I feel less confident so I quit? Do true changes in teacher self-efficacy predict changes in preservice teachers' intention to quit their teaching degree?

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HIGHLIGHTS

- Latent changes in teacher self-efficacy (TSE) of preservice teachers are documented.
- TSE changes occurred both during coursework at university and a practicum at school.
- TSE for classroom management changed the most.
- TSE changes differed by stage of teacher education.
- TSE changes during a practicum were associated with commitment to a teaching degree.

ARTICLE INFO

ABSTRACT

This study explored how teacher self-efficacy (TSE) of two cohorts of preservice teachers (advanced and beginning) changes during coursework at university and during a practicum at school. Further, it determined if changes in TSE were related to changes in preservice teachers' intention to quit their degree. Changes in TSE differed between TSE dimensions, the two aspects of teacher preparation, and the two cohorts. Generally, increases in TSE during the practicum were associated with decreases in preservice teachers' intention to quit. Results are discussed with regard to future directions in research and practical implications for teacher educators.

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1. Introduction

Research on teacher self-efficacy (TSE) has steadily increased in volume over the last thirty odd years (e.g., Klassen, Tze, Betts, & Gordon, 2011; Kleinsasser, 2014). However, previous research has mainly focused on the outcomes and correlates of TSE, employing cross-sectional designs. This research has produced a large body of data in favor of the notion that TSE is of significant importance in predicting various desirable outcomes at the student as well as at the teacher level (e.g., Klassen et al., 2011; Tschannen-Moran & Woolfolk Hoy, 2001; Vieluf, Kunter, & van de Vijver, 2013; Woolfolk Hoy & Burke Spero, 2005). Since TSE is such a fruitful construct, it seems worthwhile to study its origins. When and how does this belief form in teachers? What factors influence the development of TSE? How

does the development of TSE impact on other outcomes? So far, very little research has addressed these and similar questions, and even less research has employed longitudinal designs, which are a necessity for studying the development of TSE over time. The present study offers a first longitudinal insight into the development of TSE, starting as early as at the beginning of teacher education. Latent changes in TSE are documented for two cohorts at different stages of their formal teacher education program (beginning and advanced), and in relation to different aspects of the program (coursework at university vs. practicum at school). Further, it was explored whether the changes in TSE affected changes in preservice teachers' intention to quit (ITQ) the teacher education program. Since attrition of (novice) teachers is of great concern to teacher educators and policy makers worldwide (e.g., Lindqvist, Nordänger, & Carlsson, 2014; Martin, Sass, & Schmitt, 2012; Wang, Hall, & Rahimi, 2015), exploring the relationship between a change in preservice teachers' ITQ and changes in TSE could make a meaningful contribution to

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addressing this issue early on.

1.1. Theoretical foundations of teacher self-efficacy

The construct of teacher self-efficacy is grounded in Bandura's (1977, 1986, 1997) social cognitive theory. However, its measurement has also been influenced by Rotter's (1966) locus of control theory. In 2002, Henson characterized the first decades of research on TSE as "hampered by both construct validity and measurement problems" (p. 144). He reasons that this was mostly due to TSE being researched with instruments that were based on locus of control theory (e.g., the Gibson and Dembo scale, 1984). Although locus of control theory has traditionally played a key role in TSE research (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), for years influential researchers conducting reviews in the field of TSE (e.g., Henson, 2002; Klassen et al., 2011; Tschannen-Moran et al., 1998) have demanded a sound conceptualization and valid measurement of TSE, which is closely aligned with Bandura's construct of self-efficacy. Bandura (1977) introduced the construct of self-efficacy as the "conviction that one can successfully execute the behavior required to produce" (p. 193) a given outcome. This conviction varies with different domains of action. So in Bandura's terms, TSE can be understood as the belief that one holds about one's capability with regard to the domain of teaching. Self-efficacy beliefs are a powerful predictor of behavior. Self-efficacy influences behavior for example, by affecting what challenges and goals people set for themselves, what effort they invest in pursuing those, and to what degree they persevere when faced with obstacles (e.g., Bandura, 2006).

In 2001, Tschannen-Moran and Woolfolk Hoy introduced the Teacher's Sense of Efficacy Scale (TSES), which offers a three-dimensional operationalization of TSE comprising instructional strategies, classroom management, and student engagement. The authors recommended to treat their instrument as one-dimensional when used with preservice teachers, which has been an ongoing source of debate among TSE researchers (e.g., Duffin, French, & Patrick, 2012). In response to this debate, Duffin et al. (2012) demonstrated that the factorial structure of the TSES was best represented by one factor in two different samples of beginning preservice teachers from the US. They argued that advanced preservice teachers were able to distinguish between the three dimensions, as was the case in Poulou's (2007) study with Greek fourth-year preservice teachers. However, testing the factor structure of the TSES items with their sample of Australian advanced preservice teachers (i.e., first year graduate diploma), Mergler and Tangen (2010) only found a two-factor solution, which they termed classroom management (featuring classroom management and student engagement items) and personal teacher efficacy (featuring instructional strategies and student engagement items). O'Neill and Stephenson (2012) on the other hand, only found a 1-factor solution for the TSES items in their large sample of fourth-year Australian preservice teachers. Subsequently, Pfitzner-Eden, Thiel, and Horsley (2014) adapted the original TSES to achieve a uniform three-dimensional assessment of TSE for beginning and advanced preservice teachers. The authors could demonstrate measurement invariance for three samples of preservice teachers: beginning preservice teachers from Germany, advanced preservice teachers from Germany, and advanced preservice teachers from New Zealand. Thus, to be able to examine TSE development in all three dimensions early on, the current study employed the adapted scale by Pfitzner-Eden et al. (2014).

1.2. The development of teacher self-efficacy

According to Bandura (1997), self-efficacy beliefs are formed when people interpret information about their capabilities from four sources: mastery experiences, vicarious experiences, social persuasion, and physiological and affective states, whereby mastery experiences are hypothesized to have the strongest effect on the formation of self-efficacy beliefs. For preservice teachers, mastery experiences in an actual classroom would generate a strong TSE belief, because they provide authentic evidence of whether they are able to accomplish a given outcome (i.e., teaching successfully). Modeled attainments (vicarious experiences) of other teachers or preservice teachers in a practicum at school can affect preservice teachers' TSE both by providing a social point of reference for judging their own attainments and by creating an opportunity for model learning. Being persuaded by others that one has great capability in the domain of teaching (social persuasion) would influence the formation of self-efficacy beliefs of preservice teachers most when they are being given feedback regarding their performance by a person who they regard as being competent in the field concerned (e.g., their mentor during a practicum at school). Physiological and affective states provide preservice teachers with a last source of information on their teaching capabilities, for example, through negative (e.g., stress/anxiety) or positive (e.g., enjoyment) emotions while student teaching.

In order to study the development of TSE, these general theoretical guidelines for the development of self-efficacy beliefs need to be explored empirically for TSE of preservice teachers specifically. To date, the development of TSE is an under researched area. In 2002, Henson noted that longitudinal research on the development of TSE was effectively non-existent but much needed. A recent review of teacher efficacy research of the last decade (Klassen et al., 2011) found that only six out of 218 teacher efficacy studies examined the sources of TSE, five of which used qualitative approaches. These studies provide some evidence that the proposed sources do affect the development of TSE, although the strength of the influence of each source seems to vary with a multitude of factors (e.g. professional experience in Gabriele & Joram, 2007) and does not seem to be equally effective for each dimension of TSE. In response to the low number of studies on the sources of TSE, Klassen et al. (2011) strongly recommended focusing research efforts on longitudinal studies that explore how TSE changes over time. Moreover, all six studies featured inservice teachers, thus providing no insights into how the sources of TSE impact on its development while teachers are still in training. Examining changes in TSE at an early stage is of significance, because TSE is understood to be most malleable in preservice teachers (Henson, 2002; Woolfolk & Hoy, 1990), and rather resistant to change once firmly established (Bandura, 1997). There is some research regarding changes in TSE of preservice teachers, which is reviewed in the next section.

1.3. Previous research examining changes in teacher self-efficacy of preservice teachers

Few studies have explored changes in the TSE of preservice teachers. Some of these used qualitative approaches (e.g., Mulholland & Wallace, 2001), offering valuable insights into factors that might impact on the development of TSE. However, for the purpose of this study, a systematic documentation of changes in TSE for preservice teachers is of interest. Hence, only quantitative research that focused on such changes is reviewed in this section.

Following Bandura's (1997) notion that mastery experiences are the most powerful source influencing self-efficacy beliefs, most previous research exploring the development of TSE in preservice teachers has centered on practical experiences during teacher preparation i.e., a teaching practicum at school. Using pre-post