DAVID A. G. BERG AND LISA F. SMITH

1. PRESERVICE TEACHER SELF-EFFICACY BELIEFS

An Opportunity to Generate "Good Research" in the Asia-Pacific Region

ABSTRACT

This chapter examines how teachers' self-efficacy beliefs can lead to the enhanced wellbeing of students, teachers, and preservice teachers. We first present a brief historical tour of the construct of teacher self-efficacy, followed by findings of research pertaining to preservice and in-service teacher self-efficacy beliefs. We then describe how teacher self-efficacy beliefs have been measured and the challenges associated with the measurement of this construct. We develop this discussion by sharing findings from a mixed methods approach that explored teacher self-efficacy in the Asia-Pacific region. The chapter concludes with a discussion of what has been learned to date, how findings from the research can contribute to enhancing teachers' self-efficacy beliefs, and the importance of mixed-methods research to inform this area of study.

INTRODUCTION

Educational research is often judged to be good based on having a strong conceptual framework and an elegant design. Unfortunately, consideration of the ultimate purpose and impact of the research on human well-being can be neglected (Hostetler, 2005). Similarly, Bandura (1997) has argued that theories are often evaluated by their "explanatory and predictive power." However, as he noted, "The value of a psychological theory must also be judged by the power to change people's lives for the better" (p. viii). We believe that social cognitive theory (Bandura, 1997) provides a strong conceptual framework for educational researchers to use in the development of studies of teachers' self-efficacy beliefs that can lead to the enhanced wellbeing of students, teachers, and preservice teachers. By extension, we believe that improving the well-being of students, teachers, and preservice teachers will provide opportunities for increasing educational outcomes.

In this chapter, we seek to provide a warrant for this claim and encourage research on teacher self-efficacy in the Asia-Pacific region. We begin by offering a brief historical tour of teacher self-efficacy as a construct and presenting findings of

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research pertaining to preservice and in-service teacher self-efficacy beliefs. Next, we offer an exploration of how teacher self-efficacy beliefs have been measured and the challenges for those who seek to measure them. Following this, we consider some of the most significant findings to date: namely the factors that affect teacher self-efficacy beliefs and factors that are related to those beliefs. We develop this discussion by sharing a mixed methods approach for researching teacher self-efficacy in the Asia-Pacific region. We then conclude by considering what we have learned, how we might respond to what we have learned, what limitations are evident, and then we make suggestions as to what research could be done to contribute to this body of scholarship in the region.

As a starting point, Tschannen-Moran and Hoy (2007) described useful possibilities for those seeking to research the self-efficacy beliefs of preservice teachers.

> Teachers entering the field have typically experienced "apprenticeships" of at least 17 years as students. What are the qualities of the teachers they remember and what is the impact of these memories on preservice teachers' developing sense of efficacy as teachers? Likewise, what is the impact of modelling by university professors and by cooperating teachers during student teaching? What is the impact of images of teachers in movies and the news media? Studies such as these would be helpful as we seek to learn about the source of self-efficacy beliefs among preservice and novice teachers. (p. 954)

We are intrigued by these questions, but have others that we believe can make a significant difference to how initial teacher education is shaped in terms of building self-efficacy beliefs.

In our work, we have considered how graduates from different initial teacher education pathways vary in their self-efficacy beliefs and have asked if those in three- and four-year undergraduate programmes have higher or lower self-efficacy beliefs as compared to those who have completed one year post graduate programmes (Berg & Smith, 2014b). Further, we have considered how the number of days that preservice teachers spend on practica may affect preservice teachers' self-efficacy beliefs (Berg, 2011; Smith, 2006) and how the timing and the nature of the practica may make an impact (Smith, 2006). In our comparison of the self-efficacy beliefs of preservice teachers from three nations (Berg & Smith, 2014b), we have identified differences among cohorts and considered how an understanding of teacher self-efficacy beliefs and the antecedents for those beliefs can provide important information for teacher educators who are responsible for initial teacher education.

It is still the case that the majority of teacher self-efficacy research has been conducted in North America. Research such as ours described above is merely scratching the surface of what it possible and of what needs to be explored in our Asia-Pacific context. We would like to encourage the growth of a body of research that considers measurement issues, contextual influences of teacher self-efficacy,

and the influence of cultural preferences on the formation of teacher self-efficacy beliefs across the Asia-Pacific region.

TEACHER SELF-EFFICACY BELIEFS

Background

Self-efficacy beliefs are those beliefs that people hold about the skills and competencies they have to achieve a specific task (Bandura, 1997). These beliefs influence how both thought processes and emotions affect an individual's motivation. Those who believe they have the capability to succeed are more likely to persist in the face of adversity and invest significant effort to achieve goals of importance to them; whereas, those who doubt their skills and competencies are more likely to see such efforts as futile and will not endure (Bandura, 1997; de la Torre Cruz & Arias, 2007). These beliefs have considerable impact as a result of their self-referential nature, and mediate among knowledge, skills, and behaviour in goal achievement (Henson, Kogan, & Vacha-Haase, 2001). Given the potency of self-efficacy beliefs, scholars have sought to understand how they affect people's occupational activities (Bandura, 1997). As evident in the chapters of this volume, the self-efficacy beliefs of teachers and preservice teachers have come to be recognised as important topics of educational research.

North American researchers have been engaging with the topic of teacher self-efficacy for almost four decades, following questionnaire studies conducted by the Rand Foundation (Armor et al., 1976) and Berman, McLaughlin, Bass, Pauly, and Zellman (1977). In the ensuing years, two questionnaire items were added that led to potent findings (Tschannen-Moran & Woolfolk Hoy, 2001). The first item asked, "When it comes down to it a teacher can't really do much because most of a student's motivation and performance depends of his or her home environment" (Armor et al., 1976). Ashton, Olejnik, Crocker, and McAuliffe (1982) named this *general teacher efficacy* (GTE). The second question, labelled by Ashton et al. as *personal teacher efficacy*, asked, "If I try really hard, I can get through to even the most difficult and unmotivated students" (Armor et al., 1976).

At this stage, the emerging construct of teacher efficacy was theoretically underpinned by Rotter's (1966) locus of control theory and was understood by the "extent that to which teachers believed reinforcement lay within themselves or the environment" (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, p. 202). Nearly two decades later in 1984, Gibson and Dembo looked to Bandura's (1977) social cognitive theory to more fully understand teachers' self-efficacy beliefs. This amounted to a significant breakthrough in the field and by the outset of the new millennium, the majority of teacher self-efficacy research was conceptually underpinned by Bandura's theory (Wheatley, 2002). This not withstanding, the use of these two similar, but separate conceptual strands has caused confusion surrounding in teacher self-efficacy research (Goddard, Hoy, & Woolfolk Hoy, 2000).

Tschannen-Moran, Woolfolk Hoy, and Hoy's (1998) model of teacher self-efficacy offered an important breakthrough by combining Rotter's (1966) and Bandura's (1997, 1995) theories. They used Rotter's (1966) locus of control theory to understand context and task analysis, but more significantly, looked to the attribution analysis and interpretation of Bandura's (1997, 1995) four principal sources of information for the construction of teacher self-efficacy beliefs. These four sources are: mastery experience, physiological and emotional states, vicarious experience, and social persuasion. This dual conceptual foundation can be seen in the two dimensions that their model offers. The first of these is "self perceptions of teaching competence" and the second, "the teaching task and its context" (p. 228). Notwithstanding, findings from our search of the literature suggest that much of the recent research that has been conducted on teacher self-efficacy has been more obviously underpinned by Bandura's self-efficacy theory (see for example, Skaalvik & Skaalvik, 2007). Reference to Rotter's (1966) locus of control theory is more evident in historical accounts of the evolution of teacher self-efficacy research (Berg, 2011).

There are important reasons why initial teacher educators should be mindful of their students' teacher self-efficacy beliefs: once established, self-efficacy beliefs seem to be resistant to change. That is, once a belief is formed, its holder is likely to attend to confirmatory experiences and ignore or minimise evidence that challenges the belief (Bandura, 1997). Thus, it is likely to be easier to encourage the development of healthy teacher self-efficacy beliefs during initial teacher education than to engage in remedial action once those beliefs are formed. Consequently, it is not surprising that a body of research exists exploring the impact of early mastery experiences on the formation of preservice teachers' self-efficacy beliefs (Hoy & Spero, 2005). The findings from this body of research, however, are inconsistent and are not easily interpreted (Berg, 2011, Berg & Smith, 2014; Ganser, 1996, Henson, 2002; Parker, Guarino, & Wade Smith, 2002; Smith, 2006). Conceptual and measurement issues offer some explanation for the inconsistencies, as do context variables. Examples of conflicting findings include research into the effects of urban and suburban environments (Ashton, Webb, & Doda, 1983; Knoblauch & Woolfolk Hoy, 2008; Smith, Klein, & Mobley, 2007). Nevertheless, some highly applicable findings are evident from this body of research including those that identify the significance of appropriate mentoring and other support for preservice teachers for the formation of their teacher self-efficacy beliefs (Burley, Hall, Villeme, & Brokmeier, 1991; Knoblauch & Woolfolk Hoy, 2008; Woolfolk Hoy, 2000).

Measurement

Tschannen-Moran et al.'s (1998) model of teacher self-efficacy has been widely accepted; yet, questions of how to best measure teacher self-efficacy beliefs remain. Indeed, Tschannen-Moran and Woolfolk Hoy (2001) have argued that

"persistent measurement problems have plagued those who have studied teacher efficacy" (p. 783). Skaalvik and Skaalvik (2010) also have drawn attention to measurement problems that are evident in the research literature. They noted that there is a lack of common agreement as to how teacher self-efficacy should be measured and conceptualised. Their claims support those made almost a decade earlier by Roberts and Henson (2001), who challenged "the construct validity of scores from a variety of instruments purporting to measure teacher efficacy…" (p. 5). Here, we identify five challenges of which researchers of teacher efficacy beliefs need to be mindful.

The first challenge we face is to ensure conceptual clarity. As already discussed, researchers have looked to Rotter's (1966) locus of control theory and Bandura's (1977) social cognitive theory, to provide conceptual frameworks for their studies. Goddard, Hoy, and Woolfolk Hoy (2000) have suggested that although some researchers have presumed that these theories are, to a degree, analogous, important differences are evident. Indeed, social cognitive theory identifies beliefs about an individual's ability to bring about an outcome; whereas, locus of control theory considers beliefs about the power of actions to affect outcomes. Bandura (1997) has shown that only a weak correlation exists between these two constructs and has argued that self-efficacy is a robust antecedent of behaviour, but locus of control is not. Furthermore, he offered the following example to illustrate how locus of control is very different from self-efficacy belief: "students may believe that high academic grades are entirely dependent on their performance (high locus of control) but feel despondent because they believe they lack the efficacy to produce those superior academic performances" (Bandura, 2006, p. 309). Equally, teachers may believe that student success is largely dependent on the effectiveness of teachers, but doubt their own ability to be effective in the classroom.

Secondly, we suggest researchers should consider the challenges of ensuring reliability and validity when measuring self-efficacy beliefs. Bandura (2006) has argued that, "the construction of sound efficacy scales relies on a good conceptual analysis of the relevant domain of functioning" (p. 310). In short, to be reliable, teacher self-efficacy scales must reflect a strong understanding of what it means to be an effective teacher. Bandura further argued that efficacy beliefs should be measured against potential barriers to success or obstacles to pass, as everyone has high efficacy beliefs for easily achievable activities. We would add that self-efficacy measures should be examined in terms of their relationships to similar constructs such as concerns about teaching (see e.g., Smith, 2006; Smith et al., 2007; Smith, Corkery, & Buckley, 2009; Smith, Corkery, Buckley, & Calvert, 2012). In that way, evidence of validity can be established and findings can be more readily generalised.

Thirdly, researchers must consider how general or situation specific the measurement of teacher efficacy should be to best support the purpose of their research. Bandura (1997) identified the lack of uniformity of teachers' self-efficacy beliefs across different subjects. He pointed out that as a consequence of this,

"omnibus measures" (p. 243) resulted in compromise and reduced the predictive power of findings. Nevertheless, the work of teachers is complex and success in the classroom demands a wide range of abilities that exceed narrow understandings of teaching a given subject. These include managing a safe and learning focussed classroom; building and maintaining positive professional relationships with students, parents, and colleagues; and, collecting and using assessment data summatively and formatively to support and report on learning. Tschannen-Moran and Woolfolk Hoy (2001) have highlighted the danger of overly specific enquiry: "I am confident that I can teach simple subtraction to middle-income second graders in a rural setting who do not have learning disabilities as long as my class is smaller than 22 students and good manipulatives are available" (p. 795). Instruments that reflect broader conceptions of the work of teachers allow researchers to measure global teacher self-efficacy beliefs and thus increase the external validity and opportunities for findings to be applied in practical contexts (Pajares, 1996; Tschannen-Moran & Woolfolk Hoy, 2001). Such multi-itemed instruments allow researchers to select specific items germane to their enquiries (Bandura, 1997).

The fourth challenge for teacher self-efficacy researchers is to consider is how understandings and antecedents of teacher self-efficacy beliefs may vary across cultures. Indeed, Oettingen (1995) has argued that sources of efficacy beliefs vary across cultures in their pervasiveness, forms, and significance. However, culture as a concept is problematic and researchers considering culture are open to allegations of stereotyping (Mason, 2007). Mason has argued that cultures comprise diverse individuals who operate in a world, "characterised by increasing degrees of plurality, multiculturalism, interdependence, hybridity and complexity (p. 169). This notwithstanding, it is important to recognise that both the theoretical roots and much of the emerging work on teacher self-efficacy has been developed in a North American context and reflects the work and expectations of teachers in American classrooms. Work remains to be done to consider the suitability of both the foundational understanding of theory and validity and suitability of measures when used in different settings.

A final challenge for researchers is to continue to expand the field of study by applying new and creative methods of data gathering and analysis. Berg's (2011) review of the teacher self-efficacy literature reflected the dominance of quantitative methods in researching teacher self-efficacy beliefs. This is disappointing as almost two decades earlier, Pajares (1992) argued "additional measures such as open-ended interviews, responses to dilemmas and vignettes, and observation of behaviour must be included if richer and more accurate inferences are to be made" (p. 327). Labone (2004) and Wheatley (2005) also have called for richer, more in depth qualitative studies. In our recent study (Berg & Smith, 2014a), we looked to mixed methods research. We used the Teachers' Sense of Efficacy Scale (TSES; Tschannen-Moran & Woolfolk Hoy, 2001) in conjunction with a series of focus groups. Thus, we were able to build upon the rich quantitative research base that

has evolved over the last 40 or more years by incorporating a qualitative phase that allowed us to critically examine the survey results. Through subjecting the data that emerged from the focus groups to thematic analysis, we obtained a richer, more complex story and more in-depth results than the survey alone would have provided. We suggest that a pragmatic approach, such as this, offers opportunities to glean rich insights into teachers' self-efficacy beliefs in a range of contexts.

There are currently two very useful quantitative measures of teacher self-efficacy beliefs. The first of these, the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) has been used to establish a significant body of research. Henson's (2002) claim that it had potential to make a rich contribution to teacher self-efficacy research has since been well warranted in a wide-range of contexts, not least in the measurement of preservice teachers' self-efficacy beliefs (Berg & Smith, 2014b; Cheung, 2008; Klassen et al., 2009; Knobloch & Whittington, 2002). The TSES comprises 24 items. However, a potential disadvantage is that these items represent what may be considered a narrow range of tasks, which principal components analyses have consistently factored into three components: efficacy for student engagement; efficacy for instructional strategies; and efficacy for classroom management. Further, Roberts and Henson (2001) have cautioned that the eigenvalues belonging to the third factor are borderline. Avanzi et al. (2013) have noted that the TSES does not reflect the importance of teachers working with colleagues and parents, and does not consider self-efficacy beliefs about adapting to the accelerated pace of change evident in the education systems of many schools. This notwithstanding, the narrower understanding of the work of teachers may mean that this scale is more generic and has a wider utility, as is evident in its use with preservice teachers without the need for amendment. Indeed, use of the instrument with preservice teachers has generally resulted in a single dimension, suggesting that preservice teachers may initially not distinguish among the different aspects of a teachers work (Berg & Smith, 2014a; Duffin, French, & Patrick, 2012; Smith et al., 2007; Smith et al., 2012).

The second measure, a more recent development, is the Norwegian Teacher Self-Efficacy Scale (NTSES) (Skaalvik & Skaalvik, 2007). The NTSES appears to have the potential to make a valuable contribution to the field. A notable strength is its close alignment with Bandura's (2006) recommendations for the construction of self-efficacy scales (Avanzi et al., 2013). Additionally, it measures six dimensions of teacher efficacy: instruction, adapting education to individual students' needs, motivating students, keeping discipline, cooperating with colleagues and parents, coping with changes and challenges (see p. 614), thus offering a broader conception of the range of tasks that teachers must engage in to ensure student success, as compared to the TSES. This measure has been used successfully in Norway by its authors and has been cross-validated by Avanzi et al. (2013) in Italy. However, as yet it has not been adapted for use with preservice teachers or been used in research in the Asia-Pacific region.

Significant Findings from Teacher Efficacy Research

Despite the conceptual and methodological uncertainty that has been evident in the field of teacher efficacy beliefs, the importance of this construct is strongly supported by an extensive list of positive outcomes for students, preservice teachers, and practising teachers that have been found to be associated with strong teacher efficacy beliefs (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Clearly, correlation does not equal causation, yet the strength of the findings is such that teacher self-efficacy beliefs are recognised as an important influence on teacher performance (Avanzi et al., 2013; Wolters & Daugherty, 2007). Indeed, students taught by teachers with high teacher self-efficacy beliefs have been found to have higher levels of motivation (Midgeley, Feldlaufer, & Eccles, 1989; Woolfolk, Rossof, & Hoy, 1990), self-efficacy (Anderson, Greene, & Loewen, 1988), and achievement (Anderson et al., 1988; Armor et al., 1976; Ashton & Webb, 1986; Moore & Esselman, 1992; Ross, 1992).

In terms of in-service teachers, those with strong teacher self-efficacy beliefs have been found to:

- be more committed (Coladarci, 1992; Evans & Trimble, 1986; Wolters & Daugherty, 2007);
- be enthusiastic about teaching (Allinder, 1994; Guskey 1984; Hall, Burley, Villeme, & Brockmeier, 1992; Skaalvik & Skaalvik, 2010);
- be more likely to continue to work as a teacher (Burley, Hall, Villeme, & Brockmeier, 1991; Glickman & Tamashiro, 1982);
- be tenacious, resilient, and more understanding of less successful students (Ashton & Webb, 1986);
- be more likely to trial pioneering methods and innovative ideas (Allinder, 1994; Berman, McLaughlin, Bass, Pauly, & Zellman, 1977; Cousins & Walker, 2000; Ghaith & Yaghi, 1997; Guskey, 1988; Meijer & Foster, 1988; Smylie, 1988; Wertheim & Leyser, 2002);
- use hands on teaching methods (Riggs & Enochs, 1990);
- show evidence of more effective organisation and planning (Allinder, 1994); and, are more satisfied with their jobs (Klassen et al., 2009; Skaalvik & Skaalvik, 2014).

In contrast to these, teachers reporting negative efficacy beliefs have been found to report higher levels of emotional exhaustion, burnout, and stress (Bandura, 1997; Skaalvik & Skaalvik, 2007, 2014); have negative expectations of students' learning outcomes (Bandura, 1997); identify more student behaviour problems (Caprara, Barbaranelli, Borgogni, & Steca, 2003); and report lower levels satisfaction with their work (Caprara et al., 2003; Caprara, Barbaranelli, Steca, & Malone 2006; Klassen et al., 2009).

As we have identified, research into preservice teacher self-efficacy beliefs is important as a consequence of the resilience of these beliefs once they are established (Hoy & Spero, 2005). Bandura (1997) has conjectured that this is a result of the stable nature of people's self-schemata of personal efficacy. However, inconsistent findings have hindered the interpretation of research into the teacher self-efficacy beliefs of preservice teachers (Ganser, 1996; Henson, 2002; Parker, Guarino, & Wade Smith, 2002; Smith, 2006). The conceptual and measurement issues (as discussed in this chapter) that have challenged researchers may offer a partial explanation for this. However, context variables may also offer a rationale for inconsistent findings. Examples of apparently conflicting results are evident in the study of the locus of school setting for preservice teachers' school based experience in rural, suburban, or urban environments (Ashton et al., 1983; Knoblauch & Woolfolk Hoy, 2008; Smith et al., 2007); and in studies investigating the impact of school stage (Fortman & Pontius, 2000; Lin & Gorrell, 1998).

Researchers have, for the most part, found that teacher self-efficacy increases during preservice teacher preparation programmes (Gorrel & Hwang, 1995; Gurvitch & Metzler, 2009; Housego, 1992; Hoy & Spero, 2005; Hoy & Woolfolk, 1990; Malmberg & Hagger, 2009; Wenner, 2001). Hoy and Spero (2005) noted that measurement issues might explain the exceptions to this that was evident in Romi and Daniel's (1999) and Lin and Gorrell's (2001) findings. An alternative explanation is that the discrepancies could be accounted for by important differences in the practicum component of these programmes (Gurvitch & Metzler, 2009).

Further findings of interest include the value of giving preservice teachers practicum experiences early in their programmes, with opportunities for working with small groups, tutoring, and observation (Clift & Brady, 2005; Smith, 2006); and, the importance of the relationship between reduced support and lower levels of self-efficacy beliefs (Burley, Hall, Villeme, & Brokmeier, 1991, Woolfolk Hoy, 2000). Teachers mentoring preservice teachers in classrooms have been identified as potential powerful sources of self-efficacy information. Teachers provide the opportunity for vicarious experience (when preservice teachers see role models successfully achieving teaching goals) and verbal persuasion (by making and sharing judgements about preservice teachers' abilities) (Knoblauch & Woolfolk Hoy, 2008). Research has shown that preservice teachers' teacher self-efficacy beliefs are negatively correlated with their concerns about teaching, suggesting that efforts to bolster teacher efficacy beliefs may ameliorate concerns about self (Berg & Smith, 2014a). This supports Fuller's (1969) foundational research about teachers' concerns, which suggested that as teachers and preservice teachers become less concerned about themselves, they focus their concerns on their students and their learning. In fact, concerns about teaching have been shown to be a related but distinct concept from teacher self-efficacy (Berg & Smith, 2014a; Smith et al., 2009).

TEACHER EFFICACY RESEARCH IN THE ASIA-PACIFIC REGION

An emerging, but significant body of research is evident that explores teacher self-efficacy beliefs in the Asia-Pacific region, including studies involving preservice and in-service teachers from Australia (Garvis & Pendergast, 2011; Ho & Hau, 2004; Pendergast, Garvis, & Keogh, 2011), China (Cheung, 2006, 2008; Kennedy & Hui, 2006; Ho & Hau, 2004; Tsui & Kennedy, 2009), Korea (Klassen et al., 2009), Malaysia (Berg & Smith, 2014a), New Zealand, (Anthony, Haigh, & Kane, 2011; Berg & Smith, 2014a; Haigh & Anthony, 2012; Smith et al., 2009; Smith et al., 2012); Singapore (Klassen et al., 2009); and, Taiwan (Lin, Gorrell, & Taylor, 2002).

Findings from the limited number of studies that seek to measure the teacher efficacy beliefs of teachers and preservice teachers across contexts are of interest, as they offer the opportunity to consider how the construct is realised across the Asia-Pacific region. For example, Ho and Hau's (2004) study of Chinese and Australian teachers found the construct of teacher efficacy to be cross-culturally valid, though they noted important cultural differences. The Australian teachers who participated in their study reported stronger efficacy beliefs in all areas, as compared to their Chinese peers. Ho and Hau suggested that this was a consequence of the self-effacing behaviour expected in collectivist cultures and greater expectations of teachers in Chinese society. Similarly, in their comparative study of US and Taiwanese preservice teachers, Lin, Gorrell, and Taylor (2002) found that the Taiwanese preservice teachers prioritised strong relationships with parents and had an increased awareness of the difficulty of teaching large classes. Further, Cheung (2008), using Kennedy and Hui's (2006) Chinese version of Tschannen-Moran and Woolfolk Hoy's (2001) Teachers' Sense of Efficacy Scale (TSES) to compare the beliefs of teachers in Hong Kong and Shanghai, posited that "a cultural preference for being modest" (p. 119) offered an explanation for the lower efficacy scores of the Hong Kong teachers in comparison to their peers in Shanghai. This is an important reminder of the cultural differences that may be evident within nations and broad cultural groups. Furthermore, these studies highlight differing cultural understanding of the role of the teacher, and how culture may cloud the direct comparisons of answers given to the same question by those from different cultures.

A MIXED METHODS MODEL

Here, we describe in more detail the design and findings from our mixed-methods study (Berg & Smith, 2014a) with the hope that they may be useful to others seeking to conduct similar research. We suggest that our findings have shown that teacher self-efficacy is a useful construct for exploring the beliefs of preservice teachers from two distinct Asia-Pacific nations: Malaysia and New Zealand (The study also included preservice teachers from England) and that a mixed methods approach to comparative teacher self-efficacy research allows for empirical findings to be

interpreted in a rich and nuanced way, thus avoiding overly simplified or superficial explanations of difference.

In the first phase of the research, we used the Teachers' Sense of Efficacy Scale (long form) (TSES; Tschannen-Moran & Woolfolk Hoy, 2001) to gather quantitative data. A principal components analysis of these data yielded a single factor solution for each national group. The coefficient alpha reliabilities for the TSES for the New Zealand, Malaysian, and English samples were .95, .96 and .87 respectively. Using scale scores based on the one factor solutions, a univariate analysis of variance (ANOVA) was used to examine differences between the samples, which resulted in a significant difference among groups, F (2,251) = 5.534, p = .004, partial eta squared = 0.042. Following this, we re-examined the mean differences using Least Significant Difference (LSD) post hoc procedures at alpha = .05. These revealed that the mean for the Malaysian sample (M = 143.41, SD = 25.96) was significantly lower than that of the New Zealand sample (M = 156.23, SD = 22.63) and the English sample (M = 156.80, SD = 26.90). With a mean score of .50 standard deviations below the other cohorts, it appeared that the Malaysian preservice teachers believed that they were less likely to function well as a teacher as compared to their New Zealand and English peers.

The mixed-method design allowed us the opportunity to explore these findings in focus groups. The findings from these were fascinating and alerted us to important differences among the three cohorts. Most notably, the Malaysian preservice teachers reported important contextual factors, including less time spent on practicum experiences in the first year of their study. They also reported class sizes that were twice that of New Zealand classes, and an expectation that they would engage in subject-based primary teaching. With this in mind, it was hardly surprising that participants would indicate lower scores on TSES items such as, "How much can you motivate students who show low interest in their school work?" With less time spent in larger classes, the task was clearly more challenging than for their New Zealand peers.

However, the rich discussion from the focus groups allowed us the opportunity to explore cultural differences both across and within the cohorts. We contend that researcher should be mindful of such important differences in the national cultures that make up the Asia-Pacific region. We argue that different understandings of the role of the teacher must be considered (Berg & Smith, 2014a; Cheung, 2006; Ho & Hau, 2004; Lin, Gorrell, & Taylor, 2002; Tsui & Kennedy, 2009). Indeed, going back to 1980, Hofstede contended that teachers in high power difference societies, such as Malaysia, are likely to take greater responsibility for the success or failure of their students than teachers in low power difference societies, such as New Zealand. A further cultural difference that must be considered when comparing reported self-efficacy beliefs is a society's cultural norms. For example, the self-effacing tendencies often expected in collectivist cultures (Ho & Hau, 2004) may not

align with extolling one's self-efficacy as a teaching education student. Even within the Malaysian cohort, differences were the norm among the backgrounds – and beliefs – of the students. We recommend Oettingen (1995) for a useful discussion of Hofstede's cultural dimensions and Bandura's sources of self-efficacy, to consider how sources of self-efficacy belief may vary across the cultures evident in our study.

CONCLUSION

In this chapter, we have argued that teacher efficacy research offers investigators rich opportunities to conduct research that might be considered "good" both in its capacity to support the development of educational outcomes that enhance the well-being of students, teachers and preservice teachers, and in its sound method and conceptual framework. However, we have also described important limitations that must be recognised: a lack of conceptual clarity, measurement issues, and the need to understand how cultural and contextual variables may affect teacher efficacy beliefs. Our research (see Berg & Smith, 2014 for a more detailed description) proved to be a useful reminder of the challenge of conducting comparative studies, and the difficulty in attributing difference to culture and/or context. This notwithstanding, we have been able to use our findings to argue that contextual and cultural factors must be considered as we, as teacher educators, seek to support the development of new teachers with robust self-efficacy beliefs. We believe that using a mixed-methods design greatly increased the depth of information gathered from the participants and more importantly, the interpretation of their responses. We encourage other researchers to make use of mixed-methods to provide a more comprehensive account of reported teacher self-efficacy beliefs. In that way, we can provide more nuanced explanations of difference and make better use of results obtained. We hope that our research may be considered to be "good" because it has potential to, in a modest way, encourage a more sophisticated understanding of preservice teachers from different contexts, and their well-being. Nevertheless, we acknowledge this work is still in its infancy. Consequently, we encourage researchers across the region to engage with the powerful idea of teacher efficacy in their own contexts and advance the platform of scholarship presented in this volume.

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David A. G. Berg
University of Otago
College of Education
New Zealand

Lisa F. Smith
University of Otago
College of Education
New Zealand