looked into how attitudes affect snap decisions. Students from ethnic minorities were viewed less favorably by participants who had more implicitly unfavorable opinions. The findings and their consequences for teacher education programs, classroom interactions, and students from ethnic minorities are explored.

Keywords: Students from ethnic minorities Unspoken prejudices Unspoken beliefs Explicit ideas

I. INTRODUCTION

The currentresearch was concerned with the nature of preservice and experienced teachers' implicit stereotypes (Study 1) and implicit attitudes toward ethnic minority students (Study 2).1 Because the literature has indicated that attitudes affect behavior, and implicit attitudes contribute to spontaneous and more automatic behavior (Olson & Fazio, 2009), in Study 2, in order to simulate spontaneous behavior, we additionally examined preference ratings that teachers of ethnic minority students made under time constraints, and we investigated the contribution of attitudes toward predicting these ratings.

In Germany, ethnic minority students are disadvantaged in school. They are overrepresented in the lower school tracks (Baumert & Schümer et al., 2002; Caro, Lenkeit, Lehmann, & Schwippert, 2009), drop out of school at higher rates, and leave school more frequently with low or no qualifications (Coneus, Gernandt, & Saam, 2009). These disadvantages are not restricted to Germany. In educational systems that employ either within- or between-school tracking, ethnic minority students are consistently underrepresented in the academic and higherlevel school tracks (Darity, Castellino, Tyson, Cobb, & McMillen, 2001; Klapproth & Schaltz, 2014; Lewis & Cheng, 2006; Oakes, 2005; Southworth & Mickelson, 2007; Van Houtte, Demanet, & Stevens, 2012). Although ethnic minority students often perform worse in school than their majority peers (Fleischman, Hopstock, Pelczar, & Shelley, 2010; Stanat, Rauch, & Segeritz, 2010), the disadvantages remain even when academic achievement is controlled for (Bonefeld, Dickhäuser, Janke, Praetorius, & Dresel, 2017; Dauber, Alexander, & Entwisle, 1996; Oakes, 1986). Limited learning opportunities and more negative classroom climates promote these disadvantages further (Oakes, 1986). Teachers give grades, create learning opportunities, and are involved in decisions about school tracks (Ansalone & Biafora, 2004). Consequently, whether teachers contribute to the disadvantages that ethnic minority students experience is a question that should be addressed.

Teachers' expectations have been discussed to play a pivotal role in judgments about students

(Tenenbaum & Ruck, 2007). Expectations of the members of a social group can result from stereotypes (Stangor & McMillan, 1992). Stereotypes often are related to prejudice (Eagly & Chaiken, 1993), which is defined as negative attitudes toward a social group (Dovidio, Brigham, Johnson, & Gaertner, 1996). Hence investigating stereotypes as well as attitudes is crucial. This is of particular importance when it comes to male students. Not only have male students been found to be more prone to stereotypical biases (Maniadaki, Sonuga-Barke, & Kakouros, 2003; Parks & Kennedy, 2007), but teachers have been found to perceive them as more disruptive (Arbuckle & Little, 2004; Bertrand & Pan, 2013) and to punish them more harshly for misbehavior (Arbuckle & Little, 2004), even when the degree of misbehavior was controlled for (Glock, 2016). Such differences were also found in perceptions of academic achievement, as teachers have generally been found to hold lower expectations of male students (Timmermans, de Boer, & van der Werf, 2016) and have consequently evaluated them as scoring lower in language proficiency than female students (Krkovica, Greiff, Kupiainen, Vainikainen, & Hautamäki, 2014; Ready & Wright, 2011). Such different perceptions and judgments might be even more extreme for male ethnic minority students (Author et al., 2016b; Roderick, 2003), who thereby constitute a student group that is especially vulnerable to teachers' biases (Thomas, Coard, Stevenson, Bentley, & Zamel, 2009).

II. THEORETICAL BACKGROUND

2.1. Stereotypes

Stereotypes consist of the perceived attributes the members of a group share and can be considered socially shared knowledge (Greenwald & Banaji, 1995). They are assumed to have different sources. They develop through the direct experience with the members of a particular social group (Dovidio, Kawakami, & Beach, 2001), through other persons and media reports which often mirror the views prevalent in society (Sherman, 1996). Stereotypes are activated when a member of a social group is encountered, and conscious control is required to inhibit the influence of stereotypes on subsequent information processing (Devine, 1989; Monteith, Sherman, & Devine, 1998). Stereotypes are assumed to work on an implicit and explicit level (Greenwald & Banaji, 1995). Implicit stereotypes are defined as "the introspectively unidentified (or inaccurately identified) traces of past experience that mediate attributions of qualities to members of a social category" (Greenwald & Banaji, 1995, p. 15). In this sense, implicit stereotypes are the result of explicit stereotypes that might have been consciously changed or rejected (Greenwald & Banaji, 1995). However, according to the assumptions of the associative-propositional evaluation (APE) model, implicit stereotypes might also affect explicit stereotypes because implicit associations are assumed to be "translated" into explicit cognitions (Gawronski & Bodenhausen, 2006). Hence, a reciprocal relationship is plausible given that regulating processes such as social desirability concerns might result in controlling implicit influences on explicit cognitions. Implicit stereotypes work automatically (Bargh, 1999) and influence perception regardless of people's motivation to control prejudice (Devine, 1989). Explicit stereotypes might differ from implicit stereotypes not only because they have changed (Greenwald & Banaji, 1995) but also because of social norms (Fazio, Jackson, Dunton, & Williams, 1995) and social desirability concerns (De Houwer, 2006), which is particularly true for socially sensitive issues (Dovidio, Kawakami, Smoak, & Gaertner, 2009).

2.2. Attitudes

This differentiation between implicit and explicit levels also holds for attitudes defined as object-evaluation associations. Implicit attitudes are automatic evaluations that come to mind whenever the attitude object is present, whereas explicit attitudes are assumed to be the result of deliberative processes (Gawronski & Bodenhausen, 2006). The MODE model (Olson & Fazio, 2009),

specifies how attitudes might affect behavior. Implicit attitudes should be most dominant in situations in which cognitive resources are limited and when people have no motivation to engage in effortful thinking (Olson & Fazio, 2009). By contrast, when cognitive resources are plentiful and people are willing to engage in deliberation, explicit attitudes should be the primary guides of behavior (Olson & Fazio, 2009). These borders become fuzzier when situations entail automatic and controlled components (Olson & Fazio, 2009), and subsequently, implicit as well as explicit attitudes might affect behavior and judgments. This implicit and explicit difference also exists on a measurement level. In recent years, several implicit methods have been developed to counter social desirability and social norm effects in measurement. One prominent method is the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). This method can be used to investigate implicit stereotypes as well as implicit attitudes and is based on the assumption that people can more easily categorize concepts as belonging together when the concepts share strong associations as opposed to when no or only weak associations exist (Greenwald et al., 1998).

2.3. The interplay between stereotypes and attitudes

Taken together, stereotypes entail socially shared knowledge about the attributes people associate with the members of a particular social group—the thoughts—and attitudes are the positive or negative evaluations of this group—the feelings (Eagly & Mladinic, 1989). Stereotypes and attitudes differ, as stereotypes do not entail valences but only attributes, while attitudes always connect a social group to valence (Greenwald et al., 2002). They do interplay because the presence of a person might activate both the stereotype and the attitude (Bessenoff & Sherman, 2000; Wittenbrink, Judd, & Park, 1997). Attitudes and stereotypes are positively related when the evaluative meaning of stereotypes are correlated with attitudes (Eagly & Mladinic, 1989; Fishbein, 2008). That is, if stereotypes

entail attributes which are evaluated as predominantly negative, then the attitude should reflect this negativity.

However, in the school context, implicit attitudes and stereotypes seem to be particularly relevant. Working as a teacher is stressful (van Dick & Wagner, 2001), requiring teachers to manage multiple tasks simultaneously (Santavirta, Solovieva, & Theorell, 2007) and to respond immediately to situational demands (Doyle, 2006). These circumstances often leave teachers with no opportunity to engage deeply in controlled and thoughtful processes, thus paving the way for the influence of implicit attitudes and stereotypes. Teachers are the main decision makers in school and they make judgments about grading (Brookhart, 1994), ability grouping (Haller, 1985), and grade retention (Bonvin, 2003). Considering the influence of such judgments on students' educational careers, teachers' biases in judgments can contribute to the disadvantages ethnic minority students experience in school. Despite this implicit influence, explicit attitudes also seem to contribute to judgments. Implicit and explicit attitudes do not necessarily correlate with each other (see Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005, for meta-analysis). This is particularly true in socially sensitive domains such as racial or ethnic attitudes, where individuals might be reluctant to express their "real" attitudes; rather, people report social norms (Fazio et al., 1995) or socially desirable answers (De Houwer, 2006).

In the school context, explicit attitudes toward teaching ethnic minority students should also be taken into account. In our studies, we consider four dimensions as relevant for explicit attitudes toward teaching ethnic minority students, which are values, beliefs, and motivational orientations (Hachfeld, Hahn, Schroeder, Anders, & Kunter, 2015). Values are constituted by teachers' expectations and stereotypes (Hachfeld et al., 2015), while beliefs refer to cultural sensitivity (Bakari, 2003) and multicultural beliefs (Hachfeld et al., 2015). Such beliefs entail knowledge about ethnic minority students' needs (Bakari, 2003)

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and emphasizing the cultural diversity in class as enriching for instruction and education (Hachfeld et al., 2011). On the motivational side, the enthusiasm to teach ethnic minority students as well as selfefficacy beliefs are crucial (Hachfeld et al., 2015).

III. STUDY 1

Study 1 focused on teachers' and preservice teachers' implicit stereotypes about ethnic minority students and explicit attitudes toward teaching ethnic minority students. Teachers' predominantly negative perceptions might result in stereotypical biases in judgments. To this end, teachers as well as preservice teachers underestimated ethnic minority students' achievement level (Elhoweris, Mutua, Alsheikh, & Holloway, 2005; McKown & Weinstein, 2002), particularly in literacy (Glock & Krolak-Schwerdt, 2013; Sprietsma, 2013). This might be related to the idea of a monolingual education in the face of multilingual students (Duarte & Gogolin, 2013). Teachers more often referred ethnic minority students to special education programs (Irvine, 2012) and held lower expectations regarding the academic performance of this student group (Rubie-Davies, Hattie, & Hamilton, 2006; van Ewijk, 2011). Even though the link between teachers' stereotypes and judgments is well documented, the question of implicit stereotypes has not been addressed yet. We expected implicit stereotypes regarding ethnic minority students to be negative. The socially sensitive issue led us to the assumption of positive explicit attitudes toward the teaching ethnic minority students and, as outlined above, to weak correlations between the implicit and explicit measures.

3.1. Method

3.1.1. Participants and design

Forty-five teachers (40 German natives; 24 female) and 40 preservice teachers (33 German natives; 29 female) participated in the study. The teachers' mean age was 44.45 years (SD = 12.72), and they had a mean amount of teaching experience of 15.67 years (SD =

12.81). Among the teachers, 17.65% reported to work at a school with less than 25% ethnic minority students, 23.53% reported that about 33% of the student body were ethnic minority students. Only 9.41% of the teachers worked at schools with more than half ethnic minority students. The preservice teachers' mean age was 26.63 years (SD = 3.13). Four preservice teachers had no teaching experience; the remaining preservice teachers reported a mean length of teaching experience of 12.74 weeks (SD = 12.59). All preservice teachers graduated in the Master of Education and did not receive special diversity training.

3.2. Materials

3.2.1. Implicit stereotypes

We employed the IAT; Greenwald et al. (1998) to assess implicit stereotypes. This method is based on the assumption that people can more easily categorize concepts as belonging together when the concepts share strong associations as opposed to when no or only weak associations exist (Greenwald et al., 1998).

For the categories ethnic majority and minority students, we used pictures of male students who were about 11 years old, a measure that was pretested in previous research (Glock, Kneer, & Kovacs, 2013). The ethnic minority students displayed in the pictures had a Southern European appearance (darker hair, darker skin), whereas the ethnic majority students' implied Middle European roots. The student pictures were allowed to differ only in their foreign appearance and not in other dimensions such as socioeconomic status or attractiveness. For the categories "positive and negative working behaviors," we chose the items from the scale "prejudiced beliefs" from the questionnaire developed by Hachfeld, Schroeder, Anders, Hahn, and Kunter (2012) and added some more positive and negative attributes (see Appendix A for all items). To calculate internal consistency of the IAT, we defined different trial combinations. In compatible trials, participants were asked to sort ethnic majority students and positive

behaviors into one category and ethnic minority students and negative behaviors into another category ("Now the four categories are paired. Each word or picture only belongs to one group. The Green and White colors should help you to find the corresponding category. Please use the E and I keys to sort the words and pictures to categories on the left and on the right."). Consequently, incompatible trials required ethnic majority students to be categorized with negative behaviors and ethnic minority students to be categorized with positive behaviors ("Now the four categories appear in a new combination. Please use the E and I keys to sort the words and pictures to categories on the left and on the right."). The internal consistencies of the different trial combinations were computed as the correlation between the IAT score calculated from the practice trials and the IAT score calculated from the test trials ($r = .67$; Greenwald, Nosek, & Banaji, 2003; Karpinski & Steinman, 2006).

3.2.2. Explicit attitudes

We employed the questionnaire developed by Hachfeld and colleagues (2012). This questionnaire assesses teachers' prejudiced beliefs with 5 items (e.g. "Ethnic minority students invest less effort in school than other students"; Cronbach's $\alpha = 0.92$). Using 6 items, multicultural beliefs cover the willingness of teachers to adapt their teaching to cultural diversity in the classrooms, (e.g., "In the classroom, it is important to be responsive to differences between cultures"; $\alpha = 0.81$). Teachers' motivation orientation includes enthusiasm regarding instructing ethnic minority students using 2 items (e.g., "I enjoy working with students who have different cultural heritages"; $\alpha = 0.84$) and self-efficacy beliefs assessed with 4 items (e.g., "I am confident that I can inspire my students to be enthusiastic about my class, regardless of their cultural background"; $\alpha = 0.73$).

3.2.3. Demographic questionnaire

We compiled a questionnaire assessing participants' age, gender, teaching experience, and ethnic background. Preservice teachers indicated their teaching experience in weeks, whereas teachers were asked to provide their teaching experience in years. In order to indicate the ethnic composition of the student body at their schools teachers, were provided with categories covering less than 25%, about 33%, and more than 50% ethnic minority students.

3.2.4. Procedure

The study was run on the computer. Schools were contacted via the principal, who was asked whether he/she would support the participation in the study. If the principal agreed, the teachers, who were willing to participate, were visited in their schools. The preservice teachers were recruited in the introductory courses at the university and via the student representatives. All participants first provided informed consent and were informed that the study would take about 20 min and that they should ensure that they would be able to work on the study for this amount of time without interruption. In the first phase of the IAT, participants were asked to sort student pictures into the categories "ethnic majority" and "ethnic minority" by pressing the "I" or the "E" computer key, respectively. After this part, participants were required to sort words reflecting positive and negative behaviors into the corresponding categories. In the third phase, these two tasks were combined. After 40 practice trials, the participants worked on 80 trials. In the fifth phase, the response keys for the categorization of positive and negative behaviors were switched (i.e., participants who had first responded with the "I" key to positive behaviors now responded with the "E" key to positive behaviors). In the sixth phase of the IAT, this reversed pattern was paired with the task of categorizing the student pictures. After 40 practice trials, 80 critical trials followed. After the IAT, participants indicated their agreement to the statements of the explicit attitudes questionnaire on a 5-point Likert scale ranging from 1 (do not agree at all) to 5

(totally agree). We decided to present the IAT before the explicit questionnaire because research has shown that the performance on explicit questionnaires is independent from the completion of the IAT beforehand (Dambrun & Guimond, 2004). Then the demographic questionnaire was presented. Finally, the participants were thanked and debriefed.

3.3. Results and discussion

3.3.1. Implicit stereotypes

We prepared the response latencies of the IAT by following Greenwald et al. (2003) suggestions. We deleted all trials with response latencies under 400 ms and above 10,000 ms. The response latencies from the error trials were replaced by the block mean + 600 ms. We computed the IAT score for the practice and for the test trials, and divided these scores by the combined standard deviation. The resulting mean between the two values, which constitutes the D-measure, indicated with positive values faster responses on compatible trials and thus negative implicit stereotypes toward ethnic minority students and positive implicit stereotypes toward ethnic majority students. The Dmeasure is similar to Cohen's d and can be interpreted accordingly (Nosek, Greenwald, & Banaji, 2005). Preliminary analyses revealed no differences between the two groups. To investigate the nature of implicit stereotypes, a one-sample t-test was conducted to investigate whether the D-measure (M = 1.07, SD = 0.91) differed from zero. This test showed negative implicit stereotypes, $t(84) = 10.81$, $p < .05$, $d = 1.17$, for the whole sample.2

3.3.2. Explicit attitudes

Preliminary MANOVA revealed no differences between teachers and preservice teachers, $F(4, 76) = 0.65$, Wilks' $\Lambda = 0.98$, $p = .63$, $\eta p^2 = 0.03$. Therefore, we investigated whether all participants' explicit attitudes differed from the neutral point of the scale (i.e., 3) to determine the nature of their explicit attitudes (see Table 1 for all Ms and SDs). One-sample t-tests revealed relatively low prejudiced, $t(81) = 14.56$, $p < .001$, $d = 1.65$, and high

multicultural beliefs, $t(83) = 20.51$, $p < .001$ $d = 2.26$. Participants expressed fairly high selfefficacy beliefs, $t(84) = 12.82$, $p < .001$, $d = 1.40$, and relatively high enthusiasm, $t(84) = 14.52$, $p < .001$, $d=1.58$.3

3.3.3. Correlations between implicit and explicit measures

Pearson correlations revealed that the implicit measure was not correlated with any explicit measure (see Table 2). Besides the null correlations between the prejudiced beliefs scale and the multicultural and self-efficacy beliefs scales, all other scales from the explicit measure were substantially correlated with each other.

Study 1 revealed more negative implicit stereotypes toward ethnic minority students relative to ethnic majority students and fairly positive explicit attitudes toward teaching ethnic minority students among teachers. These results highlight the need to use both kinds of methods and imply that teachers might avoid expressing negative explicit attitudes. This might be due to the public and political debates regarding the social inequalities in the German school system and reasons for this gap (Ehmke, 2013). However, one could also argue that—in the IAT that we employed in Study 1—extrapersonal associations may have contaminated the results (De Houwer, Custers, & De Clercq, 2006; Olson & Fazio, 2004a). Extrapersonal associations reflect societal norms rather than personal views (Karpinski & Hilton, 2001). Teachers' implicit stereotypes might mirror societal views on ethnic minorities, which are predominantly negative (e.g., Asbrock, 2010). To rule out this possibility, we used a personalized variant of the IAT (De Houwer et al., 2006; Olson & Fazio, 2004a) in Study 2. Because the personalized IAT was developed to assess personal implicit attitudes (Han, Czellar, Olson, & Fazio, 2010), and attitudes contribute to racial and ethnic biases along with stereotypes (Devine, 1989; Dovidio et al., 1996), we assessed implicit attitudes in Study 2.

Table 1 Means, Standard Deviations in Parentheses of Explicit Attitudes in Study 1 and Study 2

	Study 1 N = 95 M (SD)	Study 2 N = 110 M (SD)
Prejudiced beliefs	1.73 (0.77)	2.03 (0.75)
Multicultural beliefs	4.13 (0.50)	4.17 (0.59)
Self-efficacy beliefs	3.81 (0.58)	3.80 (0.69)
Enthusiasm	4.01 (0.64)	4.13 (0.68)

Table 2 Correlations between the Measures in Study 1 and Study 2.

	1	2	3	4	5
Study 1					
1 Implicit stereotypes	—	.07	.03	−.02	−.11
2 Prejudiced beliefs		—	−.12	−.13	−.24*
3 Multicultural beliefs			—	.35*	.30*
4 Self-efficacy beliefs				—	.53*
5 Enthusiasm					—
Study 2					
1 Implicit attitudes	—	.16	−.13	−.28*	−.20*
2 Prejudiced beliefs		—	−.33*	−.17	−.32*
3 Multicultural beliefs			—	.17	.35*
4 Self-efficacy beliefs				—	.42*
5 Enthusiasm					—

* $p < .05.$

IV. STUDY 2

Implicit attitudes toward ethnic minority students were found to be negative among teachers (Kumar, Karabenick, & Burgoon, 2015; van den Bergh, Denessen, Hornstra, Voeten, & Holland, 2010) and preservice teachers (Glock & Karbach, 2015; Glock et al., 2013). By contrast, explicit attitudes have often been found to be positive (Hachfeld et al., 2011; Yang & Montgomery, 2013). The MODE model (Olson & Fazio, 2009) suggests that automatic behaviors are guided by implicit attitudes, whereas controlled behaviors should primarily be guided by explicit attitudes. Research has supported these ideas (Asendorpf, Banse, & Mücke, 2002; Dovidio, Kawakami, & Gaertner, 2002; Neumann, Hülsenbeck, & Seibt, 2004). However, studies have also revealed that judgments can be affected by implicit attitudes (Greenwald, Poehlman, Uhlmann, & Banaji, 2009; Olson & Fazio, 2004b). Hence, we expected that mainly implicit attitudes would predict teachers' and preservice teachers' spontaneous judgments; more negative attitudes should lead to more favoritism toward ethnic majority students.

As a proxy for spontaneous judgments under time constraints, we chose forced choice

ratings. Teachers are situational decision makers (Bolster, 1983), who also do not have extensive time to reflect on their decisions. Always under time constraints, teachers decide which student to call on to answer a question, respond to student misbehavior, and decide whether they need to adapt their instructional strategies. Such microdecisions do not allow for extensive reflection (Boudreau, 1999); thus, simulating such decisions via a forced choice task under time constraints is plausible.

We expected to find negative implicit and positive explicit attitudes and again, that implicit and explicit measures were not correlated. Teachers' and preservice teachers' spontaneous judgments were expected to reveal their favoritism of ethnic majority students, except for their student choices of special teaching needs. Moreover, we investigated whether implicit and explicit attitudes predicted these spontaneous judgments.
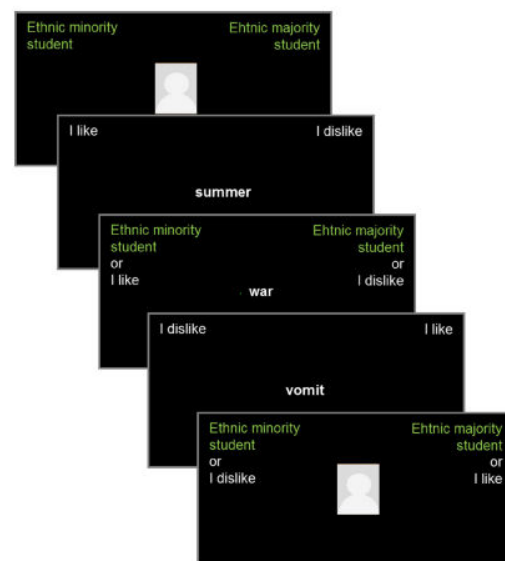

Fig. 1. The five different phases of the IAT as employed in Study 2.

4.1. Method

4.1.1. Participants

Participants were 63 teachers (60 German natives; 47 female) and 50 preservice teachers (42 German natives; 38 female). One preservice teacher did not indicate his or her

gender. The teachers' mean age was 40.41 years (SD = 11.91), and they had an average teaching experience of 12.15 (SD = 10.84) years. Only 10.62% of the teachers reported that their student body consisted of more than 50% ethnic minority students, while 26.55% reported from less than 25% and 17.70% of the teachers from about 33% ethnic minority students. The preservice teachers were 25.67 years old (SD = 3.48), and 14 of them indicated that they already had teaching experience (M = 8.93 weeks, SD = 9.57). In the Master of Education the preservice teachers majored in, no diversity trainings were offered. Three participants did not provide any demographic data.

4.2. Materials

4.2.1. Implicit attitudes

We employed the personalized IAT (see Fig. 1) with the categories "I like" and "I dislike" adapting the items implemented by De Houwer et al. (2006). We used the same pictures as in Study 1. The internal consistency of the IAT was r = 0.72.

4.2.2. Spontaneous judgments

We used the same student pictures in the forced-choice task. In response to different questions, participants were required to choose between an ethnic minority and an ethnic majority student. The computation of Cronbach's α for the questions was based 16 repetitions of each question. The questions were "Which of these students would you prefer to teach?" (α = 0.86); "Which of these students could you inspire more to like your subject? (α = 0.85)"; "For which of these students would you recommend special teaching?" (α = 0.91), special teaching was used to signal that the student would need additional support; "Which of these students would concentrate more in school?" (α = 0.86) and "Which of these students would put forth more effort in school? (α = 0.90)".

4.2.3. Explicit attitudes

We used the same questionnaire as in Study 1 and found slightly different reliability scores.

Cronbach's α for the scale "prejudiced beliefs" was α = 0.77; for "multicultural beliefs," α = 0.75; for "self-efficacy beliefs," α = 0.70; and for "enthusiasm", α = 0.64.

4.2.4. Demographic questionnaire

We used the same demographic questionnaire as in Study 1.

4.3. Procedure

The recruitment procedure was the same as in Study 1. All participants were asked to give informed consent. First, the personalized IAT was run with the same phases that we used in Study 1. Afterwards, participants were presented with the different forced-choice questions in a random order, and were required to indicate the student they would choose by pressing the "I" key for the student on the right side of the screen and the "E" key for the student displayed on the left side of the screen. For each question, 16 trials were run in a random order, resulting in a complete pair comparison. Moreover, the placement of the students on the left and right sides of the screen was counterbalanced. This resulted in eight trials with ethnic minority students on the left and ethnic majority students on the right. In the other eight trials, this placement was reversed. Within each trial, participants were required to make their choices within 4700 ms. After participants had worked on all questions, they were administered the questionnaire assessing explicit attitudes. They indicated their agreement on a 5 Likertscale from 1 (totally disagree) to 5 (totally agree). In the end, the participants filled in the demographic questionnaire, were thanked and debriefed.

4.4. Results and discussion

4.4.1. Implicit attitudes

For data preparation, we applied the same procedure that we used in Study 1. Positive values on the D-measure indicated negative attitudes toward ethnic minority students. Preservice teachers' implicit attitudes (M = 0.49, SD = 0.82) were not as negative as those of experienced teachers (M = 0.94, SD = 0.97),

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t(110) = 2.63, p < .01 d = 0.51. One sample t-tests showed that the D-measures of teachers, t (62) = 7.76, p < .01, d = 0.99, and preservice teachers, t(48) = 4.21, p < .01, d = 0.62, reflected more negative implicit attitudes.

4.4.2. Explicit attitudes

Again, teachers and preservice teachers did not differ, F (4,105) = 1.90, Wilks' Λ = 0.93, p = .12, ηp 2 = 0.07. One-sample ttests showed fairly high enthusiasm, t(110) = 15.77, p < .01, d = 1.66, and self-efficacy, t(110) = 12.14, p < .01, d = 1.14. The participants expressed relatively high multicultural, t(110) = 20.75, p < .01, d = 1.98, and low prejudiced beliefs, t(110) = 13.49, p < .01, d = 1.29 (see Table 1 for all Ms and SDs).5

4.4.3. Spontaneous judgments

We calculated how frequently participants chose the ethnic minority student for each question and divided this sum by the number of possible choices. The higher the value the more often participants chose

Table 3 Means, Standard Deviations in Parentheses, t-tests of the Spontaneous Judgments as a Function of Expertise in Study 2

Scale	M (SD)		t-test
	Teachers	Preservice teachers	
Prefer to teach	0.46 (0.23)	0.58 (0.27)	t(99) = 2.45, p < .05, d = 0.48
Inspire to like the participants' subject	0.41 (0.24)	0.53 (0.30)	t(105) = 2.18, p < .05, d = 0.43
Special teaching	0.57 (0.26)	0.70 (0.28)	t(105) = 2.54, p < .05, d = 0.48
Ability to concentrate	0.40 (0.23)	0.51 (0.29)	t(106) = 2.29, p < .05, d = 0.42
Effort	0.48 (0.24)	0.58 (0.30)	t(105) = 1.95, p = .05, d = 0.40

the ethnic minority student. We investigated whether teachers and preservice teachers differed in their preference for ethnic minority students over ethnic majority students. Preliminary MANOVA revealed showed such differences, F(5,92) = 2.58, Wilks' Λ = 0.88, p < .05, ηp 2 = 0.12. Independent t-tests (see Table 3 for all Ms, SDs, and t-tests) showed that preservice teachers as compared to experienced teachers generally preferred the ethnic minority student.

4.4.4. Correlations between the different measures

To investigate the relationships between the implicit and explicit measure, we calculated Pearson correlations (see Table 2). The Dmeasure was negatively correlated with self-efficacy and enthusiasm. Enthusiasm was related to all scales from the explicit attitudes measure and we found a positive correlation between multicultural and prejudiced beliefs. In a next step, we calculated the correlations between participants' attitudes and spontaneous judgments (see Table 4).

4.4.4.1. Prefer to teach.

The spontaneous judgments regarding the preference to teach positively correlated with implicit attitudes, indicating that the more negative participants' implicit attitudes were, the lower their preference to teach ethnic minority students was. We also found a negative correlation with the prejudiced beliefs scale. Hence, the lower teachers' prejudiced beliefs were, the higher their preference to teach ethnic minority students was.

4.4.4.2. Inspire to like the subject.

The more negative participants' implicit attitudes toward ethnic minority students the less often they

Table 4 Correlations between Spontaneous Judgments, Implicit Attitudes, and Explicit Attitudes in Study 2

	Implicit attitudes	Prejudiced beliefs	Multi-cultural beliefs	Self-efficacy beliefs	Enthusiasm
Prefer to teach	−.31*	−.24*	.14	.21*	.16
Inspire to like the participants' subject	−.36*	−.24*	.15	.36*	.29*
Special teaching	−.02	.06	.22*	−.01	−.26*
Ability to concentrate	−.34*	−.28*	.16	.23*	.15
Effort	−.16	−.19	.04	.15	.17

* p < .05.

chose ethnic minority students for this question. Participants with higher enthusiasm to teach ethnic minority students felt that they were more able to inspire ethnic minority students to like their subject. The higher the self-efficacy beliefs were, the more often

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participants chose ethnic minority students regarding this question.

4.4.5. Predictions of spontaneous judgments

In a last step, we calculated multiple regression analyses to investigate whether attitudes predicted spontaneous judgments (see Table 5). These analyses were conducted on the whole sample because partial correlation analyses that controlled for expertise did not substantially change the intercorrelations in Table 4. 7

The more negative the implicit attitudes were, the lower the preference to teach ethnic minority students. Explicit attitudes were not a significant predictor of this judgment. Participants with more negative implicit attitudes and lower self-efficacy less frequently indicated that they could inspire ethnic minority students to like their subject. All other explicit attitudes scales were not significant predictors of this judgment. Lower enthusiasm and higher multicultural beliefs resulted in referring ethnic minority students more often to special teaching. Participants with more negative implicit attitudes and higher prejudiced beliefs less often indicated that ethnic minority students had a higher ability to concentrate. Neither implicit nor explicit attitudes predicted participants' judgments of ethnic minority students' effort.

In line with previous research (Author, 2015; Kumar et al., 2015; van den Bergh et al., 2010), Study 2 revealed more negative implicit attitudes toward ethnic minority students relative to ethnic majority students.

We expected that preservice teachers' and teachers' judgments

Table 5 Summary of the Multiple Regression Analyses with Implicit Attitudes and Explicit Attitudes as Predictors and the Spontaneous Judgments as Criteria.

Predictor	B	SE B	β	p	R^2
Prefer to teach					.15
Implicit attitudes	− .07[*]	.03	− .27[*]	.01[*]	
Prejudiced beliefs	− .06	.04	− .19	.07	
Multicultural beliefs	− .00	.05	− .00	.97	
Self-efficacy beliefs	.03	.04	.08	.45	
Enthusiasm	.01	.05	.01	.90	
Inspire to like the participants' subject					.24
Implicit attitudes	− .08[*]	.03	− .26[*]	.01[*]	
Prejudiced beliefs	− .05	.03	− .14	.16	
Multicultural beliefs	− .01	.05	− .02	.82	
Self-efficacy beliefs	.09[*]	.04	.23[*]	.02[*]	
Enthusiasm	.05	.05	.12	.27	
Special teaching					.20
Implicit attitudes	− .01	.03	− .03	.75	
Prejudiced beliefs	− .03	.04	.09	.38	
Multicultural beliefs	.21[*]	.06	.38[*]	.00[*]	
Self-efficacy beliefs	.04	.04	.09	.37	
Enthusiasm	− .19[*]	.05	− .42[*]	.00[*]	
Ability to concentrate					.18
Implicit attitudes	− .07[*]	.03	− .27[*]	.01[*]	
Prejudiced beliefs	− .07[*]	.03	− .21[*]	.03[*]	
Multicultural beliefs	.02	.05	.04	.72	
Self-efficacy beliefs	.05	.04	.13	.21	
Enthusiasm	− .01	.05	− .03	.77	
Effort					.09
Implicit attitudes	− .04	.03	− .13	.20	
Prejudiced beliefs	− .07	.04	.18	.08	
Multicultural beliefs	− .10	.06	− .18	.09	
Self-efficacy beliefs	.03	.05	.06	.59	
Enthusiasm	.06	.05	.14	.24	

[*] $p < .05$.

(except special teaching) would favor ethnic majority students. We found that the teachers favored ethnic majority students as they thought that these students were more likely to concentrate on the lessons, and believed that they could inspire ethnic majority students to like the participants' subject. By contrast, preservice teachers preferred to teach ethnic minority students but were also more likely to refer these students to special teaching. One could speculate that preservice teachers' feelings of being ill-prepared to teach in culturally diverse classrooms (Premier & Miller, 2010; Siwatu, 2011) can explain the higher referrals, which stand in contrast to their preference to teach ethnic minority students. This favoritism might reflect "unrealistic optimism" among preservice teachers, which often leads them to underestimate the difficulties they will face in their early years of teaching (Woolfolk Hoy & Spero, 2005). As this finding contradicts experienced teachers' perceptions of ethnic minority students as difficult-to-teach students (Suárez-Orozco & Qin, 2003), probably, a new generation of preservice teachers arises and research has provided evidence for a positive shift in attitudes toward culturally diverse classrooms (Castro, 2010). These differential perceptions should inspire future research to investigate whether efficacy beliefs (Klassen & Chiu, 2010) and views (Agirdag, Loobuyck,

& Van Houtte, 2012) might change as a function of teaching experience. Besides this developmental question, it seems that, with this new generation of teachers, a higher proportion of ethnic minority teachers enter the schools. This might have a positive influence on implicit stereotypes and attitudes toward ethnic minority students, as ethnic minority teachers have been found to hold more positive views (Hachfeld et al., 2012).

One should keep in mind that the different questions we chose required teachers to make judgments on different levels. While the question regarding the preference to teach implies a judgment of teachers' affect toward the student (also some indicator of attitudes), other questions involved the judgments of the students' attributes. With regard to special teaching, teachers were required to judge their own ability to give special instruction. Even though these questions might be interrelated, they nevertheless tap into different judgment dimensions. It is important to note that participants' ratings of the students they preferred to teach, the ability to concentrate of ethnic minority students, and the ability to inspire ethnic minority students to like the participants' subject were predicted by implicit attitudes. Previous research also showed that teachers' behaviors were related to their attitudes (Kumar et al., 2015; van den Bergh et al., 2010). The judgments about the preference to teach ethnic minority students were uniquely predicted by implicit attitudes, indicating that teachers with more negative implicit attitudes less often chose ethnic minority students. This, however, implies that they chose ethnic majority students more frequently, which might derive from ingroup favoritism; a mechanism related to implicit attitudes (Ashburn-Nardo, Knowles, & Monteith, 2003), that is often suggested to be automatic (Dasgupta, 2004). Prejudiced beliefs, as reflecting stereotypes, along with implicit ittitudes predicted the spontaneous judgments about the ability to concentrate of ethnic minority students. Study 1 revealed that teachers as well as preservice teachers implicitly associated negative learning and

working behaviors with ethnic minority students, and implicit stereotypes are connected to implicit attitudes as well as to prejudiced beliefs (Greenwald & Banaji, 1995).

Neither implicit nor explicit attitudes predicted the judgments of ethnic minority students' effort. It is likely that this kind of judgment is more determined by self-efficacy beliefs, which we quite broadly assessed. Differentiating self-efficacy into classroom management, instructional strategies, and student engagement (Pfitzner-Eden, Thiel, & Horsley, 2014) can yield different results. In particular, teachers' selfefficacy beliefs consistently turned out to be vital for student motivation (Ross, 1992) and social bias in student judgment (Podell & Soodak, 1993). In order to explore the roles of self-efficacy, future research should employ a more detailed measure of self-efficacy. One could also speculate that students' effort is not distinctively related to stereotypes, as students might not differ in their effort depending on their ethnic background. However, one could also argue that—even when ethnic minority students put much effort into their school careers—teachers' stereotypes and attitudes are not changed in the light of students' effort. This might reflect the robustness of stereotypes implying very slow changes in stereotype content (Hilton & von Hippel, 1996). Since we cannot rule out of one these explanations, future research should particularly focus on the dimension of students' effort.

Interestingly, participants with high multicultural beliefs were more likely to refer the ethnic minority student to special teaching. In Germany, special teaching for ethnic minority students often involves special language instruction (Stanat, 2006) because ethnic minority students show particular deficits in academic language proficiency (Ehmke, Klieme, & Stanat, 2013). Probably, teachers tend to refer ethnic minority students to special teaching because they know that methods, that can be used to increase language proficiency in mainstream classrooms

(Gibbons, 2002; Hansen-Thomas, 2008), require extensive preparation and time (Crawford, Schmeister, & Biggs, 2008). Teachers often feel overwhelmed by their work overload (Johnson et al., 2005), and might avoid tasks that place additional pressure on them. However, teachers with a lot of enthusiasm for teaching ethnic minority students were more likely to decide not to refer ethnic minority students to special teaching. Thus, such enthusiastic teachers seem to be more willing to accept additional tasks related to the teaching ethnic minority students because enthusiastic teachers are assumed to be highly involved in their work (Kunter et al., 2008).

V. GENERAL DISCUSSION

The research reported here revealed more negative implicit stereotypes and attitudes toward ethnic minority students as compared to ethnic majority students, and relatively positive explicit attitudes. To this end, our research highlights the need to use both implicit and explicit measures because attitudes and stereotypes of ethnic groups might enhance social desirability concerns among teachers. In both studies, we did not find differences in explicit attitudes as a function of expertise. However, preservice teachers showed less implicit negativity than experienced teachers. As such, teachers might have undergone different socialization processes than preservice teachers. Preservice teachers grew up in quite a different environment than experienced teachers (Raines, 2002). Preservice teachers experienced culturally diverse environments because they had ethnic minority peers in school as well as at their colleges or universities (Rokitte, 2012). This might explain that fact, as research has shown that interethnic contact and friendships are able to reduce prejudice (Pettigrew & Tropp, 2008). Nonetheless, the two teacher groups showed a general implicit negativity. In Germany, one of the main ethnic minority groups are the people with Turkish roots (Destatis, 2017). This ethnic minority group is generally associated with more negative stereotypes and attitudes

(Degner, Wentura, Gniewosz, & Noack, 2007; Gawronski, 2002; Kahraman & Knoblich, 2000) and with lower academic success (Froehlich, Martiny, Deaux, & Mok, 2015). The lower academic success is also reflected in teachers' lower grading (Bonefeld et al., 2017), lower judgments (Glock, 2016; Kleen & Glock, 2018; Sprietsma, 2013), and in their lower expectations regarding their achievement (Tobisch & Dresel, 2017). Hence, the implicit negativity and the studies reported here shed some light into the relationship between teachers' expectations and judgments and their implicit stereotypes and attitudes.

The results of our studies shed more light on research findings which have shown that teachers and preservice teachers make less favorable judgments of ethnic minority students (Glock & KrolakSchwerdt, 2013; Glock, 2016; Parks & Kennedy, 2007; Tenenbaum & Ruck, 2007). Given that teachers implicitly associate ethnic minority students with negative learning and working behaviors and have negative implicit attitudes toward this student group, it would be plausible to find that they also hold less favorable judgments. This idea is supported by the role of implicit attitudes in spontaneous judgments as found in Study 2. Even though previous research has already shown the relationship between attitudes and students' academic achievement (van den Bergh et al., 2010), our study shows that even when simulating a judgment task and controlling for some student-related variables such as their attractiveness and socioeconomic status, teachers' implicit as well as their explicit attitudes come into play.

Thus, our results highlight the need of considering teachers' stereotypes and attitudes toward ethnic minority students, since these concepts might have an impact on how teachers judge students, how they behave in the classroom, and adapt their instruction. To this extent, teachers' attitudes and stereotypes might contribute to the disadvantages ethnic minority students often face in school and these disadvantages are not limited to the achievement level. Even if teachers try to

avoid biases in their overt behavior, their implicit negativity might be reflected by their nonverbal reactions (van den Bergh et al., 2010), which are particularly difficult to control (Friese, Hofmann, & Schmitt, 2009).

Our results argue for the implementation of training programs in teacher education. Such trainings should focus on both stereotypes and attitudes and consider implicit as well as explicit processes. As most persuasion models such as the Elaboration Likelihood Model (Petty & Cacioppo, 1986) suggest that attitudes change via controlled and automatic mechanisms, a training program would also benefit from both. Such trainings would include intercultural simulation games in order to help teachers to develop intercultural skills (Fowler & Pusch, 2010). These simulations can be targeted to future multicultural teaching environments. Other learning opportunities might include exercises to foster the cultural sensitivity of the preservice teachers such as the Albatros-exercise (Handschuck & Klawe, 2010). This exercise shows that people sometimes interpret behaviors in a negative way and that – with more information – these interpretations turn out to be wrong. Following discussions in focus-groups might foster cultural sensitivity further. Additionally, implicit attitudes and stereotypes can be changed using evaluative conditioning and repeated exposure to positive information about ethnic minority students (Olson & Fazio, 2001), hence resulting in less biased explicit and implicit cognitions.

Some caveats of the current research should be mentioned. First, we used pictures of male students. Thus, our results hold only for male students, and we do not yet know whether implicit stereotypes and attitudes toward female ethnic minority students are negative as well. Although a recent study revealed no differences in implicit attitudes toward ethnic minority students as a function of students' gender (Glock & Klapproth, 2017), research reports advantages of female students over male students (Driessen & van Langen, 2013)—even for female ethnic minority

students (Dronkers & Kornder, 2015; Fleischmann & Kristen, 2014).

The second limitation deriving from the use of pictures is related to the fact that a student's age is also given in a picture. The students were all about 10–12 years old, and we would have found different results if we had presented pictures of older students. The achievement gap between ethnic minority and majority students widens with increasing age (Bacharach, Baumeister, & Furr, 2003). Moreover, problem behaviors increase with age (Duncan, Duncan, & Strycker, 2001), a fact that might contribute to teachers' stereotypes and attitudes. One way to avoid making the age of the student visible to the teachers might be to present names instead of pictures. A name that reflects an ethnic minority background seems to be sufficient for activating stereotypes and attitudes (e.g., Glock et al., 2013; van den Bergh et al., 2010). The use of names could also address another limitation of our study stemming from the differences between the implicit and the explicit measures. In the implicit measure, race and culture of the students have been mixed. More specifically, the labels of the categories referred to "ethnic minority/majority students", which may primarily reflect cultural differences, whereas the pictures also implied racial differences. In contrast, the explicit measure was only concerned with culture. Hence, in order to bring the two measures more stringently together, focusing only on cultural differences between groups, the use of names rather than pictures for the implicit measure might be valuable.

Because of the cross-sectional design of our studies, we cannot stringently conclude where the differences in implicit attitudes between preservice and experienced teachers derive from. What is not yet known is whether experienced teachers would have displayed lower negative implicit stereotypes and attitudes before beginning teaching. Assessing implicit attitudes at the beginning and end of preservice teachers' academic studies, when they enter the classroom as trainees as well as after several years of experience should be the

focus of future research. This would enable deeper insights into changes in implicit attitudes as a function of expertise and might be helpful to develop tailored teacher education programs for each phase of teachers' careers.

The IAT is a relative measure and even though we interpreted the Dmeasure as reflecting negative stereotypes and attitudes toward ethnic minority students, we cannot stringently conclude that those "negative" values did not stem from associations between ethnic majority students and positive stereotypes and attitudes. Previous research employing the affective priming task suggests that negativity in IAT measures might be due to more favorable attitudes toward ethnic majority students (Glock & Karbach, 2015). In order to clarify this relation, future research should rely on different implicit measures such as the affective priming task (Fazio et al., 1995) or the Single Category IAT (Karpinski & Steinman, 2006).

Notwithstanding these limitations, our research highlights the need for implicit measures in educational research and shows that teachers' judgments are related to their negative implicit attitudes. Thus, when discussing the disadvantages that ethnic minority students face in educational systems, the contributing role of teachers' cognitions should not be neglected.

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