Teaching and Teacher Education 43 (2014) 58–68

Contents lists available at ScienceDirect

Teaching and Teacher Education

journal homepage: www.elsevier.com/locate/tate

Does teachers' cognitive self-regulation increase their occupational well-being? The structure and role of self-regulation in the teaching context

Jessica Mattern*, Johannes Bauer

TUM School of Education, Technische Universität München, Germany

HIGHLIGHTS

- Cognitive self-regulation competence of teachers is a hierarchical construct.
- This competence can enhance job satisfaction by reducing emotional exhaustion.
- Our findings can be generalized across gender and school track.[1]

ARTICLE INFO

Article history:
Received 18 November 2013
Received in revised form
14 May 2014
Accepted 22 May 2014
Available online 28 June 2014

Keywords:
Self-regulation
Well-being
Job-satisfaction
Emotional exhaustion
Teacher education
Mathematics teachers

ABSTRACT

Cognitive self-regulation is assumed to foster teachers' occupational well-being (their level of emotional exhaustion and job satisfaction), which directly impacts the quality of their work. We investigated (1) the factor structure of teachers' cognitive self-regulation, (2) whether self-regulation fosters teachers' job satisfaction by reducing emotional exhaustion, and (3) whether this relationship is moderated by gender and school track. Structural equation modeling ($N = 664$ German secondary mathematics teachers) confirmed the hypothesized second-order factor structure of teacher self-regulation. The positive effect of cognitive self-regulation on job satisfaction is mediated by emotional exhaustion and can be generalized across gender and school track.

1. Introduction

Teachers have highly complex work profiles (Hammerness, Darling-Hammond, & Bransford, 2005; Philipp & Kunter, 2013) and internationally experience an increasing number of tasks (Scott, Stone, & Dinham, 2001). While teaching itself takes up the highest proportion of teacher working hours (Organisation for Economic Co-operation and Development [OECD], 2011) and is regarded to be the major task of teachers (Akiba & Le Tendre, 2009), more and more time is devoted to tasks outside the formal school day. Next to the emotionally and interpersonally demanding task of teaching, the workload of teachers in OECD countries comprises many instructional and non-instructional outside-school tasks[2] such as grading and lesson planning as well as administrative duties (Akiba & Le Tendre, 2009; OECD, 2012). The amount of time to be spent on these outside school tasks is less formally regulated than teaching time in various countries (OECD, 2011). In many cases, this situation results in long working hours and time pressure. These factors have been identified as major causes of stress in many studies with teachers from a range of different countries

* Corresponding author. TUM School of Education, Lehrstuhl für Empirische Bildungsforschung, Arcisstraße 21, D-80333 München, Germany. Tel.: +49 89 289 25129.
E-mail address: jessica.mattern@tum.de (J. Mattern).

[1] The German secondary school system consists of different school tracks regarding years of schooling, levels of student achievement, and qualification for further education options. Students can choose between an academic track (higher secondary track, i.e., *Gymnasium*) and several non-academic tracks (lower secondary tracks, e.g., *Realschule*).

[2] Depending on the country, such tasks may also be performed inside schools, but outside teaching time. For simplicity, and in line with the use of this term in Akiba and Le Tendre's (2009) international comparative analysis of teacher's work conditions we use the term "outside-school tasks" or "work/tasks performed outside school".

http://dx.doi.org/10.1016/j.tate.2014.05.004
0742-051X/

across Europe and North America (Philipp & Kunter, 2013) and leave less time for rest and recovery (Hargreaves, 2003). Undesirable consequences of heavy workloads and stress concern the teachers themselves, in the form of reduced well-being, but have also been discussed as reasons for reduced student achievement (Klusmann & Richter, 2014) and teacher attrition, among other causes (OECD, 2005; Skaalvik & Skaalvik, 2011).

The focus of this article is on teachers' cognitive self-regulation and its role in supporting teachers in dealing with a high workload outside school more effectively and thereby possibly increasing their occupational well-being. The rationale behind this lies in the assumption that self-regulation competence has a beneficial effect on individual coping with occupational stress (Philipp & Kunter, 2013; Pietarinen, Pyhältö, Soini, & Salmela-Aro, 2013). That is, teachers with high self-regulation competence may feel less emotionally exhausted in the face of a heavy workload outside school and may thus be able to save personal energy and resources (Hobfoll, 2002). Increasing teachers' well-being and their ability to cope with occupational stress are important goals of their own right from a positive psychology perspective that emphasizes individual health, happiness, and growth (e.g., Diener, 2000; Seligman & Csikszentmihalyi, 2000). However, teachers may also decide to allot saved energy to other professional challenges, for example during instruction when working with students. Indeed, teacher self-regulation has been shown to positively predict the quality of their instruction (Klusmann, Kunter, Trautwein, Lüdtke, & Baumert, 2008a; Kunter et al., 2013).

In the past two decades, extensive research has enhanced our knowledge of external causes of teacher stress (Chaplain, 2008; Howard & Johnson, 2004; Kyriacou, 2001; Mansfield, Beltman, Price, & McConney, 2012), as well as predictors for teacher well-being (Howard & Johnson, 2004). However, the findings from large-scale studies suggest that the biggest proportion of variance in teachers' well-being is explained by variables on the individual teacher level (Teaching and Learning International Survey [TALIS], OECD, 2009; Professional Competence of Teachers, Cognitively Activation Instruction, and the Development of Students' Mathematical Literacy [COACTIV], Klusmann, Kunter, Trautwein, Lüdtke, & Baumert, 2008b). Still, little is known about process-related variables—such as self-regulation—that may explain individual differences in teachers' responses to external stressors. This gap in the literature is surprising because knowledge about the role of these variables could enable teacher educators in initial teacher education as well as professional development to provide (future) teachers with one of the skills that are helpful to thrive, and not only survive, in their profession. Because the link between self-regulation and coping has been discussed widely and can be explained by self-regulation theory (Carver, Scheier, & Fulford, 2008), there is a growing interest in studies that apply these findings to the teaching profession. Moreover, self-regulation is highly relevant because, as compared to other protective factors such as intrinsic motivation (Gu & Day, 2007), it can be taught in short interventions during initial teacher education or the early years of teaching (Mattern, 2012). Hence, in this study, we investigated the effect of teachers' cognitive self-regulation on their occupational well-being.

In the following section, we describe our perspective on teacher self-regulation and present our theoretical model. Next, we discuss the assumed impact of self-regulation on teachers' occupational well-being and discuss potential moderating variables.

1.1. Theoretical perspectives on teacher self-regulation

"Self-regulation enables people to function effectively in their personal lives as well as to acquire the knowledge and skills needed to succeed in … the workforce" (Sitzmann & Ely, 2011, p. 1). While scholars focusing on different strands of self-regulation research probably agree on this definition, different perspectives on self-regulation do exist. Some studies in the context of teacher well-being conceptualize self-regulation as the intra-individual interplay of two work-related traits: work engagement and resilience (Klusmann et al., 2008a). The underlying assumption of this viewpoint is that the "combination of high engagement in the teaching profession (work engagement) with the ability to emotionally distance oneself from work and cope with failure (resilience) are associated with … high levels of occupational well-being" (Klusmann et al., 2008a, p. 702). Empirically, such studies frequently employ a typological approach that classifies self-regulation into four types according to differences in engagement and resilience: H (healthy-ambitious), U (unambitious), A (excessively ambitious), and R (resigned), with H being the most and R being the least adaptive to occupational stress (Schaarschmidt & Fischer, 1996). These types of self-regulation have been shown to explain 16% of variance in emotional exhaustion and 9% of variance in job satisfaction (Klusmann et al., 2008a).

Whereas studies employing this typological approach rely on (assumedly rather stable) personality traits (Schaarschmidt & Fischer, 1996; Spinath, 2012), there is another line of research that conceptualizes self-regulation as an active process through which teachers direct and maintain their metacognition, motivation, and strategies for effective working behavior (Capa-Aydin, Sungur, & Uzuntiryaki, 2009; Mattern, 2012; Pietarinen et al., 2013). These perspectives can be considered complementary: While the former—with its roots in differential and work and organizational psychology—is useful for describing different habitual approaches of dealing with occupational demands, the latter constitutes a (meta)cognitive understanding of self-regulation. This cognitive perspective is rooted in classic and frequently used theories on the process of self-regulated learning as described by Pintrich (2000) and Zimmerman (2000) (for an overview of further perspectives on academic self-regulation, see Zimmerman & Schunk, 2001). However, it can also be applied in professional contexts such as teaching, as Capa-Aydin et al. (2009) have demonstrated. According to this viewpoint, teacher self-regulation refers to strategies that the teachers execute in their work environment to reach professional goals and overcome professional obstacles such as a high workload. Applying these strategies could help teachers "to develop metacognitive habits of mind that can guide … reflection on practice in support of continual improvement" (p. 359), which Hammerness et al. (2005) point out as a crucial ability of teachers.

In this study, we have employed the cognitive perspective. It seems advantageous for the goal of supporting teachers in coping with the high workload and in learning to systematically think about themselves and their practice with regard to life-long learning. Intervention studies in various contexts have shown that the habitual use of self-regulation strategies can be learned and that it is causally related to successful performance such as academic learning (Schmitz & Wiese, 2006) and organizational behavior (Frayne & Geringer, 2000). Typical self-regulation strategies are planning, goal-setting, monitoring, time management, persistence, and self-reflection (Sitzmann & Ely, 2011). Many of these strategies have also been individually identified as protective factors in teacher resilience research (for an overview, see Beltman, Mansfield, & Price, 2011). However, to date, these strategies have not been integrated into a theoretical model and investigated together in the teaching context. Moreover, while a growing number of studies on teacher self-regulation are adopting the cognitive perspective, they also show some limitations. For example, they investigate self-regulation in isolation and not with regard to teacher well-being (Capa-Aydin et al., 2009), use an overly