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Outcomes and Antecedents of Teacher Depersonalization: The Role of Intrinsic Orientation for Teaching

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Two longitudinal studies conducted in Israel examined antecedents and outcomes of teacher depersonalization, a relatively understudied dimension of teacher burnout. Study 1 explored the outcomes of depersonalization. We predicted that depersonalization would predict classroom disruption, and that an aspect of intrinsic orientation for teaching, teacher enthusiasm, would mediate this relation. Study 2 explored the antecedents of depersonalization. We predicted that another aspect of intrinsic orientation for teaching, teacher autonomous motivation, would moderate the relation between organizational (principal and peer) support and teacher depersonalization. In Study 1, multilevel analysis of data from 73 middle school teacher-class pairs (1,792 students) showed that teacher depersonalization at the beginning of the year (Time 1) predicted end-of-year (Time 2) student and teacher reports of disruptive student classroom behaviors via teacher enthusiasm for teaching. In Study 2, 333 teachers reported on depersonalization at Time 1 and Time 2, on perceptions of principal support and sense of community at Time 1, and on autonomous motivation for teaching at Time 2. The predicted associations between organizational variables and Time 2 depersonalization were moderated by autonomous motivation for teaching; only to the extent that teachers' autonomous motivation was high did principal support and sense of community protect against depersonalization. Results highlight the importance of studying depersonalization as a distinct and maladaptive interpersonal phenomenon. They also suggest the important role of intrinsic orientation for teaching in preventing teacher depersonalization.

Educational Impact and Implications Statement
The authors of this article investigated the outcomes and antecedents of teacher depersonalization, the interpersonal aspect dimension of teacher burnout. In depersonalization, the teacher develops negative attitudes toward students, expecting the worst of them and even actively disliking them. The authors hypothesized that teachers who enjoy and value teaching will be less likely to depersonalize their students. Study 1 demonstrated that teacher depersonalization at the beginning of the school year predicted a disruptive classroom climate 6 months later, and this relationship was mediated by teacher enthusiasm. Thus, depersonalizing teachers were less likely to enjoy teaching, and this reduced enjoyment was recognized by students and related to their lack of cooperation. Study 2 demonstrated that 2 types of organizational support, principal support, and a sense of community within the school, assessed at the beginning of the school year, predicted depersonalization at the end of the school year, only to the extent that teachers engaged in teaching because they enjoyed and valued it. As most interventions designed to prevent teacher burnout have no effect on teacher depersonalization, the results of the 2 studies suggest policymakers should acknowledge and address this phenomenon and implement specific strategies to prevent it. Intervention programs that teach principals how to be more autonomy supportive and create an autonomy supportive school climate might increase teachers' enjoyment of teaching and prevent teacher depersonalization.

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The need to experience strong interpersonal relationships is central to human psychological functioning (Baumeister & Leary, 1995). Teaching is an inherently interpersonal and caring profession (Noddings, 2013). Indeed, the opportunity to work closely with students is a strong motivator for teachers, and this motivation benefits students and teachers alike (e.g., Butler, 2012; Watt & Richardson, 2007). Yet, the opposite can also happen: teachers may disengage from students and develop negative attitudes toward them. In the burnout literature, this phenomenon, termed depersonalization, has been conceptualized as the interpersonal dimension of teacher burnout (Maslach, Schaufeli, & Leiter, 2001).

Despite extensive research on teacher burnout, several lacunae and controversies remain in our understanding of its nature, consequences, and antecedents. First, many studies have relied on a composite measure of burnout and have not focused separately on its components, including depersonalization. Second, and possibly related, researchers have raised questions about the psychometric properties and external validity of the conceptualization and measure of depersonalization (e.g., Friedman, 1993; Garden, 1987; Simbula & Guglielmi, 2010). Third, although Maslach et al. (2001) has theorized that depersonalization might be the burnout dimension that most adversely influences teacher-student interactions, there is surprisingly little direct empirical evidence, in part because few studies have incorporated both teacher and student perspectives. Fourth, while many studies have examined the role of organizational factors, specifically support from principals and peers, in protecting teachers against burnout, associations are often weak or mixed (Lee & Ashforth, 1996). As a result, researchers are increasingly exploring how organizational and personal factors might interact to influence the development of depersonalization, advocating a person-environment fit (PE-fit) approach (e.g., Maslach, 2017).

Kunter and Holzberger (2014) recently suggested that teachers who love and value their job, or have an *intrinsic motivational orientation*, are more effective and have more highly motivated students. In our research, we followed this line of thought and suggested that teachers' intrinsic orientation is important in understanding the quality of student-teacher relationships, especially teacher depersonalization and its outcomes. We focused on two constructs that Kunter and Holzberger (2014) identify as representing the concept of intrinsic orientation: teachers' enthusiasm for teaching and teachers' autonomous motivation.

Figure 1 presents an overview of the research. Study 1 used a multilevel design to examine predictions that teacher enthusiasm for teaching would mediate the relations between depersonalization and between-class differences in students' disruptive behaviors. Study 2 used a short-term longitudinal design to probe the interaction of teachers' perceptions of organizational support and teachers' autonomous motivation in predicting teacher depersonalization.

Depersonalization: A Controversial Concept

Research on job burnout has a long history in the study of organizations (Freudenberger, 1974; Maslach & Jackson, 1981). In
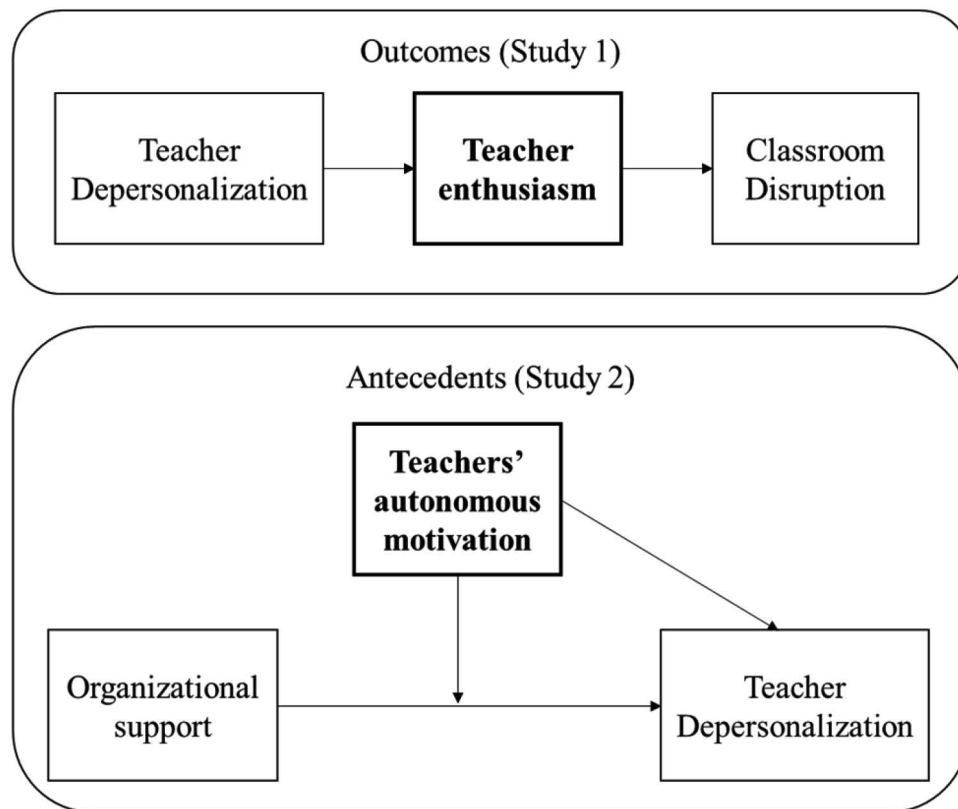

Figure 1. Overview of the research: Variables referring to intrinsic orientation for teaching appear in bold.

very early research, the core component of burnout is identified as emotional exhaustion, or feelings of being emotionally overextended and depleted. In addition to emotional exhaustion, these researchers identified a pattern of emotionally detached attitudes toward clients. In a nutshell, this is depersonalization, the interpersonal dimension of burnout (Maslach et al., 2001). Maslach (1982) conceptualized depersonalization as a way for workers to reduce emotional burdens on the job by cutting back on their involvement with others. She described it as a state in which the worker views other people through "rust-colored glasses"—developing a poor opinion of them, expecting the worst of them, and even disliking them. Research with teachers has typically focused on depersonalizing attitudes toward students. We should note that another dimension of burnout is a reduced sense of personal accomplishment; while this could be of interest to the teacher-student relationship, it was beyond the scope of our research.

Depersonalization is generally assessed as a dimension of burnout using the Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996). That said, some researchers have identified problems in the reliability, factor structure, and validity of depersonalization as assessed using the MBI (Garden, 1987), specifically among teachers (Iwanicki & Schwab, 1981). Trying to address these concerns, several authors have suggested separating the original depersonalization measure into two scales, a cynicism scale reflecting negative attitudes toward the job in general and a depersonalization scale assessing detached and negative attitudes toward service recipients (Salanova et al., 2005; Simbula & Guglielmi, 2010). Following evidence that the cynicism scale is more strongly related with emotional exhaustion than the depersonalization scale, Larsen, Ulleberg, and Rønnestad (2017) recently recommended treating depersonalization of others as a distinct construct. However, both the reliability of this scale and the factor loadings of some of its items, which were still taken from the MBI, tend to be quite low, especially for teachers (Larsen et al., 2017; Salanova et al., 2005; Simbula & Guglielmi, 2010; Soenens, Sierens, Vansteenkiste, Dochy, & Goossens, 2012). Inspection of the depersonalization items might provide a clue: some assess depersonalization directly (e.g., "I treat my students as if they were impersonal objects"), while others assess it vicariously, and refer to teachers' attitudes toward their students (e.g., "I feel students blame me for their problems").

During a relatively early attempt to validate the scale for teachers in Israel Friedman (1993) identified another problem. He found that many teachers considered the depersonalization items inappropriate and, as a result, either avoided answering them or responded in a highly skewed way. More recently, Simbula and Guglielmi (2010) reported negatively skewed response patterns in a sample of teachers in Italy. In an attempt to solve the problem, Friedman (1999, 2003) developed a depersonalization scale for teachers. Returning to Maslach's (1982) theoretical definition, he assessed teachers' negative attitudes toward and low expectations of students (e.g., "I feel that my students do not really care about being good students."), instead of asking them directly whether they dehumanized their students. Results from samples of teachers in Israel confirmed that these items loaded highly on a factor distinct from emotional exhaustion and reduced personal accomplishment and formed a reliable scale. Accordingly, we used Friedman's (2003) measure. Our first aim was to explore the outcomes of depersonalization, as measured by this scale.

Classroom Consequences of Teacher Depersonalization: From Depersonalization to Loss of Teacher Enthusiasm to Disruptive Student Behavior

In their working model of the study of teacher burnout, Maslach and Leiter (1999) proposed that burnout leads to less involvement in teaching, which, in turn, may undermine students' engagement in the classroom. Depersonalization captures an experience in which teachers disengage from students and develop negative attitudes toward them. Given the importance of positive teacher-student relationships for an array of school-related outcomes (e.g., Gehlbach, Brinkworth, & Harris, 2012; Wentzel, 2010; Wubbels & Brekelmans, 2005), there are grounds for anticipating that teacher depersonalization might have particularly adverse consequences for the classroom behaviors of both teachers and students.

To date, very few studies have examined consequences of burnout in terms of teachers' and students' classroom experiences and behaviors. In a recent exception, Soenens et al. (2012) found that after controlling for each burnout dimension, depersonalization but not emotional exhaustion predicted coercive and intrusive teacher behaviors in class. In another study, Shen et al. (2015) found that teacher depersonalization, but not emotional exhaustion or reduced personal accomplishment, was negatively related to students' adaptive motivation for learning. As well as highlighting the adverse role of teacher depersonalization, these studies are consistent with the indirect link proposed by Maslach and Leiter (1999) whereby burnout influences teachers' classroom behaviors and these, in turn, will influence students. As far as we know, however, no studies have tested this proposal by examining the effects of teacher burnout on both teacher and student behaviors. A major objective of our research was to provide such a test, focusing on relations between teacher depersonalization and teacher enthusiasm and students' disruptive behavior.

Studies have shown a robust positive association between teacher burnout and teacher reports of student misbehavior (Bibou-Nakou, Stogiannidou, & Kiosseoglou, 1999; Blase, 1982; Brouwers & Tomic, 1999; Byrne, 1991; Fernet, Guay, Senécal, & Austin, 2012; Friedman, 1995; McCormick & Barnett, 2011). The interpretation that students' disruptive behavior is a major cause of and risk factor for burnout makes sense, but teacher burnout, especially teacher depersonalization of students, might also influence students' disruptive behaviors. Given that students recognize teachers' depersonalization symptoms (Evers, Tomic, & Brouwers, 2004), they may well respond by not cooperating or disrupting the teacher's lessons. We examined this possibility. Previous studies have relied on teacher reports of both burnout and student disruptive behavior collected in a single session. In contrast, we assessed teacher reports of depersonalization of students in general at the beginning of the year. About 6 months later we assessed both teacher and student reports of disruptive student behavior in one randomly selected class taught by the teacher. Our first main hypothesis was that teacher depersonalization, more than teacher emotional exhaustion, would significantly predict between-class variance in students' disruptive behaviors.

As noted above, depersonalization refers to teachers' negative attitudes toward their students. We took this a step further and argued that because depersonalizing teachers feel less related to their students, they may enjoy and value teaching less. Referring to such feelings of enjoyment and value in teaching, Kunter and

Holzberger (2014) define the concept of teachers' intrinsic motivational orientation as individual differences in the degree to which teachers experience positive emotions and high meaningfulness in their job. Having an intrinsic orientation toward teaching has positive effects for teachers and students alike. Summarizing this concept, Kunter and Holzberger (2014) say several theoretical frameworks point to the role of positive affect and significance in predicting effective functioning. Two of these frameworks are research on teacher effectiveness (Brophy & Good, 1986), which emphasizes the concept of teacher enthusiasm, and self-determination theory (SDT; Ryan & Deci, 2017), which highlights the concept of autonomous motivation. We will first discuss the concept of teacher enthusiasm.

The concept of teacher enthusiasm refers to an expressive way of teaching characterized by positive emotions displayed by the teacher (for a recent review, see Keller, Hoy, Goetz, & Frenzel, 2016). Two aspects of enthusiasm need to be distinguished: on the one hand, enthusiasm is manifested in visible and perceivable teacher behaviors reflecting instruction that is lively, engaging, and expressive (i.e., displayed enthusiasm); on the other hand, enthusiasm is a personal variable describing teachers' subjective experiences of enjoyment, excitement, and pleasure in teaching (i.e., experienced enthusiasm). The former is typically assessed by students' reports and the latter by teachers' reports. Thus, enthusiasm is an aspect of intrinsic orientation that refers to what the teacher does (displayed enthusiasm) and feels (experienced enthusiasm) in the classroom. As such, it is likely to be observable by students and to relate to their own behaviors.

In partial support, Kunter and her colleagues found experienced and displayed enthusiasm were negatively associated with teachers' and students' reports of disruptive behavior (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011; Kunter et al., 2008). Another study demonstrated that teacher enthusiasm was negatively associated with teacher burnout (Kunter et al., 2011). To the best of our knowledge, no one has assessed enthusiasm, disruptive behavior, and burnout in a single study or have examined the unique contribution of depersonalization. Given our interest in classroom consequences of depersonalization, our second main prediction, tested here for the first time, was that teacher enthusiasm for teaching in the target class would mediate the predicted association between teacher depersonalization at the beginning of the year and disruptive student behavior.

Antecedents of Teacher Depersonalization: Organizational Support and Autonomous Motivation for Teaching

Because depersonalization is rooted in the interpersonal domain, it seems likely that teachers who experience more satisfying working relations with management and colleagues will be less likely to depersonalize their students. Indeed, there is evidence that workers' perceptions of social support from supervisors and peers play a role in counteracting depersonalization (for an early meta-analysis, see Lee & Ashforth, 1996). However, a close inspection of studies with teachers reveals that, in most cases, perceived support from principals, but not peers, was negatively associated with teacher depersonalization. This was found when researchers assessed only principal support (e.g., Hakanen, Bakker, & Schaufeli, 2006), assessed only peer support (e.g., Kahn, Sch-

neider, Jenkins-Henkelman, & Moyle, 2006; Kokkinos, 2007), and when they assessed both together (e.g., Russell, Altmaier, & Van Velzen, 1987; Sarros & Sarros, 1992). Although one implication might be that peer support does not matter, another is that other relational qualities might be more relevant. For example, Maslach et al. (2001) suggest *sense of community* as a potential protective factor. As defined and assessed by Newmann, Rutter, and Smith (1989), this construct refers to a relationship of unity, belonging, and cooperative interdependence among colleagues that can counteract the fragmentation of work and social isolation in schools. To date, no empirical study has tested whether perceived sense of community can protect teachers from burnout and, more specifically, from depersonalization.

Although there is an association between perceived principal support and depersonalization, it tends to be low (e.g., Greenglass, Burke, & Konarski, 1997), implying that personal factors, such as teachers' motivational resources, might be at least if not more important. We focused on a type of intrinsic orientation that we hypothesized might protect teachers from depersonalization: autonomous motivation for teaching. Autonomous motivation is a core concept in SDT (Ryan & Deci, 2017). In brief, people are autonomously motivated to perform tasks they perceive as reflecting core personal values and goals and that they enact with a sense of internal choice and volition (Ryan, Deci, Grolnick, & La Guardia, 2006). Autonomous motivation is reflected in teachers' reasons for engaging in teaching. Thus, while the concept of teacher enthusiasm refers to "what" depersonalizing teachers do and feel in the classroom, the concept of autonomous motivation refers to "why" teachers pursue teaching activities and, therefore, why they are more or less likely to depersonalize students (for an extended discussion of the distinction between the what and why of behavior, see Deci & Ryan, 2000).

Many years ago, Ryan and Connell (1989) proposed that autonomous motivation is reflected in individuals' "identified" and "intrinsic" reasons (or motives) for behavior. When they perform an activity for identified reasons, individuals do so because they embrace the value of the activity and acknowledge its importance for them. If they have intrinsic reasons for their behavior, individuals do so because they derive inherent satisfaction and enjoyment from the activity. In a study of teachers' identified and intrinsic reasons for engaging in teaching assignments, Roth, Assor, Kanat-Maymon, and Kaplan (2007) demonstrated that the concept of autonomous motivation is applicable to the teaching profession. Simply stated, autonomously motivated teachers do their work because they enjoy teaching and find it meaningful.

Alongside a wide range of other positive outcomes, autonomous motivation is an important facilitator of adaptive relationships, partly because autonomously motivated individuals are not inclined to experience conflicts and differences as threatening and, thus, do not need to respond with strategies to protect and defend self-esteem (Knee & Uysal, 2011). The reasonable assumption that autonomous motivation for teaching will protect teachers against the need to disengage from and devalue students has been supported by evidence of a negative association between autonomous motivation and teacher depersonalization (Fernet, Chanal, & Guay, 2017; Fernet et al., 2012; Soenens et al., 2012).

Thus, to summarize, we predicted that both perceived principal support and perceived sense of community and autonomous motivation for teaching would be negatively associated with teacher

depersonalization. In our formulation of our hypotheses, we referred to Maslach (2017) who recently proposed framing the basic question about the sources of burnout as "How does burnout result from the interaction of the person *and* the job?" instead of "Is it the person *or* the job?" She endorsed a PE-fit approach, broadly defined as the compatibility between an individual and a work environment that occurs when their characteristics are well matched (Kristof-Brown, Zimmerman, & Johnson, 2005). One recent approach to the assessment of PE-fit is to examine theoretically grounded interactions between personal and organizational variables (Brandstätter, Job, & Schulze, 2016; Van den Broeck, Schreurs, Guenter, & Van Emmerik, 2015). The basic argument is that incorporating such interactions may contribute to understanding why direct associations with organizational factors tend to be quite modest.

Following the PE-fit approach, we reasoned that autonomous teachers who receive organizational support are more able to translate the support they receive into coping adaptively with obstacles and difficulties than are less autonomous teachers, making them less inclined to use depersonalization as a detour for coping. Thus, we predicted that both perceived principal support and perceived sense of community would interact with teachers' autonomous motivation to prevent depersonalization, such that organizational support would protect against depersonalization mainly among teachers with high autonomous motivation for teaching.

Overview of Research Designs, Questions, and Hypotheses

We report here on two studies conducted in Israel. Study 1 examined the proposal that depersonalization has adverse consequences for teacher enthusiasm and student disruptive behaviors in a sample of 73 middle school teachers and their students in one randomly selected class using a multilevel design. The research questions were, first, whether teacher depersonalization assessed at the beginning of the year (Time 1) would predict teacher and student reports of student disruptive behavior in class at the end of the year (Time 2) and, second, whether these associations were mediated by teacher enthusiasm. Teachers completed measures of depersonalization and emotional exhaustion as part of a survey group-administered at staff meetings during the first 2 months of the school year (Time 1). During the last 2 months of the school year, about 6 months later (Time 2), we assessed teachers' reports of experienced enthusiasm and student disruption in the target class and students' reports of their teacher's displayed enthusiasm and of their own disruptive behavior. The main hypothesis was that teacher depersonalization, but not emotional exhaustion, at the beginning of the school year would predict classroom disruption at the end of the year, mediated by teachers' reports of experienced enthusiasm and students' reports of the teacher's displayed enthusiasm (Hypothesis 1).

Study 2 utilized a longitudinal correlational design to examine antecedents of teacher depersonalization in a sample of 333 teachers. We had three research questions: first, whether both principal support and sense of community would predict depersonalization; second, whether autonomous motivation for teaching would predict depersonalization above and beyond the effects of principal support and sense of community; third, whether autonomous mo-

tivation moderated the associations between principal support or sense of community and depersonalization.

Teachers responded to measures of depersonalization, perceived principal support, and perceived sense of community at the beginning of the school year (Time 1). At Time 2, about 6 months later they again reported on depersonalization and also completed a measure of autonomous motivation. We predicted that both kinds of organizational support would predict depersonalization not only concurrently at Time 1, but also at Time 2, after controlling for Time 1 depersonalization (Hypothesis 2a). We also hypothesized that autonomous motivation would be negatively associated with depersonalization at Time 2 (Hypothesis 2b). Finally, following the PE-fit approaches, we predicted that autonomous motivation for teaching would moderate the effects of principal support and sense of community on depersonalization, such that organizational support would protect against depersonalization mainly among teachers whose autonomous motivation for teaching was high rather than low (Hypothesis 2c).

Study 1

Method

Participants. Participants were 73 Israeli female teachers and 1,792 (52% female) students in 73 classes, one class for each participating teacher. Classes were in 15 subject areas in the humanities, sciences, and social sciences. Years of teaching experience ranged from 1 to 36 ($M = 15.18$, $SD = 9.75$). Between 9 and 30 students responded about each teacher, with an average of 25 students per teacher. Students were in Grade 7 (608 students), Grade 8 (550 students), or Grade 9 (632 students).

Procedure. The study was part of an ongoing research program looking at teacher and student motivation described at greater length in Study 2 (see Butler, 2012; Butler & Shibaz, 2014, for other reports from this project). Although other results based on different variables have appeared elsewhere, the variables and associations presented here have not. In the larger study, teachers completed questionnaires during the first 2 months of the school year (Time 1). Teachers noted whether we could contact them at the end of the year to give them a second survey. In addition, we asked teachers in 11 middle schools or 6-year secondary schools whether we could administer questionnaires to students in one of their classes. All the targeted schools served similar, heterogeneous student populations, with about 60% of students from middle to high levels of socioeconomic status (SES) and about 40% from lower levels of SES. Teachers provided a list of the classes they were teaching in the current school year; note that in Israel, all classes run for the entire year. Toward the end of the year, we contacted 80 randomly selected full-time teachers who taught compulsory academic subjects in regular, nontracked classes in Grades 7–9. Because there are relatively few male teachers in Israel, we targeted only female teachers. For each teacher we targeted one class, randomly selected from all that teacher's classes, with the condition that no class reported on more than one teacher. We could not schedule data collection in the classes of seven teachers for technical reasons, so the final sample comprised 73 teachers and students in one class for each teacher.

The measures for students were administered by one of four research assistants during a class taught by the participating teach-

er; students were instructed to answer all questions with reference to this particular teacher's lessons. The teacher sat at the back of the class while the students completed their survey because students tend to be more focused when teachers are present. The research assistants emphasized that students could feel free to express their real thoughts and feelings because they would be completing the surveys anonymously. Data collection was authorized by the Ministry of Education.

Measures. All questionnaires in Study 1 and Study 2 were administered in Hebrew, the participants' mother tongue. Measures originally published in English were translated and back-translated by the second author and a graduate student bilingual in English and Hebrew. Scale scores were computed as the means of items in the scale.

Teacher questionnaires.

Depersonalization and emotional exhaustion. Seven items were taken from the Teacher Burnout Scale (Friedman, 1999, 2003). This is a short Hebrew adaptation of the Maslach Burnout Inventory–Educators Survey (MBI-ES; Maslach et al., 1996) developed during research on teachers in Israel. Three items assess depersonalization ("I feel that my students do not really care about being good students"; "I feel that my students do not really want to learn"; "I think that I would rather have better students than those I have now"). Four items assess emotional exhaustion ("I feel exhausted from teaching"; "I feel wiped out by the end of a day of teaching"; "I feel physically worn out by teaching"; "I feel burned out from teaching"). Teachers respond on a scale ranging from *strongly disagree* (1) to *strongly agree* (6). An exploratory maximum-likelihood factor analysis with promax rotation yielded two factors: emotional exhaustion and depersonalization. All items loaded highly (.72 to .88) on their designated factor; cross-loadings on the other factor were low and ranged from .12 to .21. Cronbach's α coefficients were .85 for depersonalization and .91 for emotional exhaustion.

Experienced enthusiasm. Three items from Kunter et al.'s (2011) measure of a teacher's experienced enthusiasm for teaching were modified to refer specifically to the target class (e.g., "I really enjoy teaching this class"). The response scale ranged from *strongly disagree* (1) to *strongly agree* (5). Items formed a reliable scale (α = .88).

Classroom disruption. Three items were taken from Kunter and Baumert's (2006) classroom disruption scale (e.g., "The students in this class mess around a lot"). Teachers responded on a scale ranging from *strongly disagree* (1) to *strongly agree* (5). Cronbach's α was .83.

Student questionnaires.

Displayed enthusiasm. Three items based on Kunter et al. (2008) assessed students' perceptions of their teacher's enthusiasm for teaching (e.g., "Our teacher seems to really enjoy teaching"). Because the original scale comprised only two items, we created another one ("Our teacher seems to really like teaching"). Students responded on a scale ranging from *strongly disagree* (1) to *strongly agree* (5). Cronbach's α was .78.

Classroom disruption. Two items taken from Kunter and Baumert (2006) assessed students' perceptions of classroom disturbances (e.g., "In this teacher's lessons, students mess around the whole time"). Students responded on scale ranging from *strongly disagree* (1) to *strongly agree* (5). Cronbach's α was 0.79. Note

that these questions assessed students' perceptions of class-wide behavior rather than their own disruptive behavior.

Plan of analysis. Based on the data structure, wherein students were nested in 73 classrooms, we first calculated the intraclass correlations (ICCs) of students' reports; this allowed us to estimate the within-class homogeneity and reliability of aggregated group-level constructs and to determine whether aggregation was justified. We calculated two intraclass coefficients: ICC(1) and ICC(2). The former represents the proportion of the total variance because of differences between groups, in our case, classes; the latter represents the reliability of the aggregated group means (Bliese, 2000). Values of 5% or above for ICC(1) (e.g., Gavin & Hofmann, 2002) and at least 0.70 for ICC(2) (e.g., Lüdtke & Trautwein, 2007) indicate reasonable homogeneity and reliability, justifying aggregation. For classroom disruption ICC(1) was 36%, $\chi^2(72, N = 1787) = 1121.23, p < .001$, and ICC(2) was 0.93; for displayed enthusiasm, ICC(1) was 27%, $\chi^2(72, N = 1787) = 788.75, p < .001$, and ICC(2) was 0.90. It was, therefore, appropriate to aggregate students' perceptions of classroom disruption and teacher enthusiasm within classes.

We first calculated correlations between teachers' reports and aggregated students' reports. Then, to test whether the association between teacher depersonalization and classroom disruption was mediated by teacher enthusiasm, we used the syntax provided by Preacher, Zyphur, and Zhang (2010), using Mplus Version 7.11 (Muthén & Muthén, 2012) to conduct multilevel structural equation modeling (MSEM) with manifest variables. Multilevel modeling accounts for the nesting of students within classes by adjusting the *SE*s for the nonindependence of observations and allows the simultaneous modeling of relationships at different levels of analysis (Raudenbush & Bryk, 2002). Multilevel mediation analyses using hierarchical linear modeling conflate within-level and between-level effects, which may result in an underestimation or overestimation of true mediation effects (Zhang, Zyphur, & Preacher, 2009). MSEM overcomes these problems and provides a more accurate estimation of indirect effects by decomposing the variance into two (within-level and between-level) components (Muthén & Asparouhov, 2011). Indirect effects should be based on bootstrapped *SE*s (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). However, Mplus 7.11 does not allow bootstrapping with multilevel analyses, so we assessed the significance of mediation using the Sobel test (Sobel, 1982).

Figure 2 presents our hypothesized model. Our estimation method was maximum likelihood (ML; Muthén & Muthén, 2012). Model fit was evaluated by means of the comparative fit index (CFI), the root-mean-square error of approximation (RMSEA), and the standardized root-mean-square residual (SRMR), calculated separately for the within and between-class covariance matrices (SRMR$_{within}$, SRMR$_{between}$). CFI values above .90, RMSEA values below .05, and SRMR values below .08 are considered indicative of satisfactory to good model fit (Schumacker & Lomax, 2010).

Results

Preliminary analyses. Table 1 presents the means, *SD*s, and observed range for all Study 1 variables, as well as the correlations between teachers' questionnaires and aggregated class-level students' questionnaires. Means were at the midpoint for deperson-
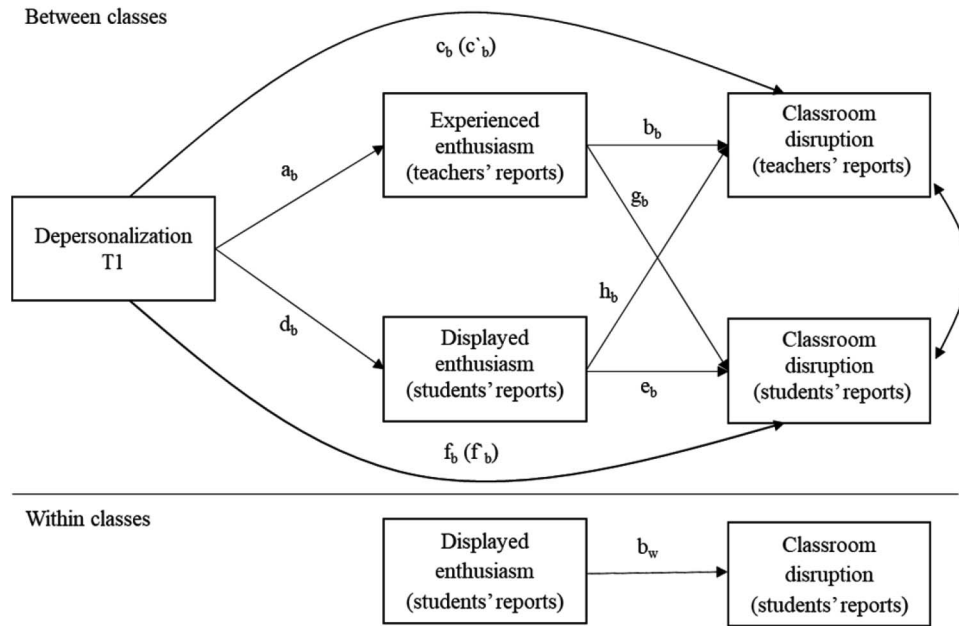
Figure 2. Study 1: Conceptual mediation model. Subscripts: w = within class; b = between classes.

alization, emotional exhaustion, and teacher enthusiasm, and below the midpoint for classroom disruption. More important, responses to the depersonalization scale were not skewed at all (skewness = −0.18). There was fairly substantial agreement between teachers' and students' reports of enthusiasm and classroom disruption. As we predicted, depersonalization at Time 1 was negatively and significantly correlated with both experienced and displayed enthusiasm, assessed at Time 2, and positively and significantly correlated with both teachers' and students' reports of classroom disruption, also assessed at Time 2. In contrast, emotional exhaustion was not significantly correlated with either students' or teachers' reports of students' disruptive behavior and was significantly correlated with teachers' but not students' reports of teacher enthusiasm. Because only teacher depersonalization (and not emotional exhaustion) was significantly correlated with both students' and teachers' reports of enthusiasm and classroom disruption, the MSEM model included only depersonalization.

Primary analysis. Table 2 presents the MSEM results. We first tested the association between teacher depersonalization (Level 2 variable) and students' and teachers' reports of classroom disruption (Level 1 and Level 2 variables, respectively), without entering the mediator as a between-groups variable (Step 1, parameters c_b, f_b). As can be seen in the table, teacher depersonalization significantly predicted students' and teachers' reports of classroom disruption. This model explained 7 and 10% of the between-level variance of teachers' and students' reports of classroom disruption, respectively. At Level 1, students' reports of teacher enthusiasm significantly and negatively predicted classroom disruption (parameter b_w), explaining 5% of the variance at the within-subject level.

In the next step, we entered the mediator variables (experienced and displayed enthusiasm) as between-groups variables and multiplied the regression weights of the Level 2 predictors to obtain the indirect effect. The paths from teacher depersonalization to experienced and displayed enthusiasm (Step 2, parameters a_b and d_d, respectively), from experienced enthusiasm to teachers' and students' reports of classroom disruption (Step 3, parameters b_b and g_d, respectively), and from displayed enthusiasm to students' reports of classroom disruption (Step 3, parameter e_b) were significant and negative. The corresponding mediation terms were

Table 1

Correlations Between Teachers' Questionnaires and Aggregated Class-Level Students' Questionnaires: Teachers and Classes in Study 1

Variable	M	SD	Observed range	1	2	3	4	5	6
1. Depersonalization T1	3.41	.80	1.33–5.33	—					
2. Emotional exhaustion T1	3.36	.97	1.00–5.75	.19	—				
3. Experienced enthusiasm T2	3.68	.99	1.00–5.00	−.28*	−.36**	—			
4. Displayed enthusiasm T2	3.59	.54	2.06–4.60	−.34**	−.04	.40**	—		
5. Disruption T2 (students' report)	2.80	.73	1.42–4.71	.27*	.23	−.52**	−.52**	—	
6. Disruption T2 (teachers' report)	2.36	.94	1.00–5.00	.27*	.22	−.66**	−.35**	.65**	—

* $p < .05$.   ** $p < .01$.

Table 2

Teachers' Enthusiasm Mediates the Association Between Time 1 Teachers' Depersonalization and Classroom Disruption in Study 1

Effect	Parameter	Estimate	SE	p value	95% CI LL	95% CI UL
Within level						
Enthusiasm → Disruption	b_w	−.20	.03	.001	−.24	−.15
Between level						
Step 1						
Depersonalization → Disruption (teachers)	c_b	.32	.15	.030	.08	.57
Depersonalization → Disruption (students)	f_b	.25	.10	.015	.08	.42
Step 2						
Depersonalization → Experienced enthusiasm	a_b	−.35	.14	.001	−.58	−.12
Depersonalization → Displayed enthusiasm	d_b	−.24	.08	.003	−.37	−.11
Step 3						
Experienced enthusiasm → Disruption (teachers)	b_b	−.58	.10	.001	−.74	−.42
Displayed enthusiasm → Disruption (students)	e_b	−.50	.16	.001	−.76	−.24
Experienced enthusiasm → Disruption (students)	g_b	−.27	.08	.001	−.40	−.14
Displayed enthusiasm → Disruption (teachers)	h_b	−.22	.20	.264	−.55	.11
Step 4						
	$a_b b_b$	.21	.09	.020	.06	.35
	$d_b e_b$	.12	.06	.030	.03	.21
	$a_b g_b$	.08	.08	.310	−.05	.21
	$d_b h_b$	.07	.03	.027	.02	.11
Step 5						
Depersonalization → Disruption (teachers)	c'_b	.07	.14	.603	−.14	.27
Depersonalization → Disruption (students)	$f'b$	.03	.09	.698	−.11	.17
Explained variance						
$R^2 (\tau_{00})$ - Disruption (teachers)		.45				
$R^2 (\tau_{00})$ - Disruption (students)		.42				
$R^2 (\sigma^2)$ - Disruption (students)		.05				

Note. Parameter subscripts: w = within class; b = between classes; CI = confidence interval; LL = lower level; UL = upper level.

significant (Step 4, parameters $a_b b_b$, $d_b e_b$, and $a_b g_b$). The path from displayed enthusiasm to teachers' reports of disruption was nonsignificant, however, so we excluded this mediation term (parameter $d_b h_b$) from the model. The final estimate of the relationship between depersonalization and classroom disruption, controlling for the mediator (Step 5, parameters c'_b and $f'b$), was nonsignificant, suggesting full mediation through experienced and displayed enthusiasm. Collectively, these variables explained a substantial 45 and 42% of the between-level variance in teachers' and students' reports of classroom disruption, respectively. The fit indices indicated good model fit (with the exception of the between-level SRMR), $\chi^2(1) = 5.55$, $p < .019$; CFI = .97; RMSEA = .05; $SRMR_{withihn} = .00$; $SRMR_{between} = .10$.

Summary of results. The results supported the hypothesis that teacher depersonalization at the beginning of the school year would predict classroom disruption at the end of the school year via low teacher enthusiasm for teaching, also measured at the end of the year. Depersonalization was negatively related to displayed (student reported) and experienced (teacher reported) enthusiasm and positively related to students' and teachers' reports of classroom disruption. All associations were significant, albeit modest. Emotional exhaustion was significantly correlated only with experienced enthusiasm. Thus, depersonalization emerged as a more salient predictor of teacher enthusiasm and classroom disruption than emotional exhaustion.

As expected, displayed (student reported) enthusiasm mediated the relations between depersonalization and students' reports of disruption, and experienced (teacher reported) enthusiasm mediated the relations between depersonalization and teachers' reports

of disruption. An interesting find was that experienced enthusiasm also mediated the relations between depersonalization and students' reports of disruption. These results suggest that teachers who experience depersonalization at the beginning of the school year are less likely to enjoy teaching at the end of year, and this, in turn, predicts students' lack of cooperation with the teacher.

Study 2

Whereas Study 1 examined outcomes of depersonalization, Study 2 examined antecedents of depersonalization, focusing on the roles of organizational support and teachers' autonomous motivation in protecting against this phenomenon. The hypotheses tested in this study were 2a–c.

Method

Participants. Participants were teachers in 31 schools in Israel. The sample for Study 2 comprised 333 teachers (297 women, 28 men, 8 not recorded). Teachers were from 13 elementary schools serving Grades 1–6 (131 teachers), 8 middle schools serving Grades 7–9 (75 teachers), and 10 6-year secondary schools serving Grades 7–12 (127 teachers). Nine schools served mainly middle and high SES student populations, 4 had mainly low SES students, and the remaining 18 had diverse student populations with about 60% from middle to high levels of SES and about 40% from lower levels of SES. School-level SES was not significantly related to any of the research variables. Years of teaching experience ranged from 1 to 42 ($M = 15.87$, $SD = 9.46$). There was a

significant difference in years of experience between teachers who participated at Time 2 ($M = 15.88$, $SD = 9.44$) and those who did not ($M = 17.92$, $SD = 9.86$), albeit with a very small effect size, $F(518) = 5.99$, $p < .015$, $\eta^2 = .01$. The difference in depersonalization between teachers who participated at Time 2 ($M = 3.16$, $SD = .92$) and those who did not ($M = 3.22$, $SD = .84$) was nonsignificant, $F(519) = 0.60$, $p < .438$.

Procedure. In Time 1 530 teachers filled in a questionnaire during staff meetings in the first and second months of the school year. They were asked to provide contact information if they were willing to respond to a second survey; teachers were offered the equivalent of $20 for responding to both surveys. We explained that to ensure anonymity, responses to the two surveys would be matched using the last four digits of the teacher's mobile phone number. Five to 6 months later (Time 2), we sent a second survey to 420 teachers who provided contact information and who were full-time teachers teaching academic subjects (rather than physical education) in regular rather than special education or enrichment classes. Of these, 80 teachers who responded to a different survey in which they were asked about a specific class (see Study 1) were not included in the present sample. Ultimately, 333 teachers returned the completed Time 2 questionnaire and were included in the study.

Measures. All scales used a 6-point Likert-type scale, ranging from *strongly disagree* (1) to *strongly agree* (6), unless otherwise indicated. Scale scores were computed as the means of items. The depersonalization scale was administered at both time points, the principal support and sense of community scales were administered at Time 1, and the autonomous motivation for teaching scale was administered at Time 2.

Depersonalization. The measure of depersonalization was as described for Study 1. Cronbach's α coefficients were .83 and .85 for Time 1 and Time 2, respectively.

Principal support. Four items from the Supportive Principal Behavior subscale of the Organization Climate Description for Middle School (OCDQ-RM; Hoy, Hoffman, Sabo, Dennis, & Bliss, 1996) assessed perceived principal support (e.g., "The principal goes out of his/her way to help teachers"). Cronbach's α was .86.

Sense of community. We used the 5-item Community Subscale of the High School and Beyond Administrator/Teacher Survey (Newmann et al., 1989) to measure perceived sense of community in the school (e.g., "This school seems like a big family; everyone is so close and cordial"). Cronbach's α was .76.

Autonomous motivation for teaching. Six items were taken from the scales developed by Roth et al. (2007) to measure autonomous motivation for teaching. Teachers rated their agreement with various reasons for their investment in teaching activ-

ities on a scale ranging from *strongly disagree* (1) to *strongly agree* (5). We examined two types of autonomous motivation: identified and intrinsic. A sample item for identified motivation is: "[. . .] because it is important for me to make children feel that I care about them." A sample intrinsic motivation is: "[. . .] because I enjoy finding unique solutions for various students." Each motivation was assessed using three items. The autonomous motivation score was a composite of intrinsic and identified scales ($\alpha = .74$).

Plan of analysis. Based on the data structure, wherein teachers were nested in 31 schools, we calculated the ICCs for Time 2 depersonalization; this allowed us to estimate the within-class homogeneity and reliability of the aggregated group-level construct. ICC(1) was 21%. Therefore, we adjusted for the hierarchical nature of the data (teachers nested within schools) by using school as the cluster variable in the "Type = Complex" method in Mplus. Our estimation method was maximum likelihood with robustness to nonnormality (MLR; Muthén & Muthén, 2012). In addition, while Study 1 included only middle school teachers, Study 2 included teachers from three school types, elementary, middle school, and 6-year secondary school. Prior research has indicated that the biggest differences in school climate occur in the transition from elementary to middle school (Midgley, Anderman, & Hicks, 1995; Midgley, Eccles, & Feldlaufer, 1991). Therefore, we created a dummy variable by merging middle school and 6-year secondary school levels to create the elementary (scored 0) and secondary (scored 1) school levels. Because this study involved both male and female teachers, we also controlled for the teacher's gender (men = 0, women = 1).

Results

Table 3 presents the means, *SD*s, and observed range for all Study 2 variables, as well as the correlations among the study variables. Means were at the midpoint for depersonalization and above the midpoint for perceptions of the organization and autonomous motivation. Importantly, responses to the depersonalization scale were not skewed at all (skewness = -0.04 for Time 1 and .09 for Time 2). The correlations provided preliminary support for the hypotheses. The predictors (principal support, sense of community, and autonomous motivation for teaching) were all negatively and significantly, if modestly, correlated with depersonalization at both time points. In addition, the school level was negatively related to principal support, sense of community, and autonomous motivation, and positively related with both Time 1 and Time 2 depersonalization.

Table 3
Correlations Among Study Variables and Means and SDs in Study 2

Variable	M	SD	Observed range	1	2	3	4	5	6
1. Principal support T1	4.22	1.10	1.00–6.00	—					
2. Community T1	4.49	.74	1.00–6.00	.52**	—				
3. Autonomous motivation T2	4.40	.52	2.40–5.00	.16**	.26**	—			
4. School level	—	—	—	$-.22$**	$-.19$**	$-.16$**	—		
5. Depersonalization T1	3.15	.91	1.00–5.67	$-.24$**	$-.16$**	$-.18$**	.47**	—	
6. Depersonalization T2	3.06	.94	1.00–5.33	$-.22$**	$-.21$**	$-.22$**	.40**	.61**	—

** $p < .01$.

Given these correlations, in Step 1 of our hierarchical regressions, we entered Time 1 depersonalization and both organizational support variables (principal support and sense of community) into the model to compare their effects on Time 2 depersonalization after controlling for Time 1 depersonalization. We also controlled for school level and teacher's gender. In Step 2, we entered autonomous motivation for teaching. In Step 3, we tested the interaction hypothesis; we entered the interaction between autonomous motivation and sense of community (Step 3a) and that between autonomous motivation and principal support (Step 3b).

Table 4 presents the results for the regression models. In Step 1, Time 1 depersonalization and school level positively predicted Time 2 depersonalization. After controlling for these variables, neither principal support nor sense of community emerged as a significant predictor. Autonomous motivation, added in Step 2, negatively and significantly predicted Time 2 depersonalization. As predicted, both interaction terms, entered separately as Steps 3a and 3b, were significant. In both steps, the effect of autonomous motivation was significant. Teacher's gender did not predict Time 2 depersonalization in any of the steps.

Figures 3 and 4 show the effects for the interaction of autonomous motivation with principal support and sense of community,
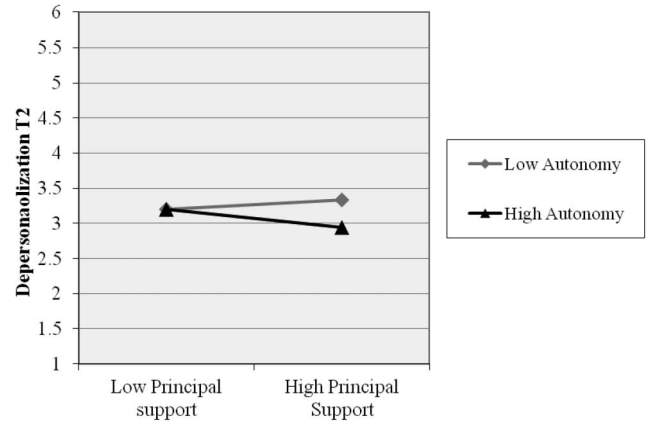

Figure 3. Study 2: Interaction between principal support and autonomous motivation on depersonalization at Time 2.

respectively. Table 5 presents the conditional effects of principal support and sense of community on Time 2 depersonalization at different levels of the moderator (1 *SD* below and above the mean), autonomous motivation. Results supported the hypothesis. Only

Table 4

Hierarchical Regressions With Depersonalization at Time 2 in Study 2

Effect	Explained variance	Estimate	SE	p value	95% CI LL	95% CI UL
Step 1						
Depersonalization T1		.57	.05	.001	.48	.65
School level		.28	.11	.014	.09	.46
Gender		−.02	.13	.874	−.24	.20
Principal support		−.03	.05	.453	−.11	.04
Sense of community		−.07	.08	.377	−.19	.06
R^2	.42					
Step 2						
Depersonalization T1		.56	.05	.001	.47	.64
School level		.27	.11	.014	.09	.45
Gender		.04	.15	.812	−.21	.28
Principal support		−.04	.04	.428	−.11	.04
Sense of community		−.04	.08	.635	−.17	.09
Autonomous motivation		−.18	.09	.031	−.32	−.04
R^2	.43					
Step 3a						
Depersonalization T1		.56	.05	.001	.47	.64
School level		.25	.11	.019	.08	.43
Gender		−.03	.14	.849	−.26	.21
Principal support		−.03	.05	.467	−.11	.04
Sense of community		−.02	.08	.753	−.15	.10
Autonomous motivation		−.17	.08	.033	−.31	−.04
Autonomous Motivation × Principal Support		−.17	.08	.024	−.30	−.05
R^2	.44					
Step 3b						
Depersonalization T1		.56	.05	.001	.48	.64
School level		.26	.10	.013	.09	.43
Gender		.01	.15	.946	−.23	.25
Principal support		−.03	.04	.456	−.11	.04
Sense of community		−.01	.07	.919	−.13	.11
Autonomous motivation		−.20	.08	.009	−.32	−.07
Autonomous Motivation × Community		−.27	.09	.002	−.41	−.12
R^2 (σ_{00})	.44					

Note. CI = confidence interval; LL = lower level; UL = upper level.
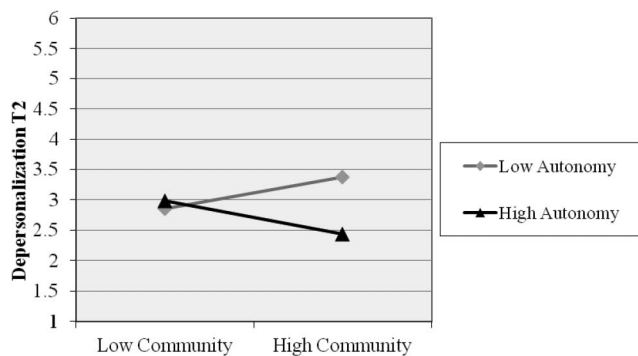
Figure 4. Study 2: Interaction between sense of community and autonomous motivation on depersonalization at Time 2.

when teachers' autonomous motivation was 1 *SD* above the mean did principal support and sense of community negatively predict Time 2 depersonalization, above and beyond the effect of Time 1 depersonalization. Surprisingly, at low levels of autonomous motivation, sense of community was positively associated with Time 2 depersonalization.

Summary of main results. First, in keeping with Hypothesis 2a, both principal support and sense of community were negatively and significantly, albeit modestly, correlated with depersonalization at both Time 1 and Time 2. Second, however, after controlling for Time 1 depersonalization and school level, neither principal support nor sense of community, in and of itself, predicted depersonalization, but autonomous motivation did. Finally, as predicted, both organizational variables interacted with autonomous motivation, so that only to the extent that teacher autonomous motivation was high did Time 1 principal support and sense of community negatively predict Time 2 depersonalization. Surprisingly, when autonomous motivation was low, Level-1 sense of community was positively associated with Time 2 depersonalization. School level did not affect the interaction.

Discussion

Teaching is an inherently interpersonal and caring profession (Noddings, 1992), and the nature and quality of students' relations with their teachers play a critical role in motivating them and engaging them in the learning process (Wentzel, 2010). Thus, when a teacher does not care for and about students, they might

well respond by withdrawing cooperation and disengaging from learning. We reasoned that teacher depersonalization, conceptualized by Maslach et al. (2001) as the interpersonal dimension of burnout, is an important manifestation of such a breakdown in a teacher's ability to relate to his or her students. We used a measure of teacher depersonalization developed by Friedman (1999, 2003), defining it as a state in which the teacher develops negative attitudes to students and has unfavorable expectations of them.

Results from our two studies show that teacher depersonalization is associated with students' lack of cooperation and can be counteracted by school environments that provide teachers with supportive relationships. More important, the results highlight the importance of teachers' intrinsic orientation for teaching when explaining why depersonalization is related to classroom behaviors, and when developing strategies for preventing it. More specifically, Study 1 demonstrated that depersonalization at the beginning of the school year predicted teachers' and students' reports of disruption at the end of the year via teacher enthusiasm. Study 2 demonstrated that principal support and a sense of community at the beginning of the school year predicted depersonalization at the end of the school year only when teachers' motivation was autonomous.

Outcomes of Depersonalization

Despite decades of research on teacher burnout and theoretical grounds for anticipating that burnout in general or depersonalization more specifically has consequences for teachers' and students' behaviors in the classroom, surprisingly little research has explored the issue. In two recent exceptions, depersonalization was associated with less effective instruction (Soenens et al., 2012) and with less adaptive student motivation (Shen et al., 2015), but no studies to date have simultaneously examined both teachers and students in the same classroom. In keeping with evidence that students identify teachers' feelings for and attitudes toward them, including teachers' depersonalization of them (Evers et al., 2004), we reasoned that teacher depersonalization would be associated with lower levels of teacher enthusiasm for teaching that would, in turn, be associated with students' disruption of the teacher's lessons.

Study 1s novel use of a multilevel design and measures of both teacher and student classroom behaviors as reported by both teachers and students supported this process. As predicted, teacher depersonalization of students in general assessed at the beginning

Table 5

Conditional Effects of Principal Support and Sense of Community on Time 2 Depersonalization for Different Levels of Autonomous Motivation for Teaching in Study 2

Predictor variable	Autonomous motivation level	Estimate	*SE*	*p* value	95% CI	
					LL	UL
Principal support						
	−1 *SD*	.14	.09	.124	−.01	.29
	1 *SD*	−.21	.09	.018	−.35	−.06
Sense of community						
	−1 *SD*	.23	.12	.047	.04	.43
	1 *SD*	−.30	.07	.001	−.42	−.18

Note. CI = confidence interval; LL = lower level; UL = upper level.

of the year was associated with lower levels of experienced and displayed teacher enthusiasm and higher levels of student disruptive behavior in one randomly selected class at the end of the year. Notably, the "core" component of burnout, emotional exhaustion, predicted only experienced enthusiasm. More important, the relations between teacher depersonalization and students' disruptive behavior were mediated by teacher enthusiasm. These results provide the first empirical evidence of the efficacy of Maslach and Leiter's (1999) working model for the study of teacher burnout.

The results of Study 1 suggest that depersonalizing teachers are less likely to enjoy teaching, and students of such teachers are likely to recognize this lack of enthusiasm and interrupt the teacher. Quite reasonably, the Level-2 mediation paths showed that teachers' reports of enthusiasm (experienced enthusiasm) mediated the relations between depersonalization and teachers' reports of disruption, and students' reports of enthusiasm (displayed enthusiasm) mediated the relations between depersonalization and students' reports of disruption. More important, experienced enthusiasm also mediated the relations between teacher depersonalization and students' reports of disruption. Together with the findings of positive correlations between experienced and displayed enthusiasm, and between teachers' and students' reports of disruption, these results suggest that teacher depersonalization is not merely something that happens in the teacher's head; it has clear and observable manifestations and is recognized by students. The relations between displayed enthusiasm and teachers' reports of disruption were also negative but less robust; therefore, there was no significant mediation effect in this path. We should be cautious about making inferences based on this finding, as the overall trend was similar for both types of enthusiasm.

The multilevel design and inclusion of both teachers' and students' reports and perspectives inspire confidence in the results. At the beginning of the year, teachers reported on their depersonalization of students in general, not in the context of a specific class. At the end of the year, assessments of teacher enthusiasm and classroom disruption were collected from both students and teachers, and these referred to specific classrooms. Although we cannot infer causality from this correlational study, it provides evidence that teacher depersonalization at the beginning of the year is related to outcomes measured at the end of the year, about 6 months after the first measurement.

The association between depersonalization and disruptive student behavior has typically been interpreted as evidence that student misbehavior is an important cause of teacher stress and, hence, of depersonalization (e.g., Fernet et al., 2012; McCormick & Barnett, 2011). This makes sense, but an intriguing implication of both the present results and those reported by Soenens et al. (2012) and Shen et al. (2015) is that teachers' depersonalization of students also affects the quality of their instruction and, thus, the engagement and disruptive behaviors of their students. These disruptive behaviors could then increase teacher depersonalization, with further consequences for instruction and students. The proposed reciprocal relations between depersonalization and classroom disruption are consistent with social constructivist approaches to student-teacher interactions and influences. However, despite the strengths of Study 1, its design did not enable us to test reciprocal relations among teacher depersonalization, teacher enthusiasm, and student disruptive behavior. Future research would

do well to use a cross-lagged design with multiple measurement points for all variables.

Antecedents of Depersonalization

Study 2 explored the antecedents of depersonalization. Previous research has focused on peers and principal support as predictors of depersonalization, but the overall picture is inconclusive. According to Baumeister and Leary (1995), the need to belong is a fundamental human motivation (see also Ryan & Deci, 2017). While a few studies have tested teachers' feeling of belonging to their school (i.e., sense of community) on outcome variables such as self-efficacy and classroom motivational climate (Ciani, Middleton, Summers, & Sheldon, 2010; Ciani, Summers, & Easter, 2008), ours was the first to link it with depersonalization.

In our findings, both principal support and sense of community assessed at the beginning of the school year were significantly and negatively correlated with depersonalization at both the beginning and the end of the school year. These zero-order correlations were low, however. Moreover, when we controlled for Time 1 levels of depersonalization, school level, and teacher's gender, only autonomous motivation predicted Time 2 depersonalization. Most importantly, as expected, only to the extent that the organizational support variables were accompanied by autonomous motivation for teaching did they negatively predict Time 2 depersonalization. Taken together, these results suggest that neither principal support nor sense of community in and of itself is enough to counteract depersonalization. Rather, such social support has to be offered to autonomously motivated teachers, who pursue their activities because they enjoy and value teaching.

Chang (2009) claimed depersonalization represents a psychological withdrawal behavior whereby teachers cope with interpersonal stress by distancing themselves from others and relationships. Such stress can be triggered by pressure from external agents to behave in certain ways and is known to undermine individuals' autonomy (Reeve, 2009). Notably, our definition of autonomy relied on SDT (Ryan & Deci, 2017), which distinguishes autonomy from concepts such as independence and isolation. According to SDT, autonomy concerns phenomenological senses of choice and volition, not isolation and external freedom. Autonomous individuals engage in relationships, such as teacher-student relationships, because they value them and gain inherent satisfaction from them. Autonomy facilitates closeness and optimal relationship quality (Knee & Uysal, 2011). Thus, in keeping with those of previous studies (e.g., Pelletier, Séguin-Lévesque, & Legault, 2002; Roth et al., 2007; Soenens et al., 2012), our results emphasize autonomous motivation for teaching as an important contributor to teacher well-being and classroom environment.

Our research is the first to demonstrate that perceived sense of community within the school is associated with less teacher depersonalization. Of interest to the authors, however, we found sense of community was associated with more depersonalization among teachers with low autonomous motivation. A possible explanation is that in some cases, sense of community can backfire. One possibility is that in schools characterized by a high sense of community, teachers who do not enjoy teaching or identify with their work might feel increased loneliness, not being "part of the family." Such feelings of loneliness might exacerbate the tendency to depersonalize students. Nevertheless, this is only a tentative

interpretation of the research; the topic requires further investigation.

Finally, the secondary school teachers in our sample reported lower levels of principal support, sense of community, and autonomous motivation, and higher levels of depersonalization than the elementary school teachers. Researchers have long observed differences between elementary and secondary schools (Midgley et al., 1991, 1995). Elementary schools are often smaller and less focused on high-stakes testing and competition between students, and students are younger and less disruptive. They are considered more supportive of teachers and students than secondary schools, and they provide better opportunities for teacher-student relationships characterized by warmth and nurturance. Put otherwise, our results underscore the importance of the interpersonal school climate as a protective factor against teacher depersonalization. Nevertheless, as the interaction between autonomous motivation and organizational support did not vary as a function of school level, the results suggest that even in elementary schools, the combination of autonomous motivation and organizational support protects teachers from developing depersonalizing attitudes toward students.

Limitations and Future Directions

This research has several limitations that should be acknowledged. The strengths of Study 1 include the use of a multilevel design and reliance on multiple reporters, supporting the conclusion that the results are valid above and beyond self-report biases. However, as noted above, we did not test for stability in or reciprocal effects between depersonalization and student disruption.

An important limitation of Study 2 was the reliance on teacher self-reports. Thus, we cannot rule out self-report biases or method variance. In addition, although our design enabled us to control for initial levels of depersonalization when predicting Time 2 depersonalization, organizational support was measured only at Time 1 and autonomous motivation only at Time 2. Given the design, we cannot answer causal questions. Thus, for example, while it makes sense that principal support and sense of community protect against the development of depersonalization, it is also possible that teachers who tend to depersonalize students more may tend to perceive the school environment as less supportive. Finally, because autonomous motivation was assessed only at Time 2, we cannot determine whether the interaction between autonomous motivation and organizational support predicts levels of depersonalization measured in the longer term (in our case, 6 months after the first measurement). Future research should use measurement of all variables at both time points. Future research should also recruit a larger sample of schools and teachers to enable multilevel modeling of both individual and school-level differences in perceived organizational climate.

Another possible limitation concerns the samples used in each study. The sample for Study 1 included only middle-school teachers because we wanted to ensure the students would be able to understand and respond to the questionnaire, while Study 2 included teachers from elementary, middle and high school levels. Also, while Study 2 included both male and female teachers, Study 1 had only female participants. As a result, it is difficult to infer from one study to the other. For example, Study 2 showed that

school level affected teacher depersonalization, but gender did not. Although Study 2 also showed that the observed effects held above and beyond the school level and gender, we cannot discount the possibility that school level or gender moderate the relations between depersonalization, teacher enthusiasm, and classroom disruption observed in Study 1. It is important to examine the effect of depersonalization on teacher enthusiasm and classroom disruption in elementary and high schools and to include a sample of male teachers. Finally, both studies were conducted with teachers in Israel. Studies in other countries are needed to establish the robustness of our results and theoretical framework.

The measure we used to assess depersonalization addressed several of the problems that are found when this construct is assessed with the MBI-ES (Maslach et al., 1996), yielding a nonskewed scale, good reliabilities across samples and measurement times, and high factor loadings. It was coherently related to theoretically relevant outcomes and antecedents consistent with Maslach and Leiter's (1999) working model for the study of teacher burnout and depersonalization. Further research is needed to establish its validity, however. First, the scale differs from the more common measure, because it presents only three items that assess depersonalization vicariously by asking teachers about their attitudes toward their students rather than directly asking whether they treat students as objects. Recall that this was in response to Friedman's (1999) finding that teachers in Israel perceived these items of the MBI as inappropriate and either skipped them or completely disagreed with them. During scale development and validation, Friedman (1999) compared his measure to that of the MBI-ES (Friedman, 1999), but his research was published only in Hebrew and is relatively old. Second, the correlation between depersonalization and emotional exhaustion was low, even lower than is typically the case with the MBI. On the one hand, this finding might raise doubts as to whether it does indeed assess a dimension of burnout. On the other hand, several researchers (e.g., Larsen et al., 2017; Simbula & Guglielmi, 2010) have suggested that when the concept of depersonalization is measured separately from the concept of cynicism, it is not necessarily a core dimension of burnout and, thus, merits study in its own right. Friedman's measure is promising, but it is important to test its properties and correlates in other countries.

Implications and Summary

This research has several important implications for practitioners. Given the relations between depersonalization and teacher enthusiasm and classroom disruption demonstrated in Study 1, policymakers should acknowledge and implement strategies to prevent it. One possibility, suggested also by the protective role of autonomous motivation for teaching shown in Study 2, might be to focus on recruiting intrinsically oriented teachers who pursue teaching because they seek interest and significance in their work and who are enthusiastic about teaching. Calls to select highly motivated teachers are ubiquitous (Carbonneau, Vallerand, Fernet, & Guay, 2008; Long & Woolfolk Hoy, 2006; Shulman & Shulman, 2004). However, Kunter and Holzberger (2014) warn against such an approach, saying it is unrealistic and does not take into account the developing nature of intrinsic orientation and how this is influenced by the environment (e.g., Deci & Ryan, 1987; Reeve & Jang, 2006).

In a recent meta-analytic review of studies designed to reduce teacher burnout (Iancu, Rusu, Mǎroiu, Pǎcurar, & Maricuţoiu, 2017), the authors identified several types of interventions, including cognitive and behavioral therapy, mindfulness and relaxation interventions, improving teachers' social-emotional skills, psychoeducational approaches, social support (group work), and professional development. More important, results showed these interventions had no effect on teacher depersonalization. Our results suggest that increasing teachers' autonomous motivation for teaching might be a promising way to counteract teacher depersonalization. According to SDT (Ryan & Deci, 2017), people tend to be more autonomously motivated when their supervisors support their autonomy and the working climate is autonomy supportive. Notably, whereas all interventions reviewed in the meta-analysis mentioned above focused on the individual teacher, none targeted principals or aimed at changing the school climate.

Researchers have identified several practices that supervisors and socialization agents (e.g., teachers) use to support subordinates' (e.g., students) autonomy (e.g., Reeve, 2009; Reeve & Jang, 2006). First, they nurture the person's (student's) inner motivational resources, by creating opportunities for initiative and encouraging interest, enjoyment, and sense of challenge in assigned activities, rather than relying on extrinsic sources of motivation, such as offering incentives and seeking compliance. Second, they use informational and flexible language, emphasize the value of the activity, and provide choices, instead of using a controlling language that pressures people (students) to behave in certain ways. Third, they acknowledge and accept the person's (student's) negative affect, listen to him or her carefully and openly, instead of blocking and countering his or her feelings. The results of several intervention studies in which teachers were trained in these particular autonomy supportive practices have demonstrated their positive effect on students' autonomous motivation (for a meta-analysis, see Su & Reeve, 2011). There is also some evidence that autonomy supportive principals foster teachers' autonomous motivation for teaching (Eyal & Roth, 2011; Pelletier et al., 2002). However, no intervention has targeted principals' autonomy support for teachers. Future research would do well to develop such intervention programs and to examine their effectiveness in reducing teacher depersonalization.

In summary, our two studies lay the groundwork for a better understanding of the outcomes and antecedents of teacher depersonalization, the interpersonal dimension of burnout. Their results indicate that teacher depersonalization is manifested in teachers' behaviors and experiences indicative of low levels of enjoyment from teaching, and these, in turn, are related to students' lack of cooperation. They also suggest that teachers' intrinsic motivational orientation plays an important role in depersonalization, and that depersonalized teachers are likely to enjoy and value teaching less. This research calls for intervention programs that target depersonalization by increasing teachers' autonomous motivation.

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