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Student misbehavior and teacher well-being: Testing the mediating role of the teacher-student relationship

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ABSTRACT

Asked about major job stressors, teachers consistently name classroom disturbances or disciplinary problems. Furthermore, student misbehavior has been linked to reduced occupational well-being. However, there is a pressing need to uncover the psychological processes explaining this association. In their model of teacher well-being, Spilt, Koomen, and Thijs (2011) suggested the teacher-student relationship as a mediator. To test this assumption, the present study used longitudinal data from $N = 222$ teachers who rated student misbehavior in their classroom, the teacher-student relationship, and their well-being in terms of emotional exhaustion and work enthusiasm. In addition, the teachers' students ($N = 4111$) were asked about behavior problems in their class. The results revealed links between teacher-rated student misbehavior, increased exhaustion, and decreased enthusiasm. Student-rated misbehavior was correlated with teacher well-being to a lesser extent. Furthermore, the teacher-student relationship was positively associated with teacher well-being and mediated the link between teacher-perceived misbehavior and enthusiasm.

1. Introduction

Teachers' occupational well-being, which includes for example, their emotional exhaustion and work enthusiasm, is a highly important topic from both a theoretical and practical perspective. It is related to student motivation and achievement as well as teacher attrition and teachers' general mental and physical health (Bauer et al., 2006; Klusmann, Richter, & Lüdtke, 2016; Scheuch, Haufe, & Seibt, 2015; Shen et al., 2015). An exhaustive number of studies investigating factors related to teacher well-being have found that teachers rate student misbehavior as particularly stressful and consistently report poorer well-being when they perceive elevated levels of inattentiveness, classroom disturbances, or disciplinary problems (Aloe, Shisler, Norris, Nickerson, & Rinker, 2014; Kyriacou, 2011). However, there is still a pressing need to examine the psychological processes that underlie this. Spilt, Koomen, and Thijs (2011) proposed the teacher-student relationship as a mediator. After all, student misbehavior has been found to make teachers feel rejected and to impede them from building affectionate relationships with students (Hargreaves, 2000; Newberry & Davis, 2008; Nurmi & Kiuru, 2015). Because building positive teacher-student relationships is a central goal for teachers, not meeting this goal is likely to harm teacher well-being (Butler, 2012; Klassen, Perry, & Frenzel, 2012).

To investigate the mediating role of the teacher-student relationship, we drew on longitudinal data from $N = 222$ teachers who evaluated their occupational well-being in terms of emotional exhaustion and work enthusiasm, as well as student misbehavior and the overall quality of their relationship with the students in their classroom. Student misbehavior was also rated by the teachers' students ($N = 4111$). This allowed us to investigate whether teachers' and students' perceptions of student misbehavior were similarly related to teacher well-being. Most prior research has relied on teacher self-reports of student misbehavior. Thus, it remains an open question whether it is behavior problems recognizable to others, such as students, that reduce teacher well-being, or problems exclusively perceived by the teachers themselves.

1.1. Teachers' occupational well-being: theoretical underpinnings and state of research

Teachers' occupational well-being, which refers to their optimal psychological functioning and experience at work (Ryan & Deci, 2001), has been described by the presence of positive aspects, such as job satisfaction and work enthusiasm, and the absence of negative experiences, such as stress and emotional exhaustion (Diener, Suh, Lucas, &

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Smith, 1999; Watson, Clark, & Tellegen, 1988). The present study incorporated both the negative and positive dimensions of well-being by focusing on emotional exhaustion and work enthusiasm. Emotional exhaustion is the central quality of burnout and refers to its stress dimension (Maslach, Schaufeli, & Leiter, 2001). It includes feelings of strain and the depletion of emotional resources (Maslach et al., 2001). Emotional exhaustion has negative implications for student outcomes because it reduces student engagement, school satisfaction, and achievement (Klusmann et al., 2016; Shen et al., 2015). In contrast, work enthusiasm refers to teachers' enjoyment, excitement, and pleasure in their work as teachers (Kunter et al., 2008). Teachers who feel enthusiastic about their work are able to foster higher student motivation and better learning outcomes (Keller, Goetz, Becker, Morger, & Hensley, 2014; Kunter et al., 2013).

A number of models have been proposed to explain the origins of occupational well-being, such as the transactional model of stress and coping (Lazarus & Folkman, 1984) or the job demands-resources model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Central to these models is the assumption that job stressors require the prolonged exertion of physical, psychological, or emotional effort, causing stress when a person's resources are exceeded (Bakker & Demerouti, 2007). An extensive line of research has identified common stressors in the teaching profession (Kyriacou, 2011). Student misbehavior, including disturbances, disrespect, and disciplinary problems, is widely considered to be the most influential stressor (Aloe et al., 2014; Dicke et al., 2014). Student misbehavior has been linked to feelings of anger, anxiety, and emotional exhaustion as well as reduced enjoyment, job satisfaction, and work engagement (Aloe et al., 2014; Boyle, Borg, Falzon, & Baglioni, 1995; Dicke et al., 2014; Frenzel, Goetz, Stephens, & Jacob, 2009; Hagenauer, Hascher, & Volet, 2015; Klusmann, Kunter, Trautwein, Lüdtke, & Baumert, 2008a; Skaalvik & Skaalvik, 2010). Other typical stressors include extensive workload, a lack of support from colleagues or the principal, poor working conditions, and little recognition from the public (e.g., Fernet, Guay, Senécal, & Austin, 2012; Hakanen, Bakker, & Schaufeli, 2006; Kokkinos, 2007; Kyriacou, 2011). However, one central aspect of teachers' working environment has only rarely been investigated in research on teacher well-being—the teacher-student relationship (Klassen et al., 2012; Spilt et al., 2011).

1.2. The teacher-student relationship and teachers' occupational well-being

A positive teacher-student relationship is generally characterized by respect, warmth, and trust as well as low levels of interpersonal conflict (e.g., Davis, 2003; Roorda, Koomen, Spilt, & Oort, 2011). Based on attachment theory (Bowlby, 1969) and self-determination theory (Ryan & Deci, 2000), these qualities can be considered vital for students' development because they provide a feeling of security and belonging (Deci, Vallerand, Pelletier, & Ryan, 1991; Pianta, 1999). There is extensive empirical evidence showing that students who feel appreciated and supported by their teachers attain more positive affective, behavioral, and cognitive outcomes (Cornelius-White, 2007; Kunter et al., 2013; McGrath & van Bergen, 2015; Roorda et al., 2011; Vandenbroucke, Spilt, Verschueren, Piccinin, & Baeyens, 2018).

In contrast, potential associations between the teacher-student relationship and teacher outcomes have largely been neglected (Spilt et al., 2011). This is surprising because establishing a caring relationship with one's students is inherent to the teaching profession and at the core of teachers' professional identity (O'Connor, 2008; van der Want et al., 2014). In line with this, prior research has shown that teachers strive to connect with their students and to feel valued, respected, and liked (Butler, 2012; Hagger & Malmberg, 2011). Consequently, building a positive teacher-student relationship can be considered a central goal for teachers. According to the transactional model of stress and coping (Lazarus & Folkman, 1984), failing to meet this goal should be directly linked to higher stress and reduced well-being.

There is initial empirical evidence for the association between the teacher-student relationship and teacher well-being. Interview studies have shown that teachers' bonds with students make an important contribution to their emotional experience and job satisfaction (Hargreaves, 2000; Shann, 1998). Moreover, cross-sectional studies have found that teachers reporting a close, conflict-free relationship with their students, who felt appreciated and connected to them, had more positive emotions and work engagement as well as less anger and burnout (Gastaldi, Pasta, Longobardi, Prino, & Quaglia, 2014; Jo, 2014; Klassen et al., 2012; Milatz, Luftenegger, & Schober, 2015). Finally, a recent diary study showed that teachers experience more work enthusiasm when they feel more connected to their students; however, no links to daily emotional exhaustion were found (Aldrup, Klusmann, & Lüdtke, 2017). These studies indicate that research on teacher well-being could profit from considering the teacher-student relationship. This applies all the more given that the teacher-student relationship has been hypothesized as one possible psychological process underlying the widely found link between student misbehavior and teacher well-being (Spilt et al., 2011).

1.3. The mediating role of the teacher-student relationship

The model of teacher well-being by Spilt et al. (2011) strongly emphasizes the importance of the teacher-student relationship for teacher well-being (see Fig. 1). Drawing upon the theoretical arguments and empirical studies presented in the previous section, a direct

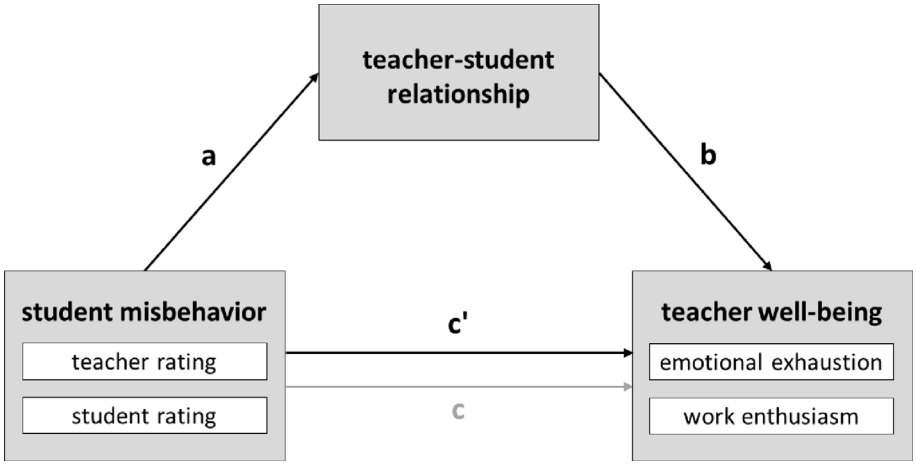

Fig. 1. Heuristic working model in which student misbehavior—as rated by students and teachers—is expected to reduce teachers' occupational well-being (path c; path c represents the total effect in our mediation model, i.e., c = ab + c'). Teachers' perceptions of their relationship with students are hypothesized to mediate this link because student misbehavior might make teachers feel rejected (path a) which could, in turn, reduce their occupational well-being (path b).

association between the teacher-student relationship and teacher well-being is suggested (see Fig. 1, path b). Beyond that, the model is particularly interesting because it suggests that the teacher-student relationship functions as a mediator for the widely found link between classroom disturbances or disciplinary problems and teacher well-being (e.g. Aloe et al., 2014; see Fig. 1, path c). More precisely, Spilt et al. (2011) proposed that student misbehavior compromises the teacher-student relationship because it provokes negative interactions and might be interpreted as lack of appreciation of the teacher (see Fig. 1, path a). In confirmation of this, interview studies have revealed that teachers often feel rejected and hurt by difficult student behaviors and struggle to feel affection towards misbehaving students (Hargreaves, 2000; Newberry & Davis, 2008). Moreover, longitudinal studies have shown that aggression and externalizing behavior problems in children—as severe types of student misbehavior—are linked to more problematic teacher-student relationships (Birch & Ladd, 1998; Buyse, Verschueren, Doumen, van Damme, & Maes, 2008; Nurmi et al., 2017).

To summarize, prior research lends support to the model of teacher well-being by Spilt et al. (2011) due to the links found between student misbehavior and a more negative teacher-student relationship as well as between negative relationships and poor teacher well-being (e.g., Buyse et al., 2008; Klassen et al., 2012). However, to the best of our knowledge there is only one study testing the full mediation model. Koomen and Spilt (2011) found that teachers' perceptions of conflict in their relationship with a child mediated the link between student misbehavior and teacher stress. Hence, the present study aimed to investigate the question of whether the teacher-student relationship is associated with teacher well-being and mediates the link between student misbehavior and teacher well-being in more detail. To assess student misbehavior, we asked both teachers and their students about their perceptions of misbehavior in the classroom, thus addressing a central methodological issue in research on the association between student misbehavior and teacher well-being.

1.4. Student misbehavior: considering the teacher and student perspectives

Prior studies in the research field have largely relied on teacher self-report measures of student misbehavior. One common approach is to present lists of potential job stressors and ask teachers to rate how stressful they find each of them (e.g., Chaplain, 2008). Alternatively, teachers can evaluate whether they are exposed to certain stressors and subsequently report on their well-being (e.g., Dicke et al., 2014). On the one hand, the use of teacher self-report measures seems reasonable considering that one's subjective interpretations of the social environment play an important role in the stress process (Lazarus & Folkman, 1984). On the other hand, it is difficult to conclude from these studies that teacher well-being is impaired by behavior problems perceivable to other people besides the teachers themselves (Klusmann et al., 2008a; Pas & Bradshaw, 2014). A promising solution is to use non-teacher reports of student misbehavior, for example, reports by external observers, colleagues, or students.

One of the few studies to include a non-teacher perspective on student misbehavior was conducted by Geving (2007). She asked student teachers and their supervising teachers to evaluate how often ten types of student behavior problems occurred in one of the student teachers' classes (e.g., hostility towards the teacher, lack of effort in class). Student teachers' perceptions of each type of behavior problem were correlated with higher self-reported stress. On the contrary, the only statistically significant association with the supervising teachers' perceptions of behavior problems in class was found for lack of student effort in class. In another study, Klusmann et al. (2008a) surveyed teachers and principals about disciplinary issues at their school. Bivariate correlations showed that teachers at schools with many disciplinary problems (as perceived by teachers or principals) were more emotionally exhausted. However, the association between principal-rated discipline and teachers' emotional exhaustion was small and no longer statistically significant when both raters' perspectives and covariates were included in the model.

At first glance, these findings challenge the assumption that teacher well-being is affected by disciplinary issues that can be observed by people other than the teacher. Rather, one could speculate that the relationship between teacher-rated student misbehavior and teacher well-being is due to common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). For example, reduced well-being may cause teachers to view their environment more negatively and exaggerate student misbehavior (Kokkinos, Panayiotou, & Davazoglou, 2005; Watson & Clark, 1984). However, using principal and supervising teacher ratings might not be the most suitable approach because they are not involved in class on a regular basis and might thus miss critical episodes (Seidel & Prenzel, 2006). Hence, students' perceptions of the amount of misbehavior in their classroom could be a more valid source for predicting teacher well-being. In line with this, Klusmann, Kunter, Trautwein, Lüdtke, and Baumert (2008b) found student ratings of classroom behavior problems to be correlated with teachers' emotional exhaustion and job satisfaction.

1.5. Present study

Drawing on longitudinal data from secondary school teachers and their students, the present investigation addressed two central questions regarding the widely found link between student misbehavior and teacher well-being.

First, we examined whether student misbehavior was related to changes in teacher well-being regardless of whether teacher self-report or other-report measures were applied (see Fig. 1, path c). Put differently, we investigated whether teacher well-being was affected by behavior problems that other raters would recognize as well or only by teachers' individual interpretations thereof. For that purpose, we asked both teachers and their students to assess to what extent student misbehavior represented a problem in their class. This use of student ratings was a major strength of the present study because students are less likely to miss critical episodes than external raters. Nonetheless, because a person's individual interpretations are considered particularly important for their well-being (Lazarus & Folkman, 1984), we expected teacher ratings of student misbehavior to be more closely associated with their well-being than student ratings (Hypothesis 1).

Our second research question addressed the underlying psychological mechanisms that explain the association between student misbehavior and teacher well-being. Based on the model of teacher well-being by Spilt et al. (2011), we investigated the teacher-student relationship as a mediator (Hypothesis 2). Drawing on previous findings, we hypothesized that student misbehavior would be associated with a worsening teacher-student relationship because it evokes negative interaction patterns and might be interpreted as a personal offence (Hypothesis 2a; see Fig. 1, path a). Second, we hypothesized that a negative teacher-student relationship would be linked to increased emotional exhaustion and decreased work enthusiasm over time (Hypothesis 2b; see Fig. 1, path b). Investigating the importance of the teacher-student relationship for teacher well-being was of particular interest because this relationship is a central aspect of teachers' professional identities (van der Want et al., 2014). Nonetheless, teacher-student relationships have long been neglected in research on teacher well-being (Klassen et al., 2012), so more studies are still needed. In particular, prior studies have mostly been qualitative or cross-sectional, reducing their generalizability and causal interpretability.

Hence, the present study was unique in considering the role of the teacher-student relationship for teachers' occupational well-being and including both student and teacher ratings of student misbehavior. It

allowed for a more profound understanding of what makes (perceived) difficulties in managing student behavior detrimental to teachers' occupational well-being.

2. Method

2.1. Procedure

The present study was part of a larger longitudinal research project (Jonkmann, Rose, & Trautwein, 2013) that included two cohorts of secondary school students and their homeroom teachers. Homeroom teachers in Germany have a special function distinct from homeroom teachers in many other countries. Most importantly, they teach their class a disproportionally large number of lessons, undertake extracurricular activities with their students, and bear special responsibility for them. Therefore, homeroom teachers' occupational well-being can be assumed to be particularly strongly affected by the students in his or her homeroom.

The first measurement point took place when the students were in fifth/eighth grade. The second measurement point took place one year later in the sixth/ninth grade when most of the homeroom teachers had been teaching their class for at least one year. At both measurement points, homeroom teachers and their students received questionnaires that, amongst other things, asked them to evaluate the amount of student misbehavior in the class. Moreover, teachers rated the overall quality of their relationship with the students in their homeroom as well as their occupational well-being. Participation was voluntary and consent was obtained from students' parents.

2.2. Sample

Data collection was carried out in 227 classes in 106 schools in two German federal states. The participation rate exceeded 90% at both measurement points. Our final sample included $N = 222$ homeroom teachers, of which $n = 166$ (75%) participated at both measurement points, $n = 11$ (5%) participated only at the first measurement point, and $n = 13$ (6%) participated only at the second. Furthermore, $n = 32$ classes (14%) had two different homeroom teachers for the two measurement points, meaning that data for the first measurement point in these classes was missing as well. We found no statistically significant differences in terms of age, job experience, or occupational well-being between teachers who participated at one versus two measurement points. However, male teachers were more likely to participate at only one measurement point ($\chi^2(1, N = 252) = 6.76$, $p = .01$).

On average, participating teachers were 46.49 years old ($SD = 10.06$), had 21.17 years of job experience ($SD = 10.99$), and 30% were male. They taught $M = 10.48$ ($SD = 5.41$) lessons to their homeroom class each week. All teachers taught in secondary schools. However, Germany has several different types of secondary schools (for a detailed description of the German school system, see Maaz, Trautwein, Lüdtke, & Baumert, 2008): $n = 86$ teachers taught in lower track schools, $n = 48$ in intermediate track schools, and $n = 88$ in comprehensive schools.

The homeroom teachers' students also participated in the survey. We used data from all $N = 4111$ students who rated student misbehavior in their classroom at the second measurement point ($M = 18.52$ students per teacher, $SD = 5.52$) in our analyses. Of the students, 54% were male and 28% had a migration background. At the second measurement point, $n = 2347$ students were in sixth grade (Cohort 1; age: $M = 12.11$, $SD = 0.57$) and $n = 1764$ were in ninth grade (Cohort 2; age: $M = 15.21$, $SD = 0.65$).

Table 1
Descriptive results and correlations between student misbehavior, the teacher-student relationship, teachers' occupational well-being, and covariates.

		Descriptive statistics			Correlations				
		M	*SD*	α	1	2	3	4	5
Central variables									
1	Misbehavior (T)	2.33	0.62	.84		**.51**	**−.28**	**.28**	**−.17**
2	Misbehavior (S)	2.54	0.33	.88			**−.25**	**.24**	−.11
3	Relationship	3.20	0.49	.85				**−.36**	**.42**
4	Exhaustion	2.12	0.68	.81					**−.37**
5	Enthusiasm	3.38	0.46	.88					
Covariates									
6	Relationship (T1)	3.28	0.46	.84	−.10	−.09	**.62**	**−.22**	**.31**
7	Exhaustion (T1)	2.12	0.68	.77	.16	.14	**−.20**	**.67**	**−.38**
8	Enthusiasm (T1)	3.41	0.45	.88	−.07	−.15	**.36**	**−.44**	**.62**
9	Teacher male	0.30			.01	**−.27**	−.04	**−.15**	.14
10	Job experience	21.17	10.99		**−.22**	−.03	−.07	.13	**−.18**
11	Cohort 1	0.57			−.03	−.11	**−.19**	−.09	.03
12	Proportion migration	27.82	25.33		**.13**	−.06	**.16**	−.05	**.14**
13	Intermediate	0.22			**.15**	.03	.06	.02	.02
14	Comprehensive	0.40			**−.28**	−.06	−.10	−.05	**−.14**
15	Lower	0.39			**.15**	.03	.03	.04	.12

Note. S = Student rating, T = teacher rating, T1 = first measurement point; "Intermediate", "Comprehensive", and "Lower" are dummy variables referring to school type; significant coefficients at $p < .05$ are in bold.

2.3. Instruments

Student misbehavior, the teacher-student relationship, and teachers' occupational well-being were assessed on a 4-point scale ranging from 1 = *completely disagree* to 4 = *completely agree* and were standardized at the teacher level prior to analyses. The items are listed in the Appendix and their reliabilities are summarized in Table 1.

2.3.1. Student misbehavior

Teachers and students evaluated the extent to which students in the class paid attention to and obeyed the teacher (6 items, e.g., "In this class, instruction is barely disturbed"; Kunter & Baumert, 2006; reverse coded). The items were formulated identically for teachers and students. Because we were interested in students' shared perceptions of misbehavior in their class, the individual student ratings were aggregated at the class level. We calculated the intraclass correlation (ICC; Lüdtke, Trautwein, Kunter, & Baumert, 2007) to evaluate the reliability of the class mean. This resulted in ICC(2) = .84, indicating satisfactory reliability.

2.3.2. Teacher-student relationship

Teachers assessed whether their students appreciated, liked, and respected them personally on a six-item scale (e.g., "The students in this class show me that they like me"). We adapted items from the closeness subscale of the student-teacher relationship scale (STRS; Pianta, 2001), which is widely applied with students from preschool to grade three, for use with an older age group. In addition, we reformulated the items to assess teachers' overall relationship with the students in their homeroom instead of their individual relationship with each child (e.g., "students in this class" instead of "this student").

2.3.3. Occupational well-being

In order to capture both the positive and negative dimensions of teachers' occupational well-being, we assessed *work enthusiasm* and *emotional exhaustion*. More specifically, we administered a scale developed by Kunter et al. (2008) to address teachers' enjoyment of teaching (6 items, "I really enjoy teaching") and a German version of the Maslach

Burnout Inventory (MBI; Enzmann & Kleiber, 1989) to assess emotional exhaustion (4 items, "I often feel exhausted at school").

2.4. Data analyses

We set up a series of mediation models to investigate the associations between our predictor (teacher-rated/student-rated misbehavior), mediator (teacher-student relationship), and outcome variables (emotional exhaustion, work enthusiasm), as suggested in our heuristic working model (see Fig. 1). All analyses were conducted in Mplus 7 (Muthén & Muthén, 1998–2012) using maximum likelihood estimation with robust standard errors. To estimate the size of the mediation effect, we calculated the ratio of the indirect to the total effect (P_M), as suggested by Wen and Fan (2015).

In testing our mediation model, we controlled for prior levels of the teacher-student relationship and teacher well-being. Importantly, this allowed us to investigate predictors of *change* in our dependent variables, for example, whether teachers who perceive more student misbehavior experience a greater increase in emotional exhaustion over time compared to their colleagues. To further control for a priori differences between teachers, the following teacher, class, and school characteristics were included as covariates: teacher gender, job experience, proportion of students with a migration background, grade level, and school type.

We specified separate models for teacher-rated and student-rated student misbehavior. The data for student ratings of misbehavior had a multilevel structure because multiple students in each classroom rated the presence of problem behaviors. In statistical terminology, the predictor was located at the individual student level (Level 1), whereas our mediator and outcome variables were located at the teacher level (Level 2; 1-2-2 design in Preacher, Zyphur, & Zhang, 2010). Therefore, the individual student ratings had to be aggregated to obtain a measure of shared perceptions of misbehavior at the teacher level. We thus used multilevel modeling and treated the class mean for each teacher as a latent variable, which was estimated by correcting the aggregated manifest class mean for unreliability. The advantage of this procedure was that it enabled us to control for sampling error (Marsh et al., 2009).

Like most empirical studies, we had to deal with missing data. The amount of missing data per item was $M = 11\%$ on average and ranged from 0% to 30%. Note that the proportion of missing data was $M = 6\%$ for the second measurement point, but higher ($M = 22\%$) for the first measurement point as a consequence of some homeroom teachers changing between measurement points. We applied a full information maximum likelihood algorithm to handle missing data. The methodological literature recommends using either full information maximum likelihood or multiple imputation because, in contrast to traditional approaches like listwise deletion, power is not reduced and parameter estimates are less affected by data not being missing completely at random (Enders, 2010).

3. Results

3.1. Preliminary analyses

Table 1 displays the means, standard deviations, and correlations between student misbehavior, the teacher-student relationship, and teachers' occupational well-being as well as the associations with the covariates. The correlations showed that students' and teachers' ratings of student misbehavior largely converged ($r = .51$, $p < .001$). Hence, students' and teachers' perceptions overlapped substantially, suggesting that both could be associated with similar outcomes. In line with this, student misbehavior was associated with the teacher-student relationship regardless of whether teachers ($r = -.28$, $p < .001$) or students ($r = -.25$, $p = .01$) assessed behavior problems in the class. Furthermore, teachers' ($r = .28$, $p < .001$) as well as students' ($r = .24$, $p = .01$) perceptions of student misbehavior in the classroom were positively related to teachers' emotional exhaustion. However, only teacher-rated ($r = -.17$, $p = .01$), not student-rated ($r = -.11$, $p = .17$), misbehavior was statistically significantly correlated with lower work enthusiasm. Moreover, a positive teacher-student relationship was associated with higher teacher well-being (emotional exhaustion: $r = -.36$, $p < .001$; work enthusiasm: $r = .42$, $p < .001$).

Table 2
Total effects, indirect effects, and direct effects for mediation models with student misbehavior as the predictor, the teacher-student relationship as the mediator, and teacher well-being as the outcome.

	Emotional exhaustion			Work enthusiasm		
	β	*SE*	95%-*CI*	β	*SE*	95%-*CI*
Teacher-rated student misbehavior						
Total effect	**.18**	0.08	(.03, .33)	**−.15**	0.06	(−.27, −.03)
Indirect effect[1]	.06	0.03	(−.01, .12)	**−.06**	0.03	(−.11, −.01)
Direct effect	**.13**	0.06	(.00, .25)	−.09	0.06	(−.20, .03)
P_M	.33			.40		
Student-rated student misbehavior						
Total effect	.12	0.08	(−.04, .28)	.03	0.07	(−.11, .16)
Indirect effect	.05	0.03	(−.01, .12)	**−.06**	0.02	(−.11, −.02)
Direct effect	.07	0.07	(−.06, .20)	.09	0.07	(−.06, .23)
P_M	.42					

Note. [1]Confidence intervals and standard errors for the indirect effect were calculated based on a bootstrap estimation approach with 5000 samples. We controlled for the baseline levels of our mediator and outcome variables as well as teacher gender and job experience, school type, grade level, and proportion of students with a migration background; displayed are standardized coefficients; coefficients in bold are significant at $p < .05$.

3.2. Teacher and student ratings of student misbehavior and teacher well-being

Our first research question was whether teachers' and students' perceptions of student misbehavior in the classroom were similarly related to teacher well-being (Hypothesis 1). The total effects obtained in our mediation analyses provided an answer to this question (Table 2). They showed that teacher-rated student misbehavior was statistically significantly linked to teachers' emotional exhaustion ($\beta = .18$, $p = .02$) and work enthusiasm ($\beta = -.15$, $p = .02$) after controlling for teachers' baseline well-being as well as teacher gender, job experience, proportion of students with a migration background, grade level, and school type. Thus, teachers who perceived higher levels of disturbances, tardiness, or disciplinary problems in their classes reported increased emotional exhaustion and reduced work enthusiasm over time. In contrast, the model for students' perceptions of behavioral problems in their classroom showed no statistically significant associations with teachers' work enthusiasm ($\beta = .03$, $p = .72$) or emotional exhaustion ($\beta = .12$, $p = .13$) once the covariates were controlled for.

3.3. The teacher-student relationship as a mediator

The second aim of our study was to investigate the teacher-student relationship as a mediator that might explain why (perceived) student misbehavior is detrimental for teacher well-being (Hypothesis 2). First, we examined whether our predictor, student misbehavior, was connected to changes in our mediator, the teacher-student relationship (Hypothesis 2a). As displayed in Fig. 2, we found a statistically

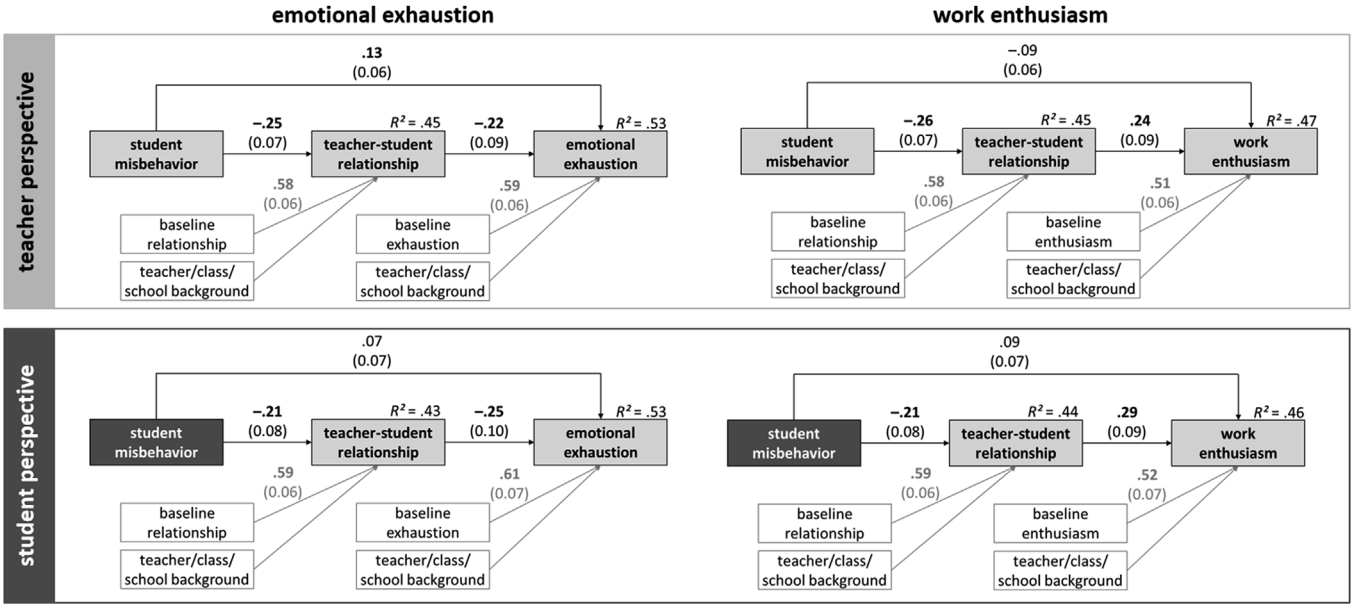

Fig. 2. Mediation model with the teacher-student relationship as the mediator between student misbehavior—as rated by teachers (above) or students (below)—and teachers' emotional exhaustion (left) or work enthusiasm (right). All analyses controlled for teacher gender, job experience, school type, grade level, and proportion of students with a migration background. The models are saturated, but the corresponding paths are not depicted to increase clarity. Standardized coefficients are displayed with standard errors in parentheses. Coefficients in bold are significant at $p < .05$.

significant association between teachers' (β = –.25, $p < .001$) as well as students' (β = –.21, $p = .01$) perceptions of student misbehavior and the teacher-student relationship. Hence, in classes where students or teachers reported fewer behavior problems, the teacher-student relationship became more positive over time.

Next, we examined the relationship between our mediator and our outcome, that is, teacher well-being (Hypothesis 2b). The teacher-student relationship was statistically significantly and positively associated with work enthusiasm (β = .24, $p = .01$) and negatively associated with emotional exhaustion (β = –.22, $p = .01$) after controlling for teachers' well-being earlier in time as well as teacher, class, and school characteristics. Thus, teachers who felt that they did not share a positive relationship with their students had reduced occupational well-being.

Lastly, we tested the superordinate mediation hypothesis (Hypothesis 2) by looking at the indirect effect of student misbehavior on well-being via the teacher-student relationship (Table 2). Because the results from the first research question indicated that teacher-rated misbehavior was linked to teacher well-being, but student-rated[1] misbehavior was not, we concentrated on the models using teacher ratings. As recommended in the methodological literature, we tested the significance of the indirect effects using a bootstrap estimation approach with 5000 samples (Shrout & Bolger, 2002). For work enthusiasm, we found a statistically significant indirect effect (β = –.06, $p = .01$), but no statistically significant direct effect (β = –.09, $p = .15$). Hence, more student misbehavior—as perceived by teachers—was linked to a decrease in teachers' work enthusiasm through a less positive teacher-student relationship. The size of the mediation effect was estimated at $P_M = .40$, meaning that the indirect effect explained 40% of the total effect. In contrast, the indirect effect for emotional exhaustion was not statistically significant (β = .06, $p = .10$, $P_M = .33$).

4. Discussion

The present investigation focused on two understudied questions regarding the well-established link between student misbehavior and teacher well-being. In contrast to prior studies, we combined teachers' evaluations of student misbehavior in their classroom with an additional perspective, namely student ratings. Moreover, we investigated the psychological processes by which student misbehavior affected teacher well-being and tested the teacher-student relationship as a mediator (Spilt et al., 2011). Our results indicated that teachers who perceived more student misbehavior reported increased emotional exhaustion and reduced work enthusiasm. Students' perceptions of behavior problems in their classroom were less closely correlated with teachers' well-being. Investigating whether the teacher-student relationship explained the link between teachers' perceptions of student misbehavior and their well-being, we found that student misbehavior was associated with reduced teacher-student relationship quality, and that a negative teacher-student relationship was correlated in turn with higher emotional exhaustion and lower work enthusiasm. However, only the link between student misbehavior and work enthusiasm was mediated through the teacher-student relationship.

4.1. Teacher and student ratings of student misbehavior and teacher well-being

A plethora of studies indicate that dealing with tardiness, disturbances, or other problem behaviors is an important stressor for teachers, with negative consequences for their occupational well-being (e.g., Aloe et al., 2014). However, virtually all of these studies relied on teacher self-reports of student misbehavior. Thus, we know that teachers who *perceive* high levels of student misbehavior report reduced well-being. But whether these perceptions are based upon difficulties others recognize as well or rather on teachers' subjective interpretations remains widely unknown. Therefore, we combined student and teacher ratings to provide an additional perspective on the presence of behavior problems in the classroom.

[1] The statistically significant indirect effect for work enthusiasm in the model with student-rated misbehavior (Table 2) is most likely due to a suppressor effect. The bivariate correlations (Table 1) show that the relationship between student-rated misbehavior in the classroom and work enthusiasm is opposite in sign to the direct effect in the mediation model. Moreover, a direct effect that is opposite in sign to the indirect effect (see Table 2) indicates *inconsistent mediation* (MacKinnon, Krull, & Lockwood, 2000). Hence, we refrain from interpreting this effect.

Our results are in line with the extensive body of research establishing a link between teacher ratings of student misbehavior and teacher well-being (e.g., Dicke et al., 2014; Hagenauer et al., 2015; Skaalvik & Skaalvik, 2010). The bivariate correlations between student-rated misbehavior and teacher well-being were smaller and not statistically significant once covariates were added to the model. This supports our Hypothesis 1 insofar as teachers' perceptions of student misbehavior were more closely associated with teacher well-being than students' perceptions. However, the lack of statistically significant associations found for student-rated misbehavior in our final models was surprising. After all, student and teacher ratings of behavior problems converged substantially, showing that students' and teachers' views are largely shared and making similar associations with teacher well-being likely. We caution the reader that these differential findings should not be over-interpreted, considering the similar pattern of correlations with teacher well-being found for both student and teacher ratings. However, one interpretation of our findings could be that teacher-specific perspectives, in particular, are related to teacher well-being rather than students' and teachers' shared perceptions.

Similar results have already been found in research on the associations between classroom management—an indicator of how successfully teachers deal with student misbehavior—and student outcomes (e.g., Kunter & Baumert, 2006). In these studies, students' and teachers' perceptions of classroom management largely converged, yet there were perspective-specific associations with student outcomes, with student ratings typically found to be the better predictor of their own outcomes (Kunter & Baumert, 2006; Wagner et al., 2016). Kunter and Baumert (2006) referred to this phenomenon as perspective-specific validity, meaning that different raters perceive different aspects of the classroom environment, leading to different and unique associations with outcomes. Prior research on student misbehavior also suggested that students and teachers perceive different behaviors as difficult. Whereas both students and teachers considered talking out of turn to be most troublesome, teachers mentioned hindering others and physical aggression as problematic, but students referred to talking back, out of seat behavior, and eating (Clunies-Ross, Little, & Kienhuis, 2008; Infantino & Little, 2005). Moreover, teachers' perceptions might have been more closely associated with teacher well-being because, in order to prevent disturbances, they may react to minor instances before they are recognized by students (cf., Kounin, 1970). These events will likely be perceived as stressful by teachers even though they are barely perceptible to others. Finally, teachers will experience stress when their teaching goals are threatened (Lazarus & Folkman, 1984), but students do not know what their teachers' goals are, which might make them less sensitive to goal-incongruent behaviors.

However, common method bias provides an alternative explanation for why teacher but not student ratings were associated with teachers' self-reported well-being (Podsakoff et al., 2003). In particular, rater tendencies, including personality traits such as negative affectivity, could systematically shape teachers' views of their own competence in managing disciplinary problems and their interpretations of student behavior (Watson & Clark, 1984). Empirical support for this notion is provided by studies showing that teachers' individual experiences color their perceptions. For example, Pas and Bradshaw (2014) found teacher ratings of student behavior to be stable across a three-year period even though they had different students each year. Moreover, a vignette study showed that emotionally exhausted teachers rated student behavior problems more severely than their colleagues (Kokkinos et al., 2005). In addition, experiencing a lack of efficacy in dealing with job demands, such as student misbehavior, is one component of burnout, making it difficult to determine cause and effect (Maslach et al., 2001).

4.2. The teacher-student relationship as a mediator

The second way in which we provided a new perspective on the role of student misbehavior in teacher well-being was our focus on the psychological mechanisms underlying this relationship. Drawing upon the model proposed by Spilt et al. (2011), we investigated the teacher-student relationship as a mediator (Hypothesis 2).

Our findings supported the idea that student misbehavior is associated with a more negative teacher-student relationship (Hypothesis 2a). This is in line with prior studies showing that teachers find it difficult to feel affection for children who exhibit problem behaviors, which puts them at risk of negative teacher-student relationships (e.g., Buyse et al., 2008; Hargreaves, 2000). Interestingly, teachers felt less liked and appreciated regardless of whether students or teachers reported on the occurrence of behavior problems in the classroom. Therefore, in contrast to teacher well-being, the teacher-student relationship was linked to difficulties in managing student behavior that students recognized as well. This shows that teachers' emotional experience in the classroom is more than just a product of their individual perceptions. Perhaps the teacher-student relationship is more closely associated with student-rated misbehavior than teacher well-being because it is more proximal to classroom events and leaves less room for the interpretative processes that largely determine teachers' emotional reactions to negative experiences (Chang, 2009; Lazarus & Folkman, 1984).

Moreover, our results supported the hypothesis that a positive teacher-student relationship is linked to increased work enthusiasm and reduced emotional exhaustion (Hypothesis 2b). This finding is particularly important because theory and research on teacher well-being have long neglected the fact that a positive teacher-student relationship is not only associated with more positive student development (e.g., Roorda et al., 2011), but might also be vital for teachers' occupational well-being (Klassen et al., 2012; Spilt et al., 2011). Consequently, there is still limited empirical evidence. Our study made a valuable contribution to filling this gap, particularly because, in contrast to most prior research (e.g., Gastaldi et al., 2014; Hargreaves, 2000), our sample size was quite large and the use of longitudinal data allowed us to investigate how the teacher-student relationship is associated with changes in teacher well-being.

However, regardless of the association between the teacher-student relationship and our predictor and outcome variables, our hypotheses regarding the mediating function of the teacher-student relationship were not fully supported (Hypothesis 2). Whereas the teacher-student relationship mediated the link between student misbehavior and work enthusiasm, we found no mediation for emotional exhaustion. First, we would like to emphasize that the associations in the models for emotional exhaustion and work enthusiasm were very similar. Therefore, the differential results must be interpreted with caution. However, the lack of mediation via the teacher-student relationship may suggest that other processes play a role. For example, students talking out of turn produce noise and expose teachers to a flood of irrelevant information (Kristiansen, Persson, Lund, Shibuya, & Nielsen, 2013). This, in turn, might make teachers feel exhausted because it produces cognitive overload (Sweller, van Merrienboer, & Paas, 1998). Furthermore, disturbances or other disrespectful behaviors could interfere with teachers' goals for student learning and consequently elicit negative emotions (Brophy, 2006; Frenzel, 2014). To a lesser extent, these processes might also play a mediating role in the association between student misbehavior and work enthusiasm, which we found to be only partially mediated by the teacher-student relationship.

4.3. Limitations

The present study was unique because it combined the teacher and student perspectives on behavior problems in the classroom and investigated the role of the teacher-student relationship as a mediator between student misbehavior and teacher well-being. Nevertheless, the study had some drawbacks that also should be mentioned. First, we did not ask students how much they liked and appreciated their teacher. Therefore, the question of whether students' reports of the teacher-student relationship are related to teachers' well-being could not be addressed. However, given that the link between student-rated misbehavior and teacher well-being was insignificant, we would expect an even smaller association with students' perceptions of the teacher-student relationship. After all, prior research has shown that students' and teachers' perceptions of closeness and support in their relationship are largely uncorrelated, causing differential associations with student outcomes (e.g., Hughes, 2011).

Second, the teacher-student relationship is widely considered to be composed of a positive as well as a negative dimension (closeness and conflict; Pianta, 2001). However, we only focused on positive qualities, and thus cannot draw inferences about the correlation between student misbehavior and conflict in the teacher-student relationship or about the effects of conflict on teacher well-being. Moreover, teachers provided a global evaluation of the extent to which they found student misbehavior challenging in the classroom in general, and assessed their relationship with the class as a whole. Although this approach was very economical, it did not capture students' individual behavior patterns or how they affect individual student-teacher relationships. However, dyadic teacher-student interactions might affect teachers differently than interactions at the classroom level. Thus, this perspective might allow for more in-depth insights.

Finally, our study does not allow causal inferences to be made. Some researchers have suggested reciprocal effects, with teacher well-being also affecting their instructional behavior and thus in turn student behavior and the quality of the teacher-student relationship (Jennings & Greenberg, 2009). However, in our study there was a long time interval between the two measurement points. In order to capture the dynamic interplay between student misbehavior, the teacher-student relationship, and teacher well-being, future studies would profit from including several measurement points throughout the school year. Restricting the assessment to one school year would also reduce the likelihood of homeroom teachers changing between measurement points, which, unfortunately, led to missing data for the first measurement point in 32 classes in our study.

5. Conclusions and implications

The first conclusion we can draw from this study is that teachers' individual perceptions of behavior problems in their classroom are more closely related to their well-being than student ratings of misbehavior. Future research would profit from investigating teacher-specific views in greater detail because a deeper understanding could help optimize teacher education and interventions to improve teacher well-being. Studies combining student and teacher diaries (Bolger & Laurenceau, 2013) with classroom observations could reveal to what extent teachers' perceptions reflect concrete student behaviors that might be evident to teachers, but not students. Moreover, in order to determine to what extent teacher ratings reflect individual interpretations rather than objective behavior problems, these studies could also integrate variables potentially affecting teachers' perceptions, such as neuroticism or negative affectivity (Watson & Clark, 1984).

The results of such studies would be of great practical relevance. If teacher-specific aspects were found to be largely based upon observable behavior problems, classroom management trainings (e.g., Classsroom Organization and Management Program (COMP); Emmer & Evertson, 2013; Evertson & Emmer, 2013), which convey strategies for dealing with these issues, such as communicating clear expectations and rules or reacting to the first signs of problems promptly and consistently (Brophy, 2006), could effectively improve teacher well-being. In contrast, if teachers only *feel* they cannot successfully manage student behavior, it will be more important to change their individual beliefs and perceptions. For example, teachers could view videos of their own teaching in combination with feedback from colleagues and students to attain a more accurate view (Ferguson, 2012; Tripp & Rich, 2012).

The second conclusion of our study is that the teacher-student relationship plays a major role in teacher well-being. Consequently, strengthening teacher-student relationships could support teacher well-being. For example, the relationship-focused reflection program (Spilt, Koomen, Thijs, & van der Leij, 2012) was found to improve problematic teacher-student relationships by helping teachers reflect on critical interactions, their own emotional experiences with the child, and the child's perspective. In general, considering the child's perspective appears to be a promising solution to diminish the association between student misbehavior and negative relationships. After all, teachers are likely to become angry if they interpret misbehavior as intentional (Frenzel, 2014). Thus, understanding alternative causes of misbehavior from the student perspective could promote cognitive reappraisal and, consequently, elicit positive emotions even when teacher are dealing with challenging students (Chang, 2009; Kumschick, Piwowar, & Thiel, 2018). Relatedly, teachers' social-emotional competence, which enables them to understand and regulate students' emotions as well as their own, appears to be key to building supportive teacher-student relationships even in light of student behavior problems (Jennings & Greenberg, 2009).

Importantly, the suggested interventions for improving teachers' ability to manage student behavior and build positive teacher-student relationships might not only benefit teachers' occupational well-being. A quiet, ordered learning environment and a supportive relationship with the teacher are also valuable resources for student development (e.g., Kunter et al., 2013; Roorda et al., 2011).

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Appendix

Table A
Items assessing student misbehavior, the teacher-student relationship, and well-being.

Student misbehavior
In this class … (teacher perspective//student perspective)
instruction is barely disturbed//instruction is barely disturbed
students rarely chatter loudly//we rarely chatter loudly
students seldom fool around//we seldom fool around
it is easy to assert myself//we listen to our teacher
I am able to establish calm and order//we are calm and everything is well-ordered
I rarely need to admonish students to ensure calm//we quiet down quickly

Teacher-student relationship
Students in this class …
respect me.
show me that they like me.
show me that I am important to them.
see me as a role model.
take the things I say seriously.
turn to me if they have private problems.

Teachers' occupational well-being
Emotional exhaustion
I sometimes feel really used up at the end of a school day.
I often notice how listless I am at school.
I often feel exhausted at school.
Altogether I feel like I am at the end of my rope.

Work enthusiasm
Teaching is fun for me.
I teach with great enthusiasm.
I really enjoy teaching.
I always enjoy teaching students new things.
I enjoy interacting with students.
It's a pleasure to teach.

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