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Zee, M.; de Jong, P.F.; Koomen, H.M.Y.

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# Teachers' Self-Efficacy in Relation to Individual Students With a Variety of Social–Emotional Behaviors: A Multilevel Investigation

Marjolein Zee, Peter F. de Jong, and Helma M. Y. Koomen  
University of Amsterdam

The present study examined teachers' domain-specific self-efficacy (TSE) in relation to individual students with a variety of social–emotional behaviors in class. Using a sample of 526 third- to sixth-grade students and 69 teachers, multilevel modeling was conducted to examine students' externalizing, internalizing, and prosocial behaviors as predictors of TSE toward individual students, and the potential moderating roles of teaching experience and teachers' perceived amount of classroom misbehavior. Results showed that most of the variance in TSE occurred within teachers. Students' externalizing behavior was negatively associated with TSE for instructional strategies, behavior management, student engagement, and emotional support. In contrast, teachers reported higher levels of self-efficacy toward students with high levels of prosocial behavior, irrespective of teaching domain. Students' internalizing behavior predicted lower levels of TSE for instructional strategies and emotional support, and higher levels of TSE for behavior management. Last, teachers' perceived levels of classroom misbehavior exacerbated the negative association between externalizing student behavior and TSE for behavior management. These findings illustrate the importance of viewing TSE from a dyadic perspective.

*Keywords:* sources of student-specific teacher self-efficacy, internalizing, externalizing, prosocial behavior

Challenging students bring many behaviors and qualities to the classroom that may seriously hamper teachers' ability to execute their daily teaching tasks (Westling, 2010). Studies have indicated that behaviorally or emotionally disturbed students unnecessarily take time away from instruction, try teachers' patience, fail to comply with classroom rules, and consequently, may hinder teachers' efforts to sustain a positive learning climate (Bru, 2009; Clunies-Ross, Little, & Kienhuis, 2008; Putnam, Luiselli, Handler, & Jefferson, 2003). Undoubtedly, some teachers may experience little trouble nipping such behaviors in the bud. For many others, however, students' challenging behavior frequently marks the beginning of a vicious cycle of stress and burnout (e.g., Brouwers & Tomic, 2000; Fernet, Guay, Sénécal, & Austin, 2012; Friedman, 2006), which may eventually lead these teachers to leave the profession entirely (Tsouloupas, Carson, Matthews, Grawitch, & Barber, 2010).

Scholars have laid claim to a number of factors that potentially discriminate teachers who cope effectively from those who are commonly struggling to manage challenging behavior. Of these factors, teachers' self-efficacy (TSE) beliefs, or self-referent judgments of operative capability, are probably one of the most per-

vasive (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2001). Past empirical evidence suggests that when educators have a resilient sense of self-efficacy, they are more likely to successfully deal with challenging student behavior and to persist longer than teachers who lack such beliefs (e.g., Almog & Shechtman, 2007; Lambert, McCarthy, O'Donnell, & Wang, 2009). On a more theoretical note, self-efficacious teachers are also presumed to be steadily capable of motivating challenging students, to believe in their improvability, and to rely on intrinsic inducements to get these students to study (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2001).

To date, the significance of self-percepts of efficacy for teachers' dealings with students at the *classroom* level of analysis is fairly well-established in various teaching domains (Woolfolk Hoy, Hoy, & Davis, 2009). There is, however, a dearth of studies considering TSE toward *individual* students. This lack of research is disadvantageous, as efficacy judgments related to various teaching domains and individual students may more reliably predict teachers' behaviors toward specific children, as well as the effort and persistence teachers put in teaching them (Bandura, 1997; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). For a comprehensive understanding of teachers' ability to manage particular students, and targeting interventions for handling a variety of social–emotional student behaviors, knowledge of both domain- and student-specific TSE may therefore be vital. To add to this knowledge, the present study aims to examine TSE in relation to individual students with a variety of social–emotional behaviors (i.e., externalizing, internalizing, and prosocial behavior) in the classroom.

## Conceptualization of Teachers' Self-Efficacy

Teachers' self-percepts of efficacy have long been considered a vital cognitive resource for teachers, with clear contributions to

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Marjolein Zee, Peter F. de Jong, and Helma M. Y. Koomen, Research Institute of Child Development and Education, University of Amsterdam.  
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Correspondence concerning this article should be addressed to Marjolein Zee, Research Institute of Child Development and Education, University of Amsterdam, P.O. Box 15776, NL-1001 NG Amsterdam, the Netherlands. E-mail: [m.zee@uva.nl](mailto:m.zee@uva.nl)

their performances and sense of well-being in the classroom (Klassen & Tze, 2014; Tschannen-Moran & Woolfolk Hoy, 2001; Woolfolk Hoy et al., 2009). When teachers generally perceive themselves as highly efficacious, they are more likely to use differentiated instructional methods, employ emotionally supportive behaviors that increase students' confidence, and adopt proactive approaches to managing student-teacher conflict (Andreou & Rapti, 2010; Hoy & Woolfolk, 1990; Martin & Sass, 2010; Morris-Rothschild & Brassard, 2006; Thoonen, Slegers, Oort, Peetsma, & Geijsel, 2011; Wertheim & Leyser, 2002). Teachers with a robust sense of general, classroom-level self-efficacy have furthermore been found to be more satisfied with their job and to suffer less from burnout symptoms than less efficacious educators (Brouwers, Evers, & Tomic, 2001; Caprara, Barbaranelli, Borgogni, & Steca, 2003; Friedman, 2003; Klassen & Chiu, 2010; Skaalvik & Skaalvik, 2010). These outcomes resonate well with the social-cognitive view that self-efficacy is a potent force in affecting the motivational, affective, cognitive, and selective processes needed for desired goals to be realized (Bandura, 1986, 1997).

Scholars have keenly been on the lookout for relevant dimensions in teachers' sense of self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2001). Over the years, various conceptualizations and measures of TSE have come onto the scene, from global TSE scales based on locus of control theory (Gibson & Dembo, 1984; Guskey, 1981; Rose & Medway, 1981) to subject-, task-, or domain-specific measures that consider the contextualized, multifaceted nature of TSE (e.g., Brouwers & Tomic, 2000; Friedman & Kass, 2002; Tschannen-Moran & Johnson, 2011; Tsouloupas et al., 2010). Since the studies of Tschannen-Moran and colleagues (Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran et al., 1998), however, the well-validated three-factor model of TSE for instructional strategies, classroom management, and student engagement has dominated the field. The domains of TSE for instructional strategies and student engagement mainly focus on aspects of instructional delivery. Generally, the instructional strategies domain attempts to capture teachers' perceived capability in using various instructional methods that enable and enhance student learning. Teachers' self-efficacy for student engagement is useful in measuring the extent to which teachers feel able to activate students' interest in their schoolwork. In addition to the instructional aspects of teaching and learning, TSE for classroom management encompasses teachers' judgments of their ability to organize students' time, behavior, and attention (cf. Emmer & Stough, 2001). Although moderate to strong correlations among the three domains of TSE exist, there is empirical evidence to suggest that each construct assesses unique aspects of teachers' sense of self-efficacy (e.g., Heneman, Kimball, & Milanowski, 2006; Tschannen-Moran & Woolfolk Hoy, 2001). Thereby, Tschannen-Moran and Woolfolk Hoy's model substantiates the social-cognitive premise that TSE is specific to different tasks and domains of teachers' functioning (Bandura, 1997; Tschannen-Moran et al., 1998).

Despite general consensus on the highly context-specific nature of TSE, most research has been conducted at the classroom-level of analysis, focusing on teachers' general beliefs of capability toward the class they currently teach. As such, these studies could be considered to be subject to the ecological fallacy (Piantadosi, Byar, & Green, 1988) that teachers' self-percepts of efficacy also hold for *individual students*. Assumedly, students all bring idio-

syncratic behaviors and characteristics to the classroom that may more or less impact teachers' self-efficacy beliefs across different domains of teaching and learning. Whereas obliging and hard-working students will most likely raise teachers' self-efficacy, instances of misconduct may seriously undermine teachers' student-specific capability beliefs. Two multilevel studies (Raudenbush, Rowan, & Cheong, 1992; Ross, Cousins, & Gadalla, 1996), based on a single-item measure to evaluate TSE at the classroom-level, indicated that between 13% and 44% of the variance in TSE can be explained by such *within-class* variables as students' grade, academic level, and interest in their schoolwork. In addition, empirical research and theorizing from Spilt and colleagues (Spilt & Koomen, 2009; Spilt, Koomen, & Thijs, 2011) suggested that *individual* students who display behavioral problems are more likely to weaken teachers' self-efficacy beliefs and to evoke feelings of helplessness than students without such problems. These findings suggest that teachers may significantly vary in their self-efficacy toward particular students.

### Students' Social-Emotional Behaviors as Predictors of TSE

Social-cognitive theorists have generally asserted that self-percepts of efficacy are shaped, in large part, by specific events and experiences linked to distinct realms of functioning (Bandura, 1997). For teachers, such experiences typically derive from authentic educational endeavors with students. Indeed, a sparse amount of existing research (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2007; Tschannen-Moran et al., 1998) has theorized that successful experiences with instructing, engaging, and managing students may significantly add to a healthy sense of TSE. In contrast, unsuccessful dealings with individual students, and particularly those who display challenging behavior, have been empirically evidenced to elicit negative emotions that lead teachers to lose faith in their capabilities and collapse under the burden of everyday stress (Emmer & Stough, 2001; Spilt & Koomen, 2009; Spilt et al., 2011; Tsouloupas et al., 2010). Accordingly, teachers' classroom experiences and subsequent feelings of self-efficacy may be heavily influenced by a variety of social-emotional student behaviors in the classroom. In line with prior research on students' social-emotional adjustment (e.g., Roorda, Verschuere, Van Craeyveldt, Van Craeyveldt, & Colpin, 2014), we consider students' externalizing, internalizing, and prosocial behaviors as sources of TSE toward *individual* students.

**Externalizing behavior.** Past empirical research has repeatedly pinpointed externalizing student behavior, including aggression, hyperactivity, and antisocial behavior, to be at the core of the challenges most teachers face on a daily basis (Brouwers & Tomic, 2000; Evers, Tomic, & Brouwers, 2004; Hastings & Bham, 2003; Kokkinos, Panayiotou, & Davazoglou, 2004, 2005; Kyriacou, 2001; Roehrig, Pressley, & Talotta, 2002). These disruptive behaviors may ripple through the entire classroom and have been suggested to cause elevated levels of stress and emotional exhaustion in teachers (Clunies-Ross et al., 2008; Kokkinos et al., 2004; Spilt & Koomen, 2009; Tsouloupas et al., 2010). Evidently, individual students' externalizing behavior patterns may color teachers' initial experiences and enduring beliefs of capability to effectively deal with them. The correlational results of Lambert and colleagues (2009), for instance, put forward that highly overactive

and distractible students may generally hamper US teachers' attitude toward their teaching abilities, and their sense of self-efficacy in dealing with, and establishing positive relationships with challenging students. Also focusing on US teachers' self-efficacy for classroom management, Tsouloupas et al. (2010) demonstrated that high levels of teacher-perceived misbehavior in the classroom may negatively affect TSE in dealing with disruptive behavior and stressful situations, which, in turn, may cause them to feel emotionally exhausted. Other empirical research from Cyprus (e.g., Kokkinos et al., 2004, 2005) and the United States (Roehrig et al., 2002) has indicated that behaviors of an externalizing nature, including conduct problems, hyperactivity, anger, and disrespectfulness, generally yield the most negative impressions on teachers and may lead them to feel helpless and inefficacious.

Additional to the literature linking students' externalizing behavior to general or domain-specific (classroom management) TSE at the classroom-level, a modest body of primarily American research has also begun to explore *within-person* variability in teacher cognitions. For instance, several scholars (e.g., Abidin & Robinson, 2002; Greene, Abidin, & Kmetz, 1997; Greene, Beszterczey, Katzenstein, Park, & Goring, 2002) have highlighted teachers' cognitions and judgments of individual student behavior as crucial contributors to their differential treatment of particular students in class. In line with this assertion, Spilt and Koomen (2009) used Pianta's (1999) Teacher Relationship Interview and associated coding system to assess strengths and difficulties in teachers' beliefs and feelings in relationships with specific, disruptive students in the Netherlands. They revealed that teachers perceive themselves as angrier and less self-efficacious in relation to individual students who display disruptive behavior in the classroom. These outcomes are consistent with the idea that TSE may be highly individualized in nature and might depend on how teachers appraise individual students' disruptive, externalizing behaviors.

Notably, negative personal feelings, cognitions, and efficacy beliefs seem to be particularly echoed in *inexperienced* teachers' reports of their students' behaviors (cf. Emmer & Stough, 2001). Using a grounded theory approach to study US teachers' perceptions of student needs, Feuerborn and Chinn (2012) revealed that novice teachers may express more emotionally laden reactions in relation to externalizing behavior than their experienced coworkers, and seem more afflicted by the instructional disruptions these behaviors cause. These qualitative findings stretch across empirical studies from Europe as well. Results from Kokkinos and colleagues (Kokkinos et al., 2004, 2005) suggested that more experienced teachers generally perceive disruptive student behavior as less challenging and more controllable in the classroom. From this line of evidence, it can be hypothesized that increases in teachers' experience may potentially buffer the negative association between teacher-perceived externalizing student behavior and student-specific TSE.

**Internalizing behavior.** Counter to externalizing behavior, students with symptoms of *internalizing* behavior, including shyness, verbal inhibition, anxiety, or social withdrawal (Coplan, 2000; Gazelle & Ladd, 2003; Merrell, 1999), have been suggested to evoke less challenging experiences or negative thoughts in their teachers (Rubin & Coplan, 2004). These internalizing difficulties may be more subtle than manifestations of externalizing conduct and usually tend to reflect more appropriate classroom behavior

and decorum (e.g., Coplan, 2000; Gresham & Kern, 2004; Kokkinos et al., 2004; Rubin & Coplan, 2004). As such, internalizers are more likely to go undetected or ignored by their teachers than students with externalizing conduct (Coplan & Prakash, 2003) and may have little, if any, influence on teachers' self-efficacy judgment toward them in different teaching domains.

Yet, there might be some reason to believe that behaviors of a more internalizing nature may still be bothersome to the teacher and contribute to their self-percepts of efficacy (e.g., Olson & Cooper, 2001; Westling, 2010). Notably, the one empirical study to examine US teachers' self-efficacy at the classroom-level in relation to internalizing student behavior indicated that highly self-efficacious teachers may be more bothered by students' internalizing behavior than those who are less confident in their personal teaching effectiveness (Liljequist & Renk, 2007). One of the scenarios that may account for this finding is that a healthy sense of TSE frequently coincides with increases in teaching experience (e.g., Klassen & Chiu, 2010). Empirical studies of Kokkinos and colleagues (2004, 2005) pointed out that this growth in experience is essential for gaining knowledge of, and becoming sensitized to internalizers' more subtle behavioral and affective cues. Without such vital knowledge and experience, teachers may feel less worried about and less responsible for students' internalizing behavior patterns, and thereby, less hindered in their self-efficacy to deal with them (cf. Liljequist & Renk, 2007). In contrast, when teachers consciously experience that their instructional initiatives are unsuccessful in establishing reciprocal interchanges with a student who displays internalizing behavior, a lowered sense of TSE toward this child is likely to arise. Hence, counter to the protective effect of teaching experience on the negative association between externalizing behavior on TSE, increases in teaching experience might serve as an additional risk factor for teachers' self-efficacy toward students with internalizing symptoms. Unless teachers believe they can gather up the resources to successfully deal with individual students with internalizing symptoms, they will probably dwell on their actions, exercise inadequate effort, and may consequently experience failure.

**Prosocial behavior.** Most of the previous work on teacher self-efficacy has predominantly attempted to study challenging student behavior as antecedents of these capability beliefs (e.g., Lambert et al., 2009; Liljequist & Renk, 2007; Tsouloupas et al., 2010). It is likely, however, that students' propensity to act *prosocially* may also contribute to teachers' self-efficaciousness toward individual children, but in a more favorable sense. Generally, prosocial behaviors are implicated with various voluntary acts intended to benefit others, including helping, sharing, comforting, and cooperating (Dunfield & Kuhlmeier, 2013; Dunfield, Kuhlmeier, O'Connell, & Kelley, 2011; Eisenberg, 1982). Such prosocial tendencies have frequently been linked to key classroom outcomes such as academic achievement (e.g., Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Malecki & Elliot, 2002; Wentzel, 1993), engagement (Coolahan, Fantuzzo, Mendez, & McDermott, 2000), and the quality of students' relationships with teachers and peers (Birch & Ladd, 1998; Henricsson & Rydell, 2004; Zimmer-Gembeck, Geiger, & Crick, 2005). Assumedly, these agreeable behaviors and performances may provide teachers with the classroom mastery experiences that reinforce a healthy sense of self-efficacy (Goddard & Goddard, 2001; Goddard, Hoy, & Woolfolk Hoy, 2004). Therefore, teachers may feel

more self-efficacious when dealing with students who generally display prosocial behavior in the classroom, irrespective of teachers' domain of functioning.

**Teachers' perceived amount of misbehavior in the classroom.** A number of empirical investigations from the United States have demonstrated that classrooms with many aggressive students may have a negative impact on the behaviors of its individual members. For instance, Werthamer-Larsson, Kellam, and Wheeler (1991) found that regular students from poorly behaving classrooms were more often perceived as shy by their teacher, which can be perceived as an aspect of internalizing behavior (e.g., Letcher, Smart, Sanson, & Toumbourou, 2009). Several longitudinal studies have also indicated that students who are enrolled in classrooms with many aggressive students are likely to gradually become more aggressive themselves (e.g., Kellam, Ling, Merisca, Brown, & Jalongo, 1998; Thomas, Bierman, & The Conduct Problems Prevention Research Group, 2006; Thornberry & Krohn, 1997). Evidently, such trends may place an additional burden on teachers' ability to control these students' behaviors, and to maintain positive relationships with them (Brophy, 1996; Doumen et al., 2008; Roorda et al., 2014). Hence, as classmates may contribute to escalating trends in students' challenging behaviors, teachers' perceived negative classroom dynamics may be hypothesized to exacerbate the relationship between individual students' externalizing or internalizing behavior and TSE.

### Present Study

The present study aimed to extend the current literature by exploring a variety of social-emotional behaviors as predictors of teachers' domain- and student-specific self-efficacy beliefs. Although the consequences of classroom-level TSE for teachers' dealings with student behavior have been fairly well established (Woolfolk Hoy et al., 2009), empirical work on TSE seems to have stopped short of considering how students' social-emotional behaviors are associated with TSE across various teaching domains (e.g., instructional strategies or classroom management) and toward individual students (cf. Klassen, Tze, Betts, & Gordon, 2011). Moreover, the handful of studies (e.g., Lambert et al., 2009; Spilt & Koomen, 2009; Tsouloupas et al., 2010) that have specifically looked into these effects tend to focus solely on patterns of externalizing behavior, thereby largely neglecting internalizing and prosocial behaviors as correlates of TSE. Building an understanding of how teachers' sense of self-efficacy is shaped by individual students' various behaviors in different domains of teaching and learning may provide a vital foundation for interventions targeted to teachers' dealings with challenging students.

Based on the body of evidence on teachers' classroom-level self-efficacy, several hypotheses were formulated. First, we expected teachers to report lower levels of self-efficacy toward individual students with externalizing and internalizing problems, and higher levels of self-efficacy toward students who display prosocial behavior, irrespective of teachers' domain of functioning. Given the more subtle nature of students' internalizing behavior, we expected the link between this student behavior and student-specific TSE across domains of teaching and learning to be weaker than the associations between students' externalizing and prosocial behavior and student-specific TSE. Second, we hypoth-

esized that relatively high levels of teachers' perceived classroom misbehavior and a lack of teacher experience may further worsen the negative association of individual students' externalizing and internalizing behavior with student-specific TSE.

## Method

### Participants

Data for the current study were collected from 69 regular Dutch elementary school teachers and 526 third- to sixth-grade students. The schools from which the sample was drawn were recruited via telephone and e-mail, after ethical approval was granted by the Ethics Review Board of the Faculty of Social and Behavioral Sciences, University of Amsterdam (project no. 2013-CDE-3188). Of the 350 schools that were initially invited, 24 (6.9%) from both rural and urban areas across the Netherlands ultimately agreed to take part in this study. Nonparticipation was mainly due to the school's already full agenda, or their involvement in other research studies.

Participating teachers (72.6% females) had a mean age of 41.42 years ( $SD = 12.34$ , range = 23 to 63 years). The professional teaching experience of these educators in primary education ranged from 1.5 to 44 years, with a mean of 16.67 years ( $SD = 11.87$ ). Four teachers did not provide complete demographic information. For the student sample, eight students (four boys and four girls) were randomly selected from the pool of students from each teacher's classroom whose parents had initially provided informed consent. These students were distributed across Grades 3 ( $n = 54$ ), 4 ( $n = 157$ ), 5 ( $n = 165$ ), and 6 ( $n = 150$ ), respectively. At recruitment, the sampled children ranged from 7.71 to 13.04 years of age ( $M = 10.57$ ,  $SD = 1.11$ ), and the gender composition was evenly distributed with 263 boys (50.0%) and 263 girls (50.0%). Based on students' self-reports, the study sample appeared to be 85.2% Dutch, and 12.3% non-Dutch. In 2.5% of the cases, students failed to provide information regarding their ethnicity. Based on employment statistics and parents' education, most students could be considered to have an average to high socioeconomic status. Teachers reported both parents of participating students to be employed in 76.8% of the families. In 20.4% of the cases, at least one parent appeared to be employed, and only 2.5% of the families included two unemployed parents. In addition, teachers indicated the majority of the parents to have finished senior vocational education (49.0%) or higher education (46.2%), leaving less than 5% of the parents to only have finished primary education.

### Instruments

**Students' social-emotional behaviors.** Teachers were asked to complete the Dutch version of the Strengths and Difficulties Questionnaire (SDQ; van Widenfelt, Goedhart, Treffers, & Goodman, 2003) to evaluate a variety of students' social-emotional behaviors. The SDQ is a brief 25-item behavioral screening questionnaire that measures students' adjustment and psychopathology in the classroom. The scale originally consists of positive and negative student attributes that together represent five factors reflecting strengths (Prosocial Behavior) and difficulties (Emotional Symptoms, Conduct Problems, Hyperactivity-Inattention, and

Peer Problems). In the present study, however, use was made of the more general Internalizing, Externalizing, and Prosocial Behavior subscales, which generally are preferred over the original SDQ factors in low-risk samples (Goodman, Lamping, & Ploubidis, 2010). The Externalizing Behavior dimension (10 items) combines the subscales of Hyperactivity-Inattention and Conduct Problems, with items such as “Restless, hyperactive, cannot sit still for long” and “Often has temper tantrums or hot tempers.” Additionally, the Internalizing Behavior subscale (8 items) comprises all items from the Emotional Symptoms factor, and three items from the Peer Problems factor (i.e., “Rather solitary, tends to play alone”, “Gets on better with adults than with other children” and “Picked on or bullied by other children”). Last, the 7-item Prosocial Behavior scale, reflects all five items from the Prosocial scale, and two items from the Peer Problems scale (i.e., “Generally liked by other children” and “Has at least one good friend”). Teachers responded on the 25 items on a 5-point Likert scale, ranging from 1 (*not true*) to 5 (*certainly true*).

The psychometric properties of the three-factor SDQ model have been demonstrated to be especially suited for use in nonrisk samples (Dickey & Blumberg, 2004; Goodman et al., 2010; van Leeuwen, Meerschaert, Bosmans, de Medts, & Braet, 2006). To evaluate whether the SDQ's three-factor solution also held in the present study, we performed a confirmatory factor analysis (CFA), using maximum likelihood estimation with robust standard errors and a mean-adjusted chi-square test statistic (MLR; Muthén & Muthén, 1998-2012). Guided by the residual covariance matrix and modification indices, we added four theoretically plausible correlated residuals to the baseline model. Two of those correlated residuals were indicative of aspects of students' externalizing behavior. Specifically, the residuals of items 2 and 10 both reflected students' hyperactivity, and the residuals of items 15 and 25 primarily evaluated students' attention span. Also correlated were the residuals of prosocial items 9 and 20, which indicated students' willingness to help others. Last, the residuals of internalizing items 16 and 24 were allowed to correlate, as they were both symptomatic of students' nervousness and anxiety.

Despite a relatively low comparative fit index (CFI), this revised model yielded an acceptable fit according to established cutoff values of .08 for the root-mean-square error of approximation (RMSEA) and standardized root-mean-square residual (SRMR; Browne & Cudeck, 1993; Hu & Bentler, 1999; Kline, 2011),  $\chi^2(268) = 890.04$ ,  $p < .001$ , RMSEA = .067 (90% confidence interval [CI] [.062, .072]), CFI = .84, SRMR = .074. These fit indices are consistent with previous research (Goodman et al., 2010; van Leeuwen et al., 2006), reporting acceptable RMSEA and SRMR values for the three-factor solution, but CFIs below the conventional threshold of .90 for satisfactory fit (e.g., Bentler, 1990, 1992; Little, 2013). Recommendations for cutoff values for various fit indices have previously been called into question, however, given that the mean value and the distribution of most fit indices are likely to change with sample size, the distribution of the data, and the chosen test statistic (e.g., Yuan, 2005). The factor loadings of the SDQ subscales in the present study were adequate, ranging from .42 to .73 for Externalizing Behavior, from .41 to .80 for Internalizing Behavior, and from .50 to .82 for Prosocial Behavior, respectively. Cronbach's alphas were .81 for Internalizing Behavior, .87 for Externalizing Behavior, and .86 for Prosocial Behavior, respectively.

**Classroom misbehavior.** A short, three-item scale developed by Tsouloupas et al. (2010) was used to measure teachers' perceived amount of student behavior problems in their classroom. Items that made up this instrument included “How frequently do you experience negative interactions with students?”, “How often do you deal with student discipline problems?” and “On average, how emotionally intense are your dealings with student discipline problems?” All items were scored on a 5-point Likert-type scale, ranging from 1 (*almost never occurs*) to 5 (*occurs very frequently*). In the present sample, Cronbach's alpha for this measure was .83.

**Domain- and student-specific teacher self-efficacy.** Teachers' perceptions of their self-efficacy toward individual students across various teaching domains were estimated using the Student-Specific Teacher Self-Efficacy Scale (Zee & Koomen, 2015). This instrument, which is adapted from the Teachers' Sense of Efficacy Scale (TSES; Tschannen-Moran & Woolfolk Hoy, 2001), is specifically designed to evaluate teachers' student-specific capability beliefs across various domains of teaching and learning. Largely similar to the original TSES, this instrument represents the three domains of Instructional Strategies (IS; 6 items), Behavior Management (BM; 5 items), and Student Engagement (SE; 6 items). The domain of IS measures the extent to which teachers feel able to use various instructional methods that enable and enhance individual students' learning, with items such as “How well can you respond to difficult questions from this student?” Slightly different from the original Classroom Management dimension is the BM domain, which no longer taps aspects of classroom organization, but rather concentrates on teachers' perceptions of their ability to organize and guide the behaviors of a *particular* student. A sample item of this subscale includes “How much can you do to get this child to follow classroom rules?” Teachers' self-efficacy for SE captures teachers' perceived ability to activate the interest of a particular student in his or her schoolwork. This domain of TSE includes items such as “How much can you do to get this student to believe he/she can do well in schoolwork?”

Next to the three broad domains proposed by Tschannen-Moran and Woolfolk Hoy (2001), the student-specific TSES is also targeted to the domain of Emotional Support (ES; 7 items). This additional domain involves tasks and responsibilities related to how well teachers can establish caring relationships with students, acknowledge students' opinions and feelings, and create settings in which students feel free to explore and learn. One example item of this subscale includes “How well can you establish a safe and secure environment for this student?”

All items that made up this measure were rated by teachers on a seven-point Likert-type scale, ranging from 1 (*nothing*) to 7 (*a great deal*). A CFA using MLR (Muthén & Muthén, 1998-2012) provided sufficient fit to the present study's data, after adding correlations between the residuals of items 13 and 14, and 19 and 20,  $\chi^2(244) = 810.36$ ,  $p < .001$ , RMSEA = .067 (90% CI [.062, .072]), CFI = .91, SRMR = .073. Both correlated residuals seemed theoretically plausible. Specifically, SE Items 13 and 14 focused on teachers' perceived capability to motivate individual students for their schoolwork. Items 19 and 20, in addition, concentrated on the extent to which the teacher felt capable of responding positively and sincerely to a particular student. All standardized factor loadings were considered high in this model ( $> .55$ ), thereby supporting the factorial validity of the student-specific TSES. Internal consistency scores of the student-specific

TSES domains were .89 for IS, .94 for BM, .90 for SE, and .85 for ES, respectively.

## Procedure

During recruitment, either school principals or participating teachers distributed information letters and consent forms to parents of all students from teachers' classrooms. On average, parental consent rates per classroom ranged between 46% and 100%. From all consents received, we randomly selected eight students from participating teachers' classrooms and subsequently let these teachers know which eight students to report on. Students were asked to fill out several questions about their background characteristics, including students' age, gender, and ethnicity, during a planned school visit. Teacher-reported questionnaires assessing students' social-emotional behavior at school and teachers' self-efficacy in relation to individual students were collected via an individually addressed digital survey link that was distributed by e-mail. Teachers filled out these questionnaires for each of the eight selected students from their classroom. Participating educators additionally reported on some general questions regarding their background characteristics. The total survey took approximately one hour to complete. Teachers were asked to return the digital survey within two weeks after the survey link was sent. To improve the participation rate, reminders were sent to nonresponding teachers, resulting in a total response rate of 93.9%. Nonparticipation was due to long-term sickness absence or teachers' busy schedule. After participation, all teachers received a gift voucher of €20,00.

## Data Analysis

To examine the contribution of teachers' and students' background characteristics and a variety of student behaviors in predicting teachers' sense of self-efficacy toward individual students, we fitted a series of multivariate hierarchical linear models using Mplus 7.11 (Muthén & Muthén, 1998-2012). This analytical technique is quite flexible in that it corrects for nested data structures, and avoids aggregation bias and underestimation of standard errors that sometimes compromise the outcomes of Ordinary Least Squares-analyses of multilevel data (Snijders & Bosker, 1999). All fixed and random effects parameters in these models were based on maximum likelihood estimation with robust standard errors and a mean-adjusted chi-square test statistic (MLR). Predictors were centered around the grand mean to ease their interpretation.

Scale scores, represented by teachers' mean response to relevant items, were used to reflect the main constructs of interest. Several empirical sources (e.g., Allen & Seaman, 2007; Kislenko & Grevholm, 2008; Leung, 2011; Parker, McDaniel, & Crumpton-Young, 2002) have indicated that scale scores may be treated as interval-level measures as long as the psychometric properties of the scale are sufficient. Generally, such scale scores have been shown to be largely insensitive to the violation of the interval assumption at the item-level (e.g., Leung, 2011; Parker et al., 2002).

In accordance with the methods proposed by Raudenbush and Bryk (2002), we adopted a stepwise sequential modeling strategy, reflecting an increasing complexity with each successive model. In the first step, we estimated an unconditional means model without

predictors to partition the variance of teachers' student-specific self-efficacy at the within-teacher and between-teachers level. This preliminary model was used as a baseline for subsequent model comparisons. In the second step, we added students' background characteristics, and their Externalizing, Internalizing, and Prosocial Behaviors as within-level (fixed) effects of teachers' student-specific Self-Efficacy. After these individual student characteristics were accounted for, we added between-teachers covariates to the equation to explain variance at the between-teachers level. Last, to examine the existence of cross-level interactions of students' behaviors and Teaching Experience with teachers' perceived Classroom Misbehavior, we allowed potential random slopes to vary across teachers. If a particular association between students' behaviors and teachers' student-specific self-efficacy significantly varied across teachers, cross-level interactions were added.

## Results

### Descriptive Statistics

Table 1 presents descriptive statistics, including zero-order correlations, means, and standard deviations of the variables. Consistent with expectations, moderate to strong negative correlations were found between students' Externalizing Behavior and dimensions of teachers' Student-Specific Self-Efficacy. Notably, the association between Externalizing Behavior and TSE for BM appeared to be the strongest, suggesting that teachers felt the least confident in dealing with disruptive students in the domain of Behavior Management. Somewhat smaller negative correlations were found between students' Internalizing Behavior and teachers' Student-Specific self-percepts of Efficacy. These behaviors seemed to have a slightly higher association with teachers' belief in their capability to provide individual students with adequate emotional support and security. The positive correlations between students' Prosocial Behavior and TSE in relation to individual students were also in line with hypotheses. Teachers who generally perceived their students to act prosocially in the classroom seemed to experience higher levels of Self-Efficacy toward these students in all domains of teaching and learning. Teachers' perceptions of the amount of misbehavior in the classroom were not associated with any of the domains of Student-Specific TSE. It is interesting to note, though, that teachers who reported a large amount of student misbehavior in the classroom did not appear to judge the externalizing behaviors of individual students to be higher than those who reported a smaller amount of classroom misbehavior. In contrast, a negative association was noted between teachers' perceived Classroom Misbehavior and individual students' Internalizing Behavior.

Last, the correlations among students' and teachers' background characteristics, students' behaviors, and Student-Specific TSE revealed, first, that male teachers and more experienced educators generally reported their students to display higher levels of Internalizing Behavior. Teaching Experience also seemed to be positively linked to all domains of Student-Specific TSE, indicating that more experienced teachers perceive themselves as more efficacious than their less experienced counterparts. In addition, teachers were likely to report higher levels of Externalizing Behavior and lower levels of Prosocial Behavior for boys and older students,

Table 1  
Descriptive Statistics and Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Teacher gender	—											
2. Teacher experience	-.28**	—										
3. Student gender	.03	-.03	—									
4. Student age	.05	-.08	-.11**	—								
5. Externalizing behavior	-.08	-.03	-.26**	.10*	—							
6. Internalizing behavior	-.18**	.13**	-.03	.08	.42**	—						
7. Prosocial behavior	.02	.03	.31**	-.12**	-.55**	-.41**	—					
8. Classroom behavior problems	.08	-.02	.03	-.02	-.07	-.12**	.06	—				
9. Student-specific TSE for IS	-.04	.15**	.15**	-.13**	-.46**	-.27**	.45**	.07	—			
10. Student-specific TSE for BM	.00	.11*	.27**	-.08	-.73**	-.28**	.59**	.02	.50**	—		
11. Student-specific TSE for SE	-.04	.18**	.18**	-.17**	-.57**	-.31**	.54**	.08	.88**	.59**	—	
12. Student-specific TSE for ES	.02	.16**	.24**	-.17**	-.56**	-.35**	.56**	.08	.80**	.65**	.84**	—
<i>M</i>		16.67		10.57	1.96	2.03	4.07	2.48	5.53	6.14	5.60	5.82
<i>SD</i>		11.87		1.11	0.81	0.78	0.74	0.78	0.91	0.99	0.96	0.77

Note. Gender: 0 = boys/male teachers, 1 = girls/female teachers. TSE = teachers' self-efficacy; IS = instructional strategies; BM = behavior management; SE = student engagement; ES = emotional support.

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

and felt the least efficacious when dealing with these particular students. Last, it is interesting to note that students' Internalizing and Externalizing Behavior were moderately correlated with each other, potentially suggesting comorbidity between behaviors in the externalizing and internalizing spectrum (cf. Keiley, Lofthouse, Bates, Dodge, & Pettit, 2003). In the present study, the focus was on the unique associations between students' social-emotional behaviors and teachers' self-efficacy beliefs across domains and individual students.

### Unconditional Means Model

In the first step of the analyses, we fitted an unconditional means model, only containing the four outcome variables (teachers' Student-Specific Self-Efficacy for IS, BM, SE, and ES), and no predictors other than the intercept. Intraclass correlations in this model indicated that 14.8% to 30.7% of the variance in teachers' self-efficacy toward individual students occurred between teachers. Generally, less than 5% of the variance in the domains of Student-Specific TSE, however, was found to be associated with the school-level of hierarchy, implying that teachers' Student-Specific capability beliefs did not vary much across schools. Given the substantial variance accounted for at the within-teacher and between-teachers level, it can be concluded that the data require a model that addresses the nesting of students within teachers.

### Student Predictors of Teachers' Student-Specific Self-Efficacy

Fixed effects of students' background characteristics (Age and Gender) and behaviors (Internalizing, Externalizing, and Prosocial Behavior) were modeled to allow the identification of variables that were uniquely related to variation among dimensions of Student-Specific TSE. This first model (see Table 2) significantly improved the prediction of teachers' Student-Specific Self-Efficacy beliefs,  $TRd(6) = 826.82$ ,  $p < .001$ . Assessment of unstandardized coefficients pointed to statistically significant negative associations between students' Externalizing Behavior and teachers' Student-Specific Self-Efficacy for IS ( $B = -.38$ ,  $p <$

.001), BM ( $B = -.73$ ,  $p < .01$ ), SE ( $B = -.55$ ,  $p < .001$ ), and ES ( $B = -.27$ ,  $p < .001$ ). This indicates that with each scale point higher on students' Externalizing Behavior, teachers' Student-Specific Self-Efficacy across domains is expected to decrease between  $-.27$  and  $-.73$  scale points (Hox, 2002). In addition, students' Internalizing Behavior was only uniquely and positively associated with Student-Specific TSE for BM ( $B = .13$ ,  $p < .001$ ), and negatively associated with Student-Specific TSE for ES ( $B = -.08$ ,  $p < .05$ ). After accounting for Externalizing and Internalizing Behaviors, students' Prosocial Behavior yielded statistically significant positive results for all dimensions of Student-Specific TSE (IS:  $B = .28$ ,  $p < .001$ ; BM:  $B = .40$ ,  $p < .001$ ; SE:  $B = .34$ ,  $p < .001$ ; ES:  $B = .41$ ,  $p < .001$ ). Regarding students' background characteristics, only students' Age appeared to be negatively associated with Student-Specific TSE for SE ( $B = -.11$ ,  $p < .01$ ) and ES ( $B = -.06$ ,  $p < .05$ ), indicating that teachers generally feel less self-efficacious in providing emotional support and promoting students' engagement when dealing with older students.

### Teacher Predictors of Teachers' Student-Specific Self-Efficacy

After the effects of students' background characteristics and behaviors were accounted for at the within-teacher level, we subsequently added teachers' Gender, Teaching Experience, and perceived Classroom Misbehavior to the model to explain variance at the between-teachers level. Table 2 presents the results of these fixed and random effects of the analysis (Model 2). Compared to Model 1, we generally found no significant changes in the variables at the within-teacher level. After addition of the teacher variables, however, the association between students' Internalizing Problems and Student-Specific TSE for IS became statistically significant in Model 2 ( $B = -.13$ ,  $p < .01$ ), suggesting that teachers' appraisals of students' Internalizing Behavior may be affected by features inherent to the teacher. Yet, the significant link between students' Age and TSE for ES failed to reach the significance threshold in this second model.

Regarding the teacher-level variables, only statistically significant associations were noted between Teacher Experience and



Table 2  
Fixed and Random Estimates for Predictors of Teachers' Domain- and Student-Specific Self-Efficacy

Predictor	Student-Specific TSE for IS		Student-Specific TSE for BM		Student-Specific TSE for SE		Student-Specific TSE for ES	
	M1 <i>B</i> (SE)	M2 <i>B</i> (SE)	M1 <i>B</i> (SE)	M2 <i>B</i> (SE)	M1 <i>B</i> (SE)	M2 <i>B</i> (SE)	M1 <i>B</i> (SE)	M2 <i>B</i> (SE)
Fixed parameters								
Intercept	5.59 (.09)**	5.72 (.13)**	6.13 (.05)**	6.15 (.11)**	5.67 (.07)**	5.78 (.11)**	5.80(.06)**	5.83(.08)**
Student-level variables								
Student gender	-.04 (.04)	-.02 (.04)	.03 (.03)	.03 (.03)	-.06 (.04)	-.05 (.04)	.05 (.06)	.07 (.04)
Student age	-.13 (.08)	-.12 (.09)	-.04 (.04)	-.02 (.03)	-.15 (.05)**	-.15 (.06)**	-.11 (.06)*	-.09 (.06)
Externalizing behavior	-.37 (.06)**	-.43 (.06)**	-.63 (.04)**	-.65 (.05)**	-.45 (.05)**	-.53 (.05)**	-.30 (.06)**	-.33 (.05)**
Internalizing behavior	-.06 (.05)	-.13 (.05)**	.10 (.04)**	.09 (.04)*	.01 (.04)	-.07 (.04)	-.09 (.04)*	-.16 (.04)**
Prosocial behavior	.24 (.06)**	.19 (.06)**	.32 (.05)**	.27 (.05)**	.25 (.06)**	.17 (.06)**	.42 (.05)**	.38 (.06)**
Teacher-level variables								
Teacher gender		-.20 (.14)		-.05 (.18)		-.22 (.13)		-.08 (.13)
Teacher experience		.29 (.15)		.17 (.17)		.43 (.14)**		.37 (.15)*
Classroom misbehavior		.17 (.14)		-.16 (.14)		.16 (.14)		.03 (.14)
Random parameters								
Between-teachers variance		.86 (.09)**		.91 (.08)**		.75 (.11)**		.84 (.10)**
Within-teacher variance	.67 (.04)**	.60 (.04)**	.35 (.03)**	.35 (.03)**	.61 (.04)**	.54 (.04)**	.51 (.04)**	.44 (.03)**
<i>R</i> <sup>2</sup> statistics								
<i>R</i> <sup>2</sup> <sub>within</sub>	.33	.40	.65	.65	.39	.46	.49	.56
<i>R</i> <sup>2</sup> <sub>between</sub>		.14		.09		.25		.16

Note. Gender: 0 = boys/male teachers, 1 = girls/female teachers. TSE = teachers' self-efficacy; IS = instructional strategies; BM = behavior management; SE = student engagement; ES = emotional support.

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

teachers' sense of Student-Specific Self-Efficacy for SE ( $B = .01$ ,  $p < .01$ ) and ES ( $B = .01$ ,  $p < .05$ ). The relationships of teachers' Gender and perceived Classroom Misbehavior with the dimensions of Self-Efficacy toward particular students were not statistically significant. Overall, student variables accounted for 40% of the within-teacher variance in Student-Specific TSE for IS, 65% in TSE for BM, 46% in TSE for SE, and 56% in TSE for ES, respectively. At the between-teachers level, 14%, 9%, 25%, and 16% of the variance in the respective Student-Specific TSE domains for IS, BM, SE, and ES was explained by the student- and teacher-level predictors.

### Cross-Level Interactions

To evaluate whether Teacher Experience and perceived Classroom Misbehavior interacted in the prediction of Student-Specific TSE, the slopes of the student predictors were first allowed to vary across teachers. The random slope coefficients of the association between students' Externalizing Behavior and Student-Specific TSE for BM ( $\sigma^2 = .08$ ,  $p < .01$ ), and between Prosocial Behavior and Student-Specific TSE for BM ( $\sigma^2 = .09$ ,  $p < .01$ ) and ES ( $\sigma^2 = .02$ ,  $p < .05$ ) were significantly different from zero, indicating that these parameters varied across teachers. Consequently, cross-level interactions between the teacher variables (i.e., Teacher Experience and perceived Classroom Misbehavior) and these student predictors were added stepwise to the model. Adding these cross-level interactions did not affect the significance of the parameter estimates of Model 2. None of these cross-level interactions reached the significance threshold, except for the negative effect of teachers' perceptions of Classroom Behavior Problems on the association between students' Externalizing Behavior and Student-Specific TSE for BM ( $B = -.19$ ,  $p < .01$ ). This finding

indicates that teachers feel less efficacious in managing individual students' externalizing behavior when they perceive high amounts of misbehavior in the classroom.

### Discussion

This study investigated the associations between a variety of social-emotional student behaviors and teachers' self-efficacy beliefs toward individual students in various teaching domains. In addition, the moderating role of teachers' professional experience and perceived classroom misbehavior was examined. Results from this study offer new insights into the ways in which students' externalizing, internalizing, and prosocial behaviors may hamper or support teachers' self-efficacy beliefs across teaching domains at a dyadic level.

### Teachers' Self-Efficacy in Relation to Externalizing Behavior

Consistent with expectations, teachers perceived themselves as less self-efficacious in relation to students who exhibited externalizing behavior in class, after controlling for students' and teachers' background characteristics. This is in support of previous research on teachers' classroom-level self-efficacy (e.g., Lambert et al., 2009; Tsouloupas et al., 2010), indicating that disruptive children may hamper teachers' self-efficacy in dealing with challenging behavior and stressful situations in the classroom. However, whereas past studies have almost solely concentrated on total efficacy scores or domain-specific TSE for behavior management, our results additionally show that these undercontrolled behaviors are consistently linked to various domains of self-efficacy for teaching and learning. Accordingly, unsuccessful encounters with

students who display externalizing conduct are likely to undermine teachers' perceived capability to effectively instruct, motivate, manage, and emotionally support *individual* students. Such poorer self-efficacy beliefs, in turn, may also bring about more disruptive student behavior in new situations (e.g., Bandura, 1997).

It is not surprising that the association between externalizing student behavior and teachers' perceived capability in deploying effective methods to prevent and redirect instances of student misbehavior appeared to be the largest. Possibly, these patterns of externalizing misconduct reflect a poorer fit with teachers' expectations for appropriate behavior in the classroom than other challenging student behaviors (Gresham & Kern, 2004). Such behavioral mismatches may trigger a pattern of disturbed student-teacher interactions, which potentially undermine teachers' feelings of efficacy and satisfaction in teaching (cf. Koomen & Spilt, 2011). This is alarming, given that an unhealthy sense of self-efficacy for behavior management may encourage teachers' use of ineffective conflict management styles, which may exacerbate students' disruptive behavior and potentially advance the erosion of teachers' already feeble capability beliefs (e.g., Goddard et al., 2004; Jennings & Greenberg, 2009; Morris-Rothschild & Brassard, 2006).

Perhaps of a more interesting note is the finding that symptoms of externalizing student behavior may also come at the expense of teachers' student-specific self-efficacy beliefs in the *instructional* domain. There are some studies to support this finding, indicating that teachers generally feel less confident and effective in proactively involving disruptive students in high-quality instructional interactions and activities, and consequently resort to controlling and punitive behaviors toward these students (e.g., Arbeau & Coplan, 2007; Sutherland & Oswald, 2005; Wehby, Symons, Canale, & Go, 1998). Probably, such a lack of efficacy in instructing and motivating challenging students may further reinforce these children's expressions of anger and frustration toward the teacher as well as increase their off-task behavior and maladjustment in class (Arnold, 1997; Stipek & Miles, 2008). Thereby, a vicious cycle may be set into motion in which teachers' student-specific self-efficacy percepts and instructional actions, and students' subsequent social-emotional and task behaviors in class may influence each other in a reciprocal manner (cf. Bandura, 1997; Stipek & Miles, 2008). Hence, given that externalizing student behaviors may hamper student-specific TSE in both instructional and social-emotional domains, it seems essential to provide educators with the knowledge and skills necessary for teaching disruptive students self-regulation strategies that improve their classroom adjustment (cf. Koomen & Spilt, 2011).

### Teachers' Self-Efficacy in Relation to Internalizing Behavior

Consistent with expectations, internalizing behaviors seemed to be less of a factor than externalizing student behavior in explaining variations in teachers' self-percepts of student-specific self-efficacy. This finding resonates well with those of past research (e.g., Coplan & Prakash, 2003; Gresham & Kern, 2004; Kokkinos et al., 2004), suggesting that students' internalizing symptoms might go undetected by their teachers, or are merely perceived as less serious. Accordingly, it is possible that teachers may display a greater zeal and persistence in educating internalizing children than externalizing children.

As yet, our results give reason to believe that behaviors in the internalizing spectrum may contribute to some aspects of teachers' sense of student-specific self-efficacy. Specifically, teachers' student-specific self-efficacy for emotional support seemed to be predicted best by students' internalizing behaviors, after accounting for students' and teachers' background features. One possibility that may explain this negative association is that internalizers feel more wary and anxious in the face of social stimuli and consequently tend to refrain from daily interactions with their teacher (e.g., Arbeau, Coplan, & Weeks, 2010; Coplan & Prakash, 2003; Rudasill, 2011). Such socially withdrawn behaviors may result in a student-teacher relationship pattern characterized by lower levels of closeness, and higher levels of dependency (e.g., Arbeau et al., 2010; Henricsson & Rydell, 2004; Roorda et al., 2014). When teachers recurrently fail to connect and get through to these internalizing children, poorer self-efficacy beliefs toward these particular children may be prompted (e.g., Bandura, 1997). This may explain why teachers usually fall back into regulatory and dominant behaviors toward students with internalizing behavior (Roorda, Koomen, Spilt, Thijs, & Oort, 2013).

It is somewhat surprising that teachers also reported slightly elevated levels of self-efficacy in the domain of behavior management toward students with internalizing behavior. One mainly methodological explanation for this finding may be that internalizing student behavior merely functioned as a suppressor for predicting the fairly stronger, unique association among students' externalizing behavior and TSE for behavior management. According to Maassen and Bakker (2001), this phenomenon may occur when a predictor is positively correlated with another independent variable, but not with the criterion. In the present study, suppression may indicate that internalizing student behavior has more in common with externalizing conduct than with teachers' student-specific self-efficacy for behavior management, and thereby improved externalizing behavior as a predictor of TSE for behavior management. This potential suppressor effect mirrors previous empirical research, suggesting that comorbid externalizing and internalizing symptoms may occur more frequently than single-form behaviors, and should therefore be interpreted in combination with each other, rather than separately (e.g., Keiley et al., 2003). Another, more theoretical justification for this effect is that students with anxious and withdrawn patterns of behavior (without potentially co-occurring externalizing symptoms) usually do not disturb their peers or challenge their teachers' authority. Thereby, these students seem to meet teachers' behavioral values and expectations in the classroom (Gresham & Kern, 2004). As such, it is possible that teachers might actually feel quite self-efficacious in managing these students' behaviors.

Last, internalizing student behavior did not seem to seriously upset their teachers' self-efficacy for tasks related to motivation and instructional delivery. The lack of association between students' internalization and student-specific TSE for student engagement was, for instance, at odds with our expectation that teachers may feel less efficacious in activating their students' interest in schoolwork when dealing with emotionally disturbed students. Moreover, the negative association between students' internalizing behavior and TSE for instructional strategies only reached the significance threshold after accounting for teachers' gender, experience, and perceived classroom misbehavior. It may be that educators' recognition of, and responsiveness to internalizers' subtle

cues are more likely to be affected by factors inherent or contextual to the teacher than their preoccupation with externalizers' more blatant signs. Research of Kokkinos and colleagues (Kokkinos et al., 2005; Kokkinos & Kargiotidis, 2014), for instance, put forth that teachers' ability to recognize the needs and behaviors of students with internalizing problems increases as they have more teaching experience, and may depend on their own interpersonal sensitivity and gender. Correlational patterns between students' social-emotional behaviors and teacher-level variables in the present study, including teaching experience and gender, largely substantiate this assumption. Also, there is a strong possibility that students with internalizing symptoms, due to their subdued behaviors, generally provoke less negative thoughts about instruction or feelings of inefficacy in their teachers, as it is more difficult for teachers to gauge these students' comprehension of what they have taught (e.g., Rubin & Coplan, 2004).

### Teachers' Self-Efficacy in Relation to Prosocial Behavior

In line with expectations, teachers consistently reported higher levels of self-efficacy in relation to students who exhibit high levels of prosocial behavior. Again, stronger associations were noted for teachers' self-efficacy toward emotional and behavioral domains of teaching and learning, than for instruction-related tasks. This is perhaps not surprising, as the domains of behavior management and emotional support are, in large part, concerned with how well teachers relate to, and interact with their students. Several empirical sources have shown that patterns of prosocial student behavior may pave the way for higher quality relationships with their teachers (Birch & Ladd, 1998; Henricsson & Rydell, 2004; Roorda et al., 2014). Such enactive mastery experiences may raise teachers' beliefs in their self-efficacy (Bandura, 1997; Goddard et al., 2004), potentially further stimulating individual students' prosocial behaviors in the classroom.

Despite teachers' higher self-efficacy beliefs in relation to students who display relatively high levels of prosocial behavior, teachers have repeatedly been shown to spend less time with prosocial students, and regularly fail to give them credit for their positive behavior, especially when they get older (e.g., Arbeau & Coplan, 2007; Nesdale & Pickering, 2006). To maintain and further encourage prosocial behavior in their students, teachers should recognize the need to praise and respond to students' appropriate behaviors in class. In doing so, teachers may further enhance their feelings of self-efficacy toward these individual children.

### Teachers' Self-Efficacy in Relation to Student and Teacher Characteristics

In investigating students' background characteristics, we only found students' age to be negatively associated with teachers' student-specific self-efficacy for student engagement. This finding is supported by prior research (Wolters & Daugherty, 2007), noting that teachers, when dealing with older children, tend to report less confidence in their ability to keep students engaged. This intriguing finding seems to complement those of studies on student motivation (e.g., Fredricks & Eccles, 2002), which demonstrated a downward spiral in students' competence-related behaviors and motivation during their transition to middle school.

Future research should take the complex interplay between teachers' self-efficacy, students' age, and motivation into account.

Although bivariate correlations suggested a potential association between professional teaching experience and dimensions of TSE toward individual students, multilevel analyses indicated that teaching experience only added to the prediction of student-specific TSE for student engagement and emotional support. This finding suggests that educators' teaching experience particularly ameliorates their self-efficacy in the affective domain of teaching, including such tasks as providing emotional support and increasing individual students' interest in schoolwork. Previous studies have supported this slight increase in more experienced teachers' self-efficacy, both for affective domains as well as other areas of teaching and learning (Klassen & Chiu, 2010; Ross et al., 1996; Wolters & Daugherty, 2007). The potential value of teachers' experience for their self-efficacy might explain, in part, why experienced teachers seem to be more effective in managing students' behaviors and addressing their needs than inexperienced teachers (Kokkinos et al., 2004).

### The Moderating Role of Teaching Experience and Perceived Classroom Misbehavior

In seeking to discern the moderating role of teachers' experience and perceived classroom misbehavior, we noted that years of experience did not buffer or exacerbate the association between students' social-emotional behaviors and teachers' self-efficacy toward individual students. This is unlike the findings of Kokkinos et al. (2004), which seemed to suggest that teachers' experience-induced behavioral knowledge, skills and awareness may buffer or exacerbate the potential negative relationship between challenging student behavior and TSE. However, results did point to a moderation effect of teachers' perceptions of classroom misbehavior. Specifically, teachers in poorly behaving classrooms experienced lower levels of self-efficacy in managing the behavior of individual students with externalizing conduct than in classrooms with fewer instances of misbehavior. This finding substantiates prior research), indicating that teachers may develop increasingly negative attitudes toward their students in classrooms with many challenging students. It is important to note, however, the moderating role of teacher-perceived amounts of classroom misbehavior could not be ascribed to teachers' appraisals of individual students' externalizing behavior. In the present study, the zero-order correlation between misbehavior in class and ratings of externalizing student behavior was not significant. Hence, these findings underline the relevance of considering characteristics of the classroom when investigating teachers' beliefs of self-efficacy.

### Limitations

The present study's findings need to be interpreted in the context of several limitations. First, the correlational and cross-sectional nature of the study precludes any speculation on causal relations. Although our results provide preliminary support of the potential relationships between students' behavior and TSE, it may well be that the nature of these associations are reciprocal. Indeed, Bandura's (1997) model of triadic reciprocal causation asserts that teachers' personal factors, their behaviors, and aspects of the classroom context may function as interacting factors that influ-

ence one another bidirectionally. Longitudinal, cross-lagged designs could advance our understanding of how individual students' behaviors and teachers' self-efficacy toward these students in various domains of teaching and learning influence one another across time.

In relation to this issue, some caution is warranted when generalizing the results of this study to other populations and settings. Specifically, this study relied on a sample of primarily experienced, female teachers who generally taught students with mid- to high socioeconomic backgrounds. These teachers, by virtue of their experience and more advantaged student population, may have felt more efficacious and better prepared to deal with their students across teaching domains. Including teachers from a wider range of backgrounds may result in a more reliable and generalizable picture of teachers' self-efficacy in relation to particular students in different spheres of functioning.

Second, teachers not only reported about their sense of self-efficacy toward individual students, but also about these students' behaviors. As such, this study might have been threatened by shared source variance, resulting in an overestimation of the strength of associations. However, teachers' self-efficacy is most likely constructed from information conveyed by experienced events in the classroom (Bandura, 1997). Given that teachers' own experiences and self-knowledge are crucial sources of their self-efficacy, teacher reports may seem an adequate method of measuring students' classroom behaviors. Still, it would be useful for future research to employ multiple methods, including interviews and observations, to further elucidate the present study's findings.

Third, although we made use of multilevel analysis to handle the clustering of students within teachers, we did not address the nesting of classrooms within schools. One reason for choosing to ignore a third level of nesting is that we generally found less than 5% of the variance in TSE to be associated with the school-level of hierarchy, suggesting that teachers' capability beliefs did not vary much across schools. Probably, this lack of variation might be explained by the fact that the 69 teachers who participated in this study were relatively evenly distributed across the 24 schools. Indeed, only two to three teachers per school decided to take part. Nevertheless, a number of studies on the sources of TSE has indicated that teachers' self-efficacy may depend, in part, on aspects such as school atmosphere, principal leadership, and social support provided by parents and colleagues (e.g., Cheung, 2008; Lee, Dedrick, & Smith, 1991; Moore & Esselman, 1992; Tschannen-Moran & Woolfolk Hoy, 2007). With this in mind, it may be important to include such school contextual influences at the school-level of analysis when investigating teachers' self-efficacy beliefs.

Fourth, it is possible that the relations discovered in this study emanate from a common relation with contextual or structural features of the classroom context. Although we were able to account for differences between teachers in their gender, years of experience, and perceived classroom misbehavior, there might have been other important between-teachers factors that we did not include in this study. For instance, teachers' collegial support (Brownell & Pajares, 1999; Ciani, Summers, & Easter, 2008), instructional quality and classroom management (Holzberger, Philipp, & Kunter, 2013), and perceived work pressure (Leroy, Bressoux, Sarrazin, & Trouilloud, 2007) have been shown to be associated with teachers' sense of self-efficacy. Thus, in any

attempt to replicate the results, it is recommended that future researchers should take account of classroom and teacher characteristics to explain between-teachers differences in TSE.

Last, teachers' perceptions of self-efficacy were characterized by relatively high means and small standard deviations, suggesting the existence of social desirability bias. Generally, social desirability has been presumed to generate more flattering reports about the self and a limited range of answers (Goffin & Gellatly, 2001). This potential bias in teachers' responses have also been noted in prior research on teachers' domain-specific self-efficacy at the classroom-level (e.g., Heneman et al., 2006), and might have weakened the associations with students' behaviors in this study.

## Conclusion

Despite its limitations, the present study has demonstrated the theoretical and practical relevance of studying TSE in relation to individual students' social-emotional behaviors across various domains of teachers' functioning. Teachers' self-efficacy has long been conceptualized as a relatively stable teacher characteristic which, at best, may be dependent upon particular teaching tasks and domains (Raudenbush et al., 1992; Tschannen-Moran & Woolfolk Hoy, 2001). Our results show, however, that most of the variance in TSE occurred within teachers, suggesting that these capability beliefs may also vary over the particular students they teach. Central contributors to such self-efficacy fluctuations seem to be both prosocial and challenging student behaviors, and externalizing behavior in particular. Notably, these behaviors not only appear to relate to teachers' perceived effectiveness in providing behavioral and affective support during reciprocal student-teacher interchanges, but their TSE in delivering instruction as well. This is an important finding, given that teachers' dealings with individual students' misbehavior are likely to come at the expense of high-quality instructional activities and student-teacher interactions (e.g., Arbeau & Coplan, 2007; Sutherland & Oswald, 2005).

The results of the present study, if they are replicated in future studies, may have several implications for educational researchers and practitioners alike. First, the ways teachers appraise and integrate individual students' behavior into student-specific self-efficacy judgments may play an important role in teachers' preparedness and motivation to deal with a particular child (Bandura, 1997). Assumedly, educators who perceive themselves as unable to teach and affectively support a child have a tendency to shy away from these children or slacken their efforts when the goings get tough. Teachers must be made aware that such behaviors and actions may have serious implications for the academic and social-emotional adjustment of challenging students, and externalizing children in particular. Specifically, children with externalizing problems may become easily frustrated or unhappy about their teachers' lack of instructional or emotional support, and may express these feelings by acting more aggressively toward the teacher in future situations (cf. Stipek & Miles, 2008). As such, teachers' self-efficacy beliefs toward disruptive students and associated behavior and actions may serve as an additional risk factor for poor quality student-teacher relationships and students' social-emotional and academic maladjustment in school. Yet, the importance of teachers' confidence in their ability to provide internalizing students with adequate emotional support should also not be underestimated. These capability beliefs may serve as

important tools for helping students with internalizing symptoms to come out of their shell and to navigate the social world. Thus, helping teachers to reflect on the effects of their cognitions about externalizing and internalizing children may be vital to improving the quality of students' and teachers' shared interactions and experiences.

Second, the dynamic interplay between students' disruptive behaviors and TSE may not only hamper students' academic adjustment, but may also result in increased levels of emotional labor, daily stress, and burnout in teachers (e.g., Chang, 2013; Hargreaves, 1998; Spilt et al., 2011). This suggests that teacher training and development programs must incorporate strategies that teachers might use to bolster their self-efficacy in relation to individual (disruptive) students, including goal setting, behavior management, and providing emotional support. These activities may allow teachers to gain more pleasant emotional experiences with, and social feedback from their students, resulting in less stress and higher TSE (Spilt et al., 2011).

In conclusion, it behooves educational researchers and practitioners alike to further investigate the complex ways in which teachers' self-efficacy in relation to individual students with externalizing and internalizing symptoms and their subsequent behaviors and actions toward them affect students' motivation, conduct, and achievement in the classroom. Viewing teachers' self-efficacy from a dyadic perspective may be a first step forward.

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