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Stereotypes about overweight students and their impact on grading among physical education teachers

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Abstract
A student's weight is a particularly important characteristic in physical education. Research has shown that physical education teachers and people working in this area are particularly likely to hold strong negative implicit biases toward overweight students and that these students tend to earn lower grades in physical education. Stereotypes of overweight people might color teachers' judgments of these students. In this study, we experimentally investigated whether overweight students received lower grades from physical education teachers on an exercise than normal weight students. We presented a verbal description of an exercise and asked teachers to grade a student's performance and to judge the student's social and working behaviors. Teachers gave lower grades to the overweight student, and regression analyses showed that their stereotypical beliefs predicted their judgments. Teachers' motivation to control prejudice had no relation to their judgments. Nonetheless, our results showed that the same performance was graded worse only because the student was overweight.

Keywords Overweight · Students · Physical education teachers · Stereotypes · Teacher judgments

1 Introduction

A student's weight might be a particularly important characteristic in physical education. Overweight students have been shown to have lower fitness scores than their normal-weight counterparts (Dumith et al., 2010), and teachers feel that it is a challenge to include overweight students in their physical education lessons (Doolittle et al., 2016). Physical education teachers perceive that these students need more attention and much more care than the other students (Doolittle et al., 2016) and that they themselves lack appropriate strategies to help them successfully include these

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overweight students (Li et al., 2012). Overweight students often avoid participating in physical education (Faith et al., 2002), not only because of the teasing and bullying they experience from their peers, but also because of negative behavior from their teachers (Puhl et al., 2013). They also suffer from physical education teachers who lack an awareness of weight-related teasing in their classes (Li & Rukavina, 2012). This lack of awareness might also stem from physical education teachers' negative views of overweight students (Fontana et al., 2013; Peters & Jones, 2010; Price et al., 1990) and their negative stereotypes of this student group (Faith et al., 2002).

Stereotypes are defined as generalized knowledge about the traits and behaviors associated with the members of a particular social group (Smith, 1998), and teachers share the stereotypical knowledge of other people that overweight people are lazy and untidy (Neumark-Sztainer et al., 1999). Moreover, research has shown not only that these students often exhibit lower performances in physical education than their normal-weight counterparts (Dumith et al., 2010), but physical education teachers also expect less from overweight students (Lynagh et al., 2015). What is not known so far, however, is whether these lower expectations and negative stereotypical beliefs transfer to teachers' judgments and whether overweight students are graded worse even when they show the same performance in physical education as normal-weight students. We conducted the current study to try to fill this research gap.

2 Stereotypes of overweight individuals

Stereotypes as knowledge and beliefs about the attributes of social groups (Smith, 1998) have several main sources: The first important sources of stereotypes are parents and other significant people as well as the media (Mackie et al., 1996). In addition, people themselves also have experiences with the other people they encounter in their environment, and hence, stereotypes also develop via people's own experiences with the members of a social group in question (Kite & Withley, 2016). As a consequence of the need to reduce the complexity of information (Mackie et al., 1996) and in order to differentiate the self from negatively evaluated people and groups (Tajfel & Turner, 1986), categorization is human nature (Mackie et al., 1996). In the case of overweight individuals, people adopt not only the views of the media, which consistently portray overweight individuals as unsuccessful, unattractive, and not popular (Boyce, 2007), but they also try to distinguish themselves from these negative attributes because underweight and normal-weight people hold negative views of overweight individuals (Degner & Wentura, 2009). Overweight is related to physical appearance, and overweight people are stereotyped only because of their physical appearance (Zebrowitz, 1996). Stereotypes about overweight individuals include beliefs that they are lazy, dumb, weak, and incompetent (Cornette, 2011; Polivy & Herman, 2004; Puhl & Brownell, 2001). Although weight-biased prejudices have not existed for very long historically, their prevalence has increased rapidly and is now comparable to race-based prejudice (Daníelsdóttir et al., 2010). Stereotypes of overweight and obese people are even stronger than those of members of ethnic minorities (Puhl et al., 2008). Moreover, weight-based prejudice

seems to be one of the least socially legitimated forms of discrimination (Brewis et al., 2011) because part of the stereotype is the assumption that fat people cause their overweight through a lack of self-control, but they burden society with the health consequences of their overweight (Daníelsdóttir et al., 2010). Physical education teachers' stereotypical beliefs about overweight students include that these students are lazy, weak-willed, as well as incompetent (O'Brien et al., 2007; Tingstrom & Nagel, 2017) not only in physical activities but also regarding social skills and reasoning (Greenleaf & Weiller, 2005; Greenleaf et al., 2008).

This implies that teachers in schools and higher education share these stereotypical beliefs and hold a negative view of overweight individuals. One of the results seems to be that obese students earn lower grades in school, college, and university even though they do not score lower on intelligence or standardized tests than normal-weight students (MacCann & Roberts, 2013). In particular, physical education teachers and preservice teachers who feel that it is very important to have a normal weight have been shown to endorse stereotypical beliefs to a greater extent (Greenleaf et al., 2008). These teachers also have lower expectations about overweight students than about normal-weight students (Greenleaf & Weiller, 2005) and lower expectations than teachers who teach classes in subjects that are not related to sports or health (Lynagh et al., 2015).

Lower expectations about the performance and weaknesses of overweight students might also be related to teachers' stereotypes (Jussim et al., 1996), which are considered the cognitive component of attitudes (Eagly & Chaiken, 1993), particularly when it comes to social groups (Eagly & Mladinic, 1989). Attitudes have been shown to be negative among physical education teachers (Fontana et al., 2013; Greenleaf & Weiller, 2005; Lau et al., 2018; Lynagh et al., 2015; O'Brien et al., 2007) and even among teachers in academic subjects (Lau et al., 2018; Lynagh et al., 2015). Negative attitudes were found to predict judgments of overweight students' language proficiency and intelligence, as preservice teachers with more negative attitudes were found to make more negative judgments of overweight students on these dimensions (Glock et al., 2016).

Hence, stereotypical beliefs can result in biases in judgments. However, their influence can be reduced by people's motivation to control prejudice (Plant & Devine, 1998). People who are more prejudiced endorse stronger stereotypical beliefs than people who are less prejudiced (Devine, 1989). The need to respond without prejudice can be extrinsically or intrinsically motivated (Plant & Devine, 1998). People who are intrinsically motivated feel this need because it would contradict their internal values if they were prejudiced or applied stereotypes in their judgments (Dovidio & Gaertner, 1999). Extrinsically motivated people also respond without prejudice but only because they would fear negative reactions from others if they apply stereotypes or engage in prejudiced behaviors (Dunton & Fazio, 1997).

The influence of stereotypes and motivation on person perception and judgment is depicted in dual process models of impression and judgment formation such as the continuum model (Fiske & Neuberg, 1990). This model proposes that stereotype-based judgments have priority and that people automatically use basic stereotypes such as gender (Hoffman & Hurst, 1990), race (Devine, 1989), and age (Brewer & Lui, 1989). Weight can also be such a basic stereotype

because, like the other basic stereotypes, it is related to physical appearance and is thus perceived immediately (Zebrowitz, 1996). Hence, activated stereotypes determine information processing, and this results in stereotype-based judgments when specific information about the person does not contradict the activated stereotype (Fiske & Neuberg, 1990). Stereotype-based processing and judgments are also likely to occur when people have low or no motivation to accurately judge the target person (Fiske & Neuberg, 1990). Here, the motivation to respond without prejudice comes into play. This motivation can override stereotype-based processing and can result in attribute-based processing because the application of stereotypes would contradict the motivation to respond without prejudice, and thus, judgments should be more accurate and less determined by stereotypes. In this vein, the motivation to respond without prejudice has been shown to moderate stereotypical race biases, as people who have high levels of this kind of motivation do not automatically activate stereotypes (Devine et al., 2002). Without activated stereotypes, attribute-based processing can occur because it does not rely on stereotypical information but instead relies on the individual attributes of the target person (Fiske & Neuberg, 1990).

Corresponding to the theoretical background and empirical findings outlined above, we expected that physical education teachers would make stereotypical judgments about an overweight student performing a gymnastics exercise. This would be particularly likely, when the information about the overweight student confirms the stereotypical beliefs. Thus, the overweight student was expected to be judged worse than the normal-weight student. According to the continuum model, stereotypes as well as the motivation to respond without prejudice should be related to these judgments. We tested these hypotheses in a sample of physical education teachers.

3 Method

3.1 Participants and design

The participants were 98 physical education teachers (42 women) working in German secondary schools. They had a mean age of 36.25 ($SD = 8.82$) years and a mean length of teaching experience of 10.21 ($SD = 8.63$) years. The study had a one-factor between-subjects design with student's weight (normal vs. overweight) as the factor. For this variation (mean differences between two independent groups), a priori analysis using G*power (Faul et al., 2007) indicated that a subsample size of 50 participants would be sufficient in order to detect effects sizes of Cohen's $d = 0.5$ with a power of 0.80. For regression analyses with two predictors, Cohen suggests 30 to 67 participants in order to detect middle to large effect sizes (Cohen, 1992). Hence, our subsample of 57 participants, who worked on the description of the overweight student, had a sufficient size.

3.2 Materials

3.2.1 Gymnastics exercise

We compiled a verbal description of a student performing a bar hip circle. This exercise was introduced as a lesson on bar exercises, which had also previously been presented in other lessons in physical education. This lesson was designed to prepare students to take an exam in which the students would be evaluated on their technique when performing the bar hip circle. A student in the class named Michael showed oppositional behavior and was not in the gym when the teacher required him to take the exam. Hence, he was the last student to take the exam, and his performance was scored as an average-level performance. Two versions of the description were administered. In one version, Michael's weight was normal, whereas, in the other version, he was described as overweight. We decided to present the gymnastics exercise as a verbal vignette instead of a video because it allowed us to hold all student attributes constant except for the weight. For this reason, even for physical education, it is often recommended to work with text- or case vignettes to describe specific situations (Vogler, 2020).

3.2.2 Judgment dimensions

We also compiled a questionnaire that assessed five different judgment dimensions. We asked the teachers to give three different grades for the exercise: one for the first part of the exercise, one for the second part, and an overall grade. The *working behavior* judgment dimension was assessed with 14 items such as "Michael is able to concentrate for a long time" or "He works on his tasks thoroughly," Cronbach's $\alpha = 0.86$. The *social behavior* judgment dimension consisted of 11 items, Cronbach's $\alpha = 0.91$ (e.g., "Michael is able to adequately solve conflicts" or "He adheres to the class rules").

3.2.3 Stereotypes

The questionnaire that was administered to assess physical education teachers' stereotypical beliefs about obese students consisted of 12 items, Cronbach's $\alpha = 0.82$. We used these items as a short version of the questionnaire by Degner (2006) and reformulated the items for physical education teachers. The only reformulation we made was that we changed "a person" into "a student" to capture the particularly stereotypes about students (e.g., "A student's weight does not matter" or "Overweight students are as energetic and active as other students").

3.2.4 Motivation to control prejudice

We adapted the questionnaire that was originally developed by Plant and Devine (1998) and used and translated by Degner (2006). Even though we implemented both scales, that is, one scale on the external motivation to control prejudice (five items; "If I notice that I have negative feelings about overweight people, I try to hide

them so that they are not conspicuous") and one scale on the internal motivation to control prejudice (five items; "I feel bad when I have prejudices against obese people"), we were only able to use the internal scale because the external scale's Cronbach's α was too low to be valid (α = 0.38). The internal scale's reliability was also not very good, but it was higher (α = 0.60).

3.2.5 Demographic questionnaire

We compiled a demographic questionnaire that assessed teachers' age, teaching experience, and gender.

3.3 Procedure

After giving informed consent, the teachers filled out the demographic questionnaire and were presented with the description of Michael who was either of normal weight or overweight. The participants were randomly distributed to one of the two weight conditions. After reading the description of the gymnastics exercise, the participants were asked to grade the exercise on the German grading system ranging from 1 + (*very good*) to 6 (*very bad*). Because we also considered nuances between the different grades such as 2 +, 2, and 2-, we transformed this grading scale into a point-based system ranging from 1 (*very good*) to 17 (*very bad*). After grading the exercise, the participants were asked to judge the working and social behavior of the student on a 6-point Likert scale ranging from 1 (*totally agree*) to 6 (*totally disagree*). Afterwards, the participants were presented with the questionnaire on their motivation to control prejudice and on their stereotypical beliefs about obese students and were presented with the same 6-point Likert scale that they used to assess the student's working and social behavior. In the end, they were thanked and debriefed. The teachers received no compensation for their participation.

4 Results

4.1 Descriptive results.

Participants who were presented with the description of the overweight student had a mean of 3.79 ($SD = 0.62$) on stereotypical attitudes. Because higher values indicate positive stereotypes, participants had slightly positive attitudes toward overweight students on average. The mean for their motivation to control prejudice ($M = 2.77$, $SD = 0.68$) indicated a moderate level of motivation (because higher values indicate lower motivation). In view of the fact that objectivity is required of professional teachers, the lack of a clear motivation to overcome prejudice may be an indication of a general level of acceptance of prejudice against overweight people (Daníelsdóttir et al., 2010).

4.2 Judgments

To test our hypothesis that the physical education teachers would disfavor the overweight student, we computed a MANOVA with all judgment dimension as dependent variables and the student's weight as a between-subjects factor. The MANOVA yielded a significant main effect, $F(5, 158) = 2.67$, *Wilks' Λ* $= 0.92$, $p = 0.02$, $\eta_p^2 = 0.08$. All working and social behavior judgment items were recoded into positive ones. Thus, positive judgments were expressed by lower values on these scales as well as on the grading scales.

To investigate which judgment dimensions differed in accordance with the student's weight, we calculated independent *t* tests (see Table 1 for all *M*s, *SD*s, and *t* test results).

Teachers gave more favorable grades to the normal-weight student in comparison with the overweight student. No differences were found in the judgments of working and social behavior between the normal-weight and overweight student.

4.3 Regression analyses

For these analyses, we only considered participants who worked on the description of the overweight student ($n = 57$). This was necessary because we were only interested in how stereotypical beliefs and the internal motivation to control prejudice were related to the judgment of the overweight student. Including the participants who worked on the normal weight student might have biased the analyses. First, we investigated whether the two predictors, internal motivation to control prejudice and stereotypical beliefs, were correlated, and we found that they were not ($r = -.02$, $p = .88$). Hence, we computed five different regression analyses predicting the five judgments with participants' internal motivation to control prejudice and their stereotypical beliefs (see Table 2).

As we recoded all positively formulated items from the attitude scale into negative statements, higher values indicated more positive stereotypical beliefs about overweight students. For the internal motivation scale, lower values indicated a higher internal motivation to control prejudice. Regarding the overall grade and the grade for part II of the exercise, stereotypical beliefs predicted grading. Teachers with more positive stereotypical beliefs about overweight students gave more favorable grades to the student. No other predictor was significant.

Table 1 Means and standard deviations in parentheses as a function of students' weight and simple effect tests

Dimension	Normal weight	Overweight	Simple effect tests
Grade part I	6.73 (2.17)	8.13 (1.76)	$t(94) = 3.47$, $p < .001$, $d = 0.71$
Grade part II	5.20 (2.22)	6.95 (2.72)	$t(94) = 3.37$, $p = .001$, $d = 0.74$
Overall grade	5.60 (2.25)	6.98 (1.69)	$t(93) = 3.42$, $p < .001$, $d = 0.70$
Working behavior	4.06 (0.73)	4.15 (0.77)	$t(93) = 0.61$, $p = .54$, $d = 0.12$
Social behavior	3.58 (0.86)	3.52 (0.91)	$t(94) = 0.33$, $p = .74$, $d = 0.08$

Table 2 Summary of the multiple regression analyses with internal motivation to control prejudice and attitudes as predictors and the judgments as criteria

Predictor	*B*	*SE B*	β	*p*	R^2
Grade part I					0.06
Internal motivation	−0.58	0.38	−24	.08	
Stereotypical beliefs	−0.05	0.38	−02	.90	
Grade part II					0.12
Internal motivation	0.52	0.48	.14	.29	
Stereotypical beliefs	−1.43*	0.56*	−.33*	.014*	
Overall grade					0.08
Internal motivation	0.06	0.31	.03	.84	
Stereotypical beliefs	−0.77*	0.36*	−.29*	.37*	
Working behavior					0.01
Internal motivation	−0.08	0.15	−.08	.58	
Stereotypical beliefs	0.09	0.17	.07	.59	
Social behavior					0.03
Internal motivation	0.04	0.17	.03	.82	
Stereotypical beliefs	−.25	0.20	−.17	.21	

*$p < .05$

5 Discussion

The results showed a clear disadvantage for the overweight student as teachers graded the overweight student worse even though there were no differences in how the two students performed the exercise. Hence, stereotypes and stereotypical beliefs play a pivotal role in grading, which our results do not only show by the administration of lower grades to overweight students but also in the predictive value of stereotypical beliefs for grading. Previous research has provided evidence not only that overweight students score lower in fitness than normal-weight students (Dumith et al., 2010) but also that overweight students lack fundamental movement skills (Okely et al., 2004). As stereotypes develop via the experiences teachers have in their professional lives (Mackie et al., 1996), the unfavorable judgments reflect stereotypes, which are often quite accurate (Madon et al., 1998) but result in biases when the individual person is perceived in the light of an activated stereotype and individual information is neglected (Fiske & Neuberg, 1990). This is particularly likely to happen in the case of overweight people because this attribute is immediately perceivable (Zebrowitz, 1996). Our results imply that overweight students are at risk of being discriminated against by their physical education teachers, particularly when they confirm teachers' stereotypical expectations. This can result in higher numbers of students who avoid participating in physical education lessons (Storch et al., 2007). This might be particularly worrisome because it is important to include overweight students in physical education because it helps young children learn basic movement skills (Bailey, 2006) and have positive experiences (Drummond, 2003). It also helps older students establish a feeling of self-confidence during puberty (Bailey, 2006) even in the light of worse performance in physical education (Li et al., 2012). Moreover, the grade in physical education is treated like

any other grade in the minor subjects. It is counted for the GPA (Schulministerium NRW, 2015) and an "insufficient" grade has to be compensated by a good grade in an academic subject in order to progress to the next school year (Schulministerium NRW, 2021).

However, the descriptive results showed that preservice teachers had slightly positive attitudes toward overweight students, whereas other studies have indicated that weight-biased prejudice is widely accepted in the general population (Brewis et al., 2011; Daníelsdóttir et al., 2010). Teachers may be well aware of their professional demands (although their motivation to control their prejudices was not very pronounced) and may thus at least try to control their explicit stereotypes. However, this did not transfer to teachers' judgments because we found less favorable judgments of overweight students.

Interestingly, teachers' stereotypical beliefs were related to their judgments, whereas their motivation to control prejudice was not. Corresponding with our theoretical framework, stereotypes are most likely to come into play when people are not strongly motivated to accurately judge the other person and when the information about the target is stereotype-confirming (Fiske & Neuberg, 1990). Because the information we provided described an average to low performance, this information was stereotype-confirming, which was reflected in our results for the overall grading. All other judgments were not predicted by stereotypical beliefs, but this might be plausible when we consider that grading on an overall level leaves more room for interpretation than the more attribute-inducing partial grading. Hence, overweight students are at risk of being stereotypically judged, particularly when their performance confirms teachers' stereotypes. All other judgments were not influenced by teachers' stereotypical beliefs, and this finding may have come about for several reasons. Most likely, stereotypes do not cover the social and working behaviors of overweight students but only their physical education performance, which is particularly influenced by their weight (Dumith et al., 2010). Another reason might be that the student's social and working behaviors were already taken into consideration in the overall grading and might therefore not require an extra judgment. Moreover, the reliability of the scale of the questionnaire assessing the motivation to respond without prejudice was considerably low, which can impact the correlations between the different variables and therefore produce insignificant results (Salkovsky et al., 2015). Such low scores often indicate heterogeneous constructs (Teige et al., 2004), which implies that teachers were of two minds about their motivation to respond without prejudice. However, these speculations warrant validation in future research.

6 Limitations

When interpreting the results of our study, some limiting aspects should be kept in mind. This study was a paper–pencil study, and there are several issues that are related to this procedure. First and above all, this study employed vignettes with very limited information about students. In the classroom, teachers have much more information about their students, which also contributes to grading and can influence physical teachers' views on their students. However, stereotypes often come

into play when people have a lot of information about people but lack cognitive resources to focus on their judgments (Pendry & Macrae, 1994). Moreover, research has shown that vignettes often elicit nearly the same judgments as data obtained in the educational field (Krolak-Schwerdt et al., 2018). Hence, even though we simulated the process of gymnastics exercising and grading, we were able to provide valuable insights in physical education teachers stereotypes and judgments. Second, due to the paper–pencil method, we were not able to assess implicit attitudes but only explicit stereotypes. To this extent, previous research has shown that an implicit anti-fat bias often has stronger negativity than the endorsement of explicit stereotypes (Fontana et al., 2013; Lau et al., 2018; O'Brien et al., 2007). Hence, the assessment of implicit measures would prove valuable in future research. Also related to the paper–pencil procedure, the exercise was described in a vignette, and it might have been difficult for the teachers to imagine exactly what the exercise looked like. Presenting a video vignette of the exercise might have increased the ecological validity of our study but would be accompanied by some other disadvantages. Because of our experimental manipulation of the student's weight, we would have needed two students who differed only in their weight. It would be extremely difficult to find an overweight student who did not differ in attractiveness from a normal-weight student. As overweight people are generally viewed as unattractive (Mehrabian & Blum, 1997), and attractive students tend to earn higher grades than less attractive students (Dunkake et al., 2012), video vignettes would confound weight and attractiveness. Hence, we decided to use a written description of the exercise for this reason as well as because research has provided evidence for the usefulness of vignettes in educational research (Krolak-Schwerdt et al., 2018).

Another limitation was related to our measure of the motivation to respond without prejudice, from which we were only able to use the intrinsic scale. The extrinsic scale was very low in reliability, and we decided to refrain from using it because correlational analyses have been found to be particularly likely to be influenced by low reliability (Cohen et al., 2003). This low reliability might have different reasons. With this scale, we asked the teachers about "others" as well as about their teaching profession (e.g., "Because of my teaching profession, everyone expects me to avoid being prejudice toward obese students"). The potential lack of unidimensionality in these items might have resulted in this low reliability (Abedi & Herman, 2010), whereas the intrinsic motivation items were always related to the participants' personal opinions. It might also be the case that the teachers might have had social desirability concerns when answering the items on the external motivation scale. Hence, we did not measure external motivation to respond without prejudice but rather social desirability. In future research, the original scale developed by Plant and Devine (1998) as well as a measure of social desirability should be included (Stöber, 2001).

Another limitation is related to student gender because research has shown that male students are more prone to being stereotyped than female students (Maniadaki et al., 2003; Parks & Kennedy, 2007). However, in the case of overweight, gender plays a pivotal role because overweight females tend to perceive themselves as less attractive than overweight males perceive themselves (McCreary & Sadava, 2001). Female students also show higher levels of body dissatisfaction (Pingitore et al.,

1997) and higher victimization than male students do (Slater & Tiggemann, 2011), but research has also shown that—in the case of victimization—female students tend to receive stronger support from their physical education teachers (Peterson et al., 2012). Hence, it would be very interesting to replicate this study using vignettes about female students. We do not know whether our results can also be generalized to other subjects because other scholars have found that preservice teachers generally hold positive stereotypical beliefs about the academic and social competences of overweight students (Müller et al., 2017). In school contexts, weight-based discrimination may therefore not be generally accepted; teachers may be more vulnerable to weight-based discriminatory beliefs and behavior when they teach physical (and not academic) competences. However, we should be careful about drawing such general conclusions. Overweight is closely related to other social categories, most closely to social class: The lower the social classes, the higher the probability of being overweight (Arias et al., 2018). Prejudice and discriminatory behavior toward overweight people may often conceal class-based prejudices, and the former may be even stronger when nonprivileged individuals are concerned. This could be particularly relevant in school contexts: Whereas teachers consider it highly inadmissible to discriminate against students on the basis of social class, teachers may nonetheless disadvantage nonprivileged children by means of their socially more accepted weight-based prejudices and discriminatory behavior. This may seem more likely in physical education, but also with respect to studies such as the one by Müller et al. (2017), it is important to ask whether social class played a moderating role and whether the positive judgment of overweight students applied more to middle-class students than to working class students. In order to better assess the extent to which overweight is associated with disadvantages in school, future studies should therefore take a closer look at the links between overweight and other social categories.

7 Conclusion

This is the first study experimentally investigating physical teachers' judgments about the performance of normal and overweight students. Although such vignette experiments are limited in terms of their ecological validity and far removed from real-world experiences in the classroom, our study nevertheless shows the influence of stereotypes on judgments when information about the students is limited. Our results indicate that overweight children in physical education receive less favorable judgments from their teachers than normal-weight children even when their performances are the same. This is alarming because other results have suggested that especially in physical education, overweight children have more performance anxieties than normal-weight children (Möhwald et al., 2017). Against the background of increasing proportions of overweight and physically inactive children (Katzmarzyk et al., 2019), it is an important task for teachers to reduce performance anxiety and thus help all children enjoy physical activities. However, one of the basic prerequisites for the successful completion of this task is that teachers have to succeed in overcoming their own stereotypes and their own discriminatory behavior.

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Declarations

Conflict of interest The authors that they have no conflict of interest.

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