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Teacher interests, mastery goals, and self-efficacy as predictors of instructional practices and student motivation

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ABSTRACT

This study addressed the role of elementary school teachers' motivation as predictors of instructional practices and student motivation. The sample comprised 110 teacher–class pairs (1731 students). The results showed that teachers' didactic interest and self-efficacy predicted *teacher reports* of instructional practices. In contrast, *student reports* of instruction were significantly associated with teachers' educational interest and mastery goals. Moreover, student motivation was only related with student reports but not teacher reports of instructional practices. In particular, mastery-oriented practices contributed strongly to student motivation. Teacher educational interest predicted mastery-oriented practices and also showed a significant direct relation to student motivation.

1. Introduction

There is a growing interest of educational researchers in teacher motivation and its role in teaching behavior and stress or burnout (Butler, 2007; Fernet, Senécal, Guay, Marsh, & Dowson, 2008; Kunter et al., 2008; Pelletier, Séguin-Lévesque, & Legault, 2002; Retelsdorf, Butler, Streblow, & Schiefele, 2010; Watt & Richardson, 2008). Whereas past research has mainly focused on teacher self-efficacy beliefs (e.g., Klassen, Usher, & Bong, 2010; see overviews by Klassen, Tze, Betts, & Gordon, 2011; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), recent efforts to conceptualize dimensions of teacher motivation include goal orientations (Butler, 2007) and intrinsic or self-determined motivation (Pelletier et al., 2002). In our own previous work (Schiefele, Streblow, & Retelsdorf, 2013), we have proposed *teacher interests* as potentially relevant determinants of teacher well-being and instructional practices. The present study is aimed at extending that work by taking teacher mastery goals as an additional predictor into account, by assessing instructional practices not only by teacher ratings but also by student ratings, and by including students' self-reported motivation as an outcome variable. It was assumed that teacher interests and mastery goals predict teachers' instructional practices (as perceived by teachers or students) that in turn contribute to students' motivation. Because of its demonstrated importance, teacher self-efficacy was included in these analyses in order to enable a more rigorous test of the predictive contributions of teacher interests and mastery goals.

In the following, we briefly review previous findings related to teachers' interests, goal orientations, and self-efficacy. The focus of this review is on the empirical evidence relating these constructs to teachers' instructional practices and student motivation.

1.1. Teacher interests

In accordance with recent theories of interest (cf. Hidi & Renninger, 2006; Hidi, Renninger, & Krapp, 2004; Krapp, 2005, 2007; Renninger & Hidi, 2011; Schiefele, 2009), teacher interests are conceptualized as *individual interests* that refer to relatively permanent attractions to certain topics or domains (e.g., school subjects, specific knowledge fields). These attractions are defined as intrinsic valence beliefs which denote cognitively represented relations between a domain (e.g., physics) and both feeling- and value-related attributes (e.g., excitement, relevance for one's self; cf. Hidi & Renninger, 2006; Krapp, 2007; Schiefele, 2009). Accordingly, individual interest involves perceptions of positive feelings and personal importance being attached to a given domain.

Schiefele et al. (2013) proposed three dimensions of teacher interest: subject, didactic, and educational interest. *Subject interest* is understood as the interest in the subject matter taught (e.g., mathematics).[1] *Didactic interest* refers to a teacher's interest in teaching methods. This includes, for example, a preference for literature on didactics or placing strong personal value on the issue of

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[1] For a similar concept, see Kunter, Frenzel, Nagy, Baumert, and Pekrun's (2011) definition of "subject enthusiasm".

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effective teaching methods. *Educational interest* pertains to the interest in the educational or pedagogical aspect of the teaching profession. This aspect concerns the appropriate pedagogical handling of students in general and problem students in particular. Whereas didactics or teaching methods focus on students' learning of subject matter knowledge, educational or pedagogical activities of the teacher are mostly directed at students' development of efficient work habits, social competencies, and moral values (Van Veen, Sleegers, Bergen, & Klaassen, 2001).

The differentiation into three dimensions of teacher interest is similar to the components of professional knowledge distinguished in the literature (e.g., Krauss et al., 2008; Phelps & Schilling, 2004; Shulman, 1986, 1987). Most notably, Shulman (1987) emphasized two components of teacher knowledge: *content knowledge* (domain-specific subject matter knowledge) and *pedagogical content knowledge* (the knowledge needed for teaching a specific subject and to make it comprehensible to others). These two dimensions seemingly correspond to subject interest and to didactic interest. In addition, Shulman's (1987) categories of *general pedagogical knowledge* (which refers to principles and strategies of classroom management and organization) and *knowledge of educational ends, purposes, and values* are related to the concept of educational interest because both forms of knowledge refer to issues of educating students (cf. Schiefele et al., 2013).

Schiefele et al. (2013) provided evidence for the validity of their interest concept by means of confirmatory factor analysis, by analyzing differences in interest between teachers from different school tracks, and by examining the contributions of the dimensions of interest to the prediction of teacher reports of burnout symptoms, quality of experience in class, and instructional practices. For example, the authors found that elementary school teachers exhibited higher educational interest than secondary school teachers. This was to be expected because educational aspects of teaching are more dominant in elementary teachers' training and their daily school work (e.g., Brookhart & Freeman, 1992). Moreover, didactic and educational interest contributed to lower levels of burnout, whereas subject and educational interest were the main predictors of teachers' positive experience in class. More importantly, didactic and educational interest significantly predicted teacher reports of mastery-oriented practices (e.g., recognizing students' individual progress), even when controlling for teacher self-efficacy. In addition, didactic interest was significantly associated with cognitively activating practices (e.g., providing challenging and stimulating tasks), whereas subject interest did not contribute significantly to instructional practices.

The reported contributions of didactic interest to instructional practices were explained by the assumption that interest in teaching methods enhances the motivation to learn more about efficient instructional practices and, thus, increases the use of mastery-oriented and cognitively activating practices (Schiefele et al., 2013). Educational interest, however, involves a focus on the pedagogical handling of students and their individual development. This focus probably facilitates mastery-oriented practices because these are beneficial for students' competence perceptions and motivation (Givens Rolland, 2012). In contrast, cognitively activating practices are more closely associated with students' cognitive learning processes (Kunter et al., 2013) and therefore may depend less strongly on educational interest.

In contrast to Schiefele et al. (2013), Long and Woolfolk Hoy (2006) demonstrated a substantive relation between teachers' subject interest and their instructional effectiveness (e.g., competence, clarity). However, the measures of both teachers' interest and instructional effectiveness were based on student ratings. In line with Schiefele et al., Kunter et al. (2008) found that teachers' self-reported subject enthusiasm did not predict teachers' and students' ratings of various instructional practices (monitoring, social support, and cognitive activation). Only a significant association between subject enthusiasm and *teacher-rated* cognitively activating practices was observed.

1.2. Teacher mastery goals

Butler (2007) was among the first to apply achievement goal theory as a framework for conceptualizing teachers' motivation for teaching (see also Papaioannou & Christodoulidis, 2007). She argued that the classroom constitutes an achievement arena not only for students but also for teachers. Accordingly, teachers strive to succeed at their job but may differ in the ways they define success and, thus, in their achievement goals for teaching. In accordance with goal theory referring to students, Butler distinguished between teachers' mastery goals, ability-approach, ability-avoidance, and work-avoidance goals (cf. Elliot & Harackiewicz, 1996; Grant & Dweck, 2003; Nicholls, 1989; Urdan & Maehr, 1995). All forms of goal orientations are theorized to be cognitively represented beliefs (e.g., "I strive to attain better grades than my classmates"; Elliot, 2005). Mastery-oriented teachers seek to improve their professional competence. They evaluate their competence relative to task demands or prior outcomes and are likely to show a preference for challenge. Teachers with ability-approach goals strive to demonstrate superior teaching ability, whereas teachers with ability-avoidance goals are focused on avoiding the demonstration of inferior teaching ability. Finally, work-avoidance goals reflect strivings to reduce work load and effort. Work-avoidant teachers feel successful when they get through the day with little effort.

In the present study, we focused on teachers' mastery goals because they have been found to be significantly related to adaptive instructional practices. For example, Butler and Shibaz (2008) reported that teachers with higher levels of mastery goals were perceived by their students as providing stronger support of question-asking and help-seeking, whereas other goal orientations showed either nonsignificant or negative effects on teacher support. Retelsdorf et al. (2010) confirmed the hypothesis that teachers with stronger mastery goals, who are themselves oriented to learn and acquire competence, are more likely to use mastery-oriented and cognitively activating practices (see also Shim, Cho, & Cassady, 2013). Again, other goal orientations did not positively predict adaptive instructional behavior.

Previous research on achievement goals also suggests a substantial relationship between classroom-level goal structures established by the teacher and students' personal goal orientations (e.g., Urdan, 2010; Urdan & Schoenfelder, 2006). Usually, classroom goal structures have been assessed by means of students' perceptions of teachers' practices that either reflect an emphasis on mastery goals (i.e., promoting learning and understanding) or on performance goals (i.e., promoting social comparison and competition). There is ample evidence that mastery goal structures in the classroom predict students' mastery goals, whereas performance goal structures predict students' performance (or ability) goals (Meece, Anderman, & Anderman, 2006; Urdan, 2010; Urdan & Schoenfelder, 2006). Moreover, mastery goal structures contribute positively to students' competence beliefs, motivational engagement (e.g., effort), strategy use, and academic achievement (Givens Rolland, 2012; Urdan, 2010; Wolters, 2004). In contrast, performance goal structures do not or negatively (depending on the grade level) contribute to these outcome measures (see also Meece et al., 2006).

1.3. Teacher self-efficacy

Numerous studies have considered possible influences of teacher self-efficacy on the quality of teaching and student motivation. Teacher self-efficacy represents teachers' belief that they are able