



Cross-validation of the Norwegian Teacher's Self-Efficacy Scale (NTSES)

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HIGHLIGHTS

- Cross validation of Norwegian Teacher's Self-Efficacy Scale (NTSES).
- NTSES showed a strong factorial invariance across Italian and Norwegian samples.
- NTSES (Italian version) had good internal consistency and test-retest reliability.
- NTSES (Italian version) had expected correlations with job variables.

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ABSTRACT

The study assesses the psychometric properties of the Italian version of the Norwegian Teacher Self-Efficacy Scale – NTSES. Multiple group confirmatory factor analysis was used to explore the measurement invariance of the scale across two countries. Analyses performed on Italian and Norwegian samples confirmed a six-factor structure of the scale with a strong factorial invariance. The analyses conducted on the Italian sample supported good internal consistency and test-retest reliability. The Italian version of the NTSES showed expected correlations with measures of job-related well-being. These results confirm the good psychometric properties of the Italian version of the NTSES.

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1. Introduction

Perceived self-efficacy is defined by Bandura (1986) “as people's judgements of their capabilities to organize and execute courses of action required to attain designated types of performance” (p. 391). Research on teacher self-efficacy has increased in the past two decades, and the construct is considered to be one of the key beliefs that influence teachers' professional behaviours (Gibbs, 2003;

Wolters & Daugherty, 2007). Recent reviews have highlighted certain important issues for research in this field: the necessity for more diverse methodological approaches, and, in particular, more qualitative and longitudinal studies; the need for examination of sources of teacher self-efficacy; the necessity to develop measures where a balance between domain-specific and general self-efficacy is achieved; the need to extend research on teacher self-efficacy to different cultures; the need to resolve certain measurement problems related to the congruence of measurement with theory; and the need also to study collective teacher self-efficacy (Klassen, Tze, Betts, & Gordon, 2011; Wheatley, 2005). This study is in line with some of these recommendations. In particular, we were interested in developing a measure that has a good equilibrium between specificity and generality in order to study cross-cultural differences in teacher self-efficacy. In fact, teacher self-efficacy has been

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conceptualized and measured differently by different researchers in different contexts, making cross-cultural comparison difficult. For cross-cultural studies, it is necessary to use measures that are closely connected with the theoretical definition of self-efficacy. Bandura (2012) has recently underlined that some scales fail to capture efficacy beliefs. “Self-efficacy is concerned with people’s beliefs in their capability to produce given attainments. All too often, this belief system is treated as though it is a generalized trait” (Bandura, 2012, p. 15). Bandura (2006) argues for the need to assess capabilities, and not intentions, current ability, or outcome expectancies in the measurement of self-efficacy.

2. Teachers’ self-efficacy

2.1. The construct of teacher self-efficacy and its measurement

Teacher self-efficacy commonly denotes teachers’ beliefs in their ability to influence their students’ outcomes (Skaalvik & Skaalvik, 2007; Soodak & Podell, 1996; Wheatley, 2005). Based on the theoretical framework of self-efficacy developed by Bandura (1997), teacher self-efficacy may be conceptualized as individual teachers’ beliefs in their own ability to plan, organize, and carry out activities required to attain educational goals (Skaalvik & Skaalvik, 2008). As an overall indicator of such different, context-specific beliefs, teachers’ self-efficacy has been shown to be positively related to teaching and instructional behaviours. Teachers with a strong sense of efficacy tend to exhibit higher levels of planning and organization; they are more engaged and they also are more open to new ideas, and are more willing to experiment with new methods to meet the needs of their students better (Tschannen-Moran & Woolfolk Hoy, 2001; Simbula, Guglielmi, & Schaufeli, 2011). Teachers with low self-efficacy experience greater difficulties in teaching, lower levels of job satisfaction, and higher levels of job-related stress (Skaalvik & Skaalvik, 2009; Betoret, 2006; Caprara, Barbaranelli, Borgogni, & Steca, 2003). These findings show the importance of the self-efficacy construct in the fields of psychology and education; however, researchers have historically had difficulty with developing a measurement tool which is able to capture its essential facets adequately. As reported by Skaalvik & Skaalvik (2009), Bandura (2006) has made a number of recommendations for item construction of a teacher self-efficacy scale: (a) the items should contain verbs like “can” or “be able to” in order to capture the perceived capability; (b) the subject in each statement should be “I”, because this is a better way to assess the capability of a teacher; and (c) each item should contain a barrier, because, as noted by Bandura (1997, p. 42), if there are no obstacles to surmount, the activity is easy to perform, and everyone has uniformly high perceived self-efficacy for it. The construction of a valid self-efficacy scale therefore requires a conceptual specification of the performance determinants in a given domain of functioning and impediments (Bandura, 2012).

As Tschannen-Moran and Woolfolk Hoy (2001) and Klassen et al. (2011) noted, however, numerous studies on teachers’ self-efficacy are not consistent with Bandura’s recommendations. For example, the main conceptual difficulty in the Teacher Efficacy Scale (Gibson & Dembo, 1984) – one of the most commonly used scales of teachers’ self-efficacy – concerns its focus on teachers’ beliefs about their control of student outcomes rather than on the teachers’ abilities to teach students effectively. The same problem is also present in some domain-specific measures, like the Science Teaching Efficacy Beliefs Instrument (Riggs & Enochs, 1990). Moreover, Klassen et al. (2011), in their meta-analysis on teachers’ self-efficacy, suggest that almost one half of the 218 studies analysed used measures that were not congruent with Bandura’s conceptualizations of self-efficacy.

Bandura further notes that “strength of self-efficacy is measured across a wide range of performance within an activity domain” (Bandura, 2012, p.17). In fact, teachers’ sense of efficacy may differ across the different tasks that they are required to perform (Bandura, 1997). This self-efficacy characteristic is particularly important today: teachers are increasingly charged with tasks related not only to subject teaching or class management but also to school management, collaboration, and coping with changes. However, self-efficacy scales must achieve an optimal level of specificity in order to balance between domain specificity and practical and theoretical usefulness (Klassen et al., 2011; Pajares, 1996; Tschannen-Moran & Woolfolk Hoy, 2001). Overly specific measures may lose their predictive power for anything beyond the specific skills and contexts being measured. Self-efficacy measures should therefore assess teachers’ competence across the wide range of activities and tasks that they are required to perform.

Some scales measuring teacher self-efficacy (Caprara et al., 2003; Schwarzer, Schmitz, & Daytner, 1999) have followed Bandura’s recommendations, but they have measured only a single dimension of teacher self-efficacy. Consideration of just one dimension of self-efficacy does not fully represent the multifaceted nature of a teacher’s work. Recognizing the need for a multi-dimensional scale, Tschannen-Moran and Woolfolk Hoy (2001) developed a Teachers’ Sense of Efficacy Scale (TSES; also labelled in some studies the Ohio State Teacher Sense of Efficacy Scale; OSTES) consisting of three dimensions: instructional strategies, classroom management, and student engagement. This scale has shown positive correlations with other personal efficacy scales, and it captures some teaching tasks (Tschannen-Moran & Woolfolk Hoy, 2001). However, a shortcoming is that most of the items lack clear barriers, which are strongly recommended by Bandura (1997). Another problem is that teacher self-efficacy is reduced to three dimensions, which we believe not to be sufficient to capture the variety of tasks and demands required for teaching (Skaalvik & Skaalvik, 2007). Indeed, by using too few dimensions one runs the risk of losing the ability to highlight any differences in self-efficacy of teachers in regard to different tasks. For example, the Teachers’ Sense of Efficacy Scale does not consider teachers’ beliefs concerning efficacy in their ability to cooperate with colleagues or parents, which is an ability of increasing utility. In several countries, school systems require teachers to work in teams sharing responsibility for a large group of students, and they require teachers to inform parents about schoolwork and to make decisions together with parent (Skaalvik & Skaalvik, 2007). Moreover, in many countries teachers are often asked to deal with frequent changes in both teaching methods and classroom management. Self-efficacy appears to be an important resource in managing these changes (Evers, Brouwers, & Tomic, 2002).

Recognizing the variety of tasks and demands facing teachers, Bandura developed a scale that investigates up to seven dimensions: efficacy to influence decision making, efficacy to influence school resources, instructional efficacy, disciplinary efficacy, efficacy to enlist parental involvement, efficacy to enlist community involvement, and efficacy to create a positive school climate. Unfortunately, reliability and validity of the measure have not been made available (Tschannen-Moran & Woolfolk Hoy, 2001).

The Norwegian Teacher Self Efficacy Scale (NTSES) is a multi-dimensional scale of teachers’ self-efficacy. It measures six dimensions: self-efficacy for instruction; adapting education to individual student’s needs; motivating students; maintaining discipline; cooperating with colleagues and parents; and coping with changes and challenges (Skaalvik & Skaalvik, 2009). The dimension of ‘instruction’ refers to the teachers’ beliefs in their capacity to explain subject matter or to answer questions to improve students’ understanding. ‘Adapting education to individual students’ needs’

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