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Assessing Emotional Intelligence and Its Impact in Caring Professions: The Value of a Mixed-Methods Approach in Emotional Intelligence Work with Teachers

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1. Introduction

There has been a growing interest in the concept of emotional intelligence (EI) since it was first identified by Mayer and Salovey (Mayer & Salovey, 1997; Salovey & Mayer, 1990). The concept is one that has attracted many claims including the view that it can be assessed using pen and paper type tests (as with more traditional 'intelligence' models) and that it can predict one or another type of success in life, including academic success. One early account of emotional intelligence – now widely critiqued – even claimed that it “can matter more than IQ” (Goleman, 1995). Even if claims of this magnitude are no longer held to be justifiable, they have in many ways contributed to the popular excitement surrounding the concept. Consequently, academic researchers and theorists are thinking about the concept more critically and using more sophisticated methods of test design, interpretation and application.

Considerations stemming from such debate and concern has led to the development of a number of pen and paper type tests that claim to measure emotional intelligence (though in many cases the concept that is being measured is defined differently and the results of these tests are not really comparable in the way in which different tests of traditional intelligence models would claim to be). At the same time, theorists such as Gardner (1983, 1993) have argued that there is a need for more portfolio forms of assessment for non-traditional intelligences, while others (Sternberg, 1988; Sternberg, Castejón, Prieto, Hautamäki, & Grigorenko, 2001; Thoma, 2002) have argued that there is a need for tests to be framed in more domain specific ways if they are to validly assess cognitive operations. Corcoran (2011) highlights the importance of crossing methodological boundaries when conducting research on emotion and shows how embracing both quantitative and qualitative methods, that is being methodologically ecumenical, can help to make sense of what is actually being measured by such psychometric approaches. Indeed numerous researchers (Denzin, 1984; Sutton & Wheatley, 2003; Zembylas & Schutz, 2009) working on emotion have argued that

qualitative or mixed-methods research which offers multi-perspectival answers is now needed in order to understand what is being measured by such tests. A considerable body of research into the impact of having emotional intelligence has also attracted attention to the area. The strength of this research, in many ways, lies in the link between scores on emotional intelligence tests and outcome measures such as performance in work or in other aspects of life (Bar-On, 1997b; Goleman, 1995; Mayer, Salovey, & Caruso, 2002b). Much of the focus in this has been in the use of emotional intelligence measures by management consultants, meaning many studies have been conducted in the context of organisational research and managerial practice with comparatively little attention been given to “caring” professions such as teaching where emotional intelligence is argued to be important (Brackett, Palomera, Mojsa-Kaja, Reyes, & Salovey, 2010; Corcoran & Tormey, 2010; Sutton & Wheatley, 2003). This is all the more important since what data exists on emotional intelligence and teachers suggests that, during their preservice stages of teacher education at least, they typically have a level of emotional intelligence significantly below the average for the wider population (Corcoran & Tormey, 2012). What, then, can be meaningfully said about the ways in which emotionally intelligent people would perform differently than less emotionally intelligent people in a profession like teaching?

This chapter will address these two major issues which are at the cutting edge of emotional intelligence research today. Following an introduction, the next section will evaluate the literature on the use of quantitative approaches to measuring emotional intelligence and will highlight the view that, in order to better understand and contextualise quantitative data on emotional intelligence, qualitative data is also needed. The subsequent section will give a brief overview of the literature on the impact of having emotional intelligence and identify that this too is an area that remains in need of urgent attention from researchers. The final section will present data from the largest ever research study that addresses both these issues. This study, based on the Mayer and Salovey (1997) model of emotional intelligence, will show how the qualitative data highlights the gaps and limitations of relying solely on quantitative data (as measured by the Mayer-Salovey-Caruso Emotional Intelligence Test, MSCEIT; Mayer, Salovey, & Caruso, 2002a), particularly in assessing the extent to which people have developed their emotional capacities. Drawing on interviews from student teachers undertaking a practicum, it will highlight the extent to which students who had undertaken a short emotional intelligence skills program were able to bring a more sophisticated set of emotional intelligence understandings and skills to their practice when compared to those who did not receive such training on emotional intelligence. The chapter will conclude by highlighting the areas in which future researchers should be focusing their attention.

2. Measuring emotional intelligence

In order to measure a concept it is necessary to be clear about what it is we are measuring, and here we come to perhaps the central problem in intelligence research, including emotional intelligence research. As Spearman (1927, p. 4) put it, “The most enthusiastic advocates of intelligence become doubtful of it themselves...the name really has no definite meaning at all; it shows itself to be nothing more than a hypothesised word, applied indiscriminately to all sorts of things.” Things have certainly moved on in the last eighty years since these words were written, but not as much as one might have hoped. That said,

there is some consensus regarding the qualities comprising intelligence, such as a recognition that it is concerned with learning, with aspects of higher order thinking (for example, reasoning, problem solving and decision making), and that it is concerned with adaptation to the environment (Neisser et al., 1996, p. 77). At the same time there are considerable differences between researchers as to whether intelligence represents just one thing or many different abilities and behaviours (Jensen, 1998; Sternberg, Conway, Ketron, & Bernstein, 1981; Sternberg & Detterman, 1986), and about how intelligence is to be measured (Jensen, 1998; Neisser et al., 1996).

Given the lack of a clear definition in the parent concept of 'intelligence' it is hardly surprising that there is also some lack of agreement in a definition of 'emotional intelligence'. The term, EI, was originally coined and developed over a series of theoretical articles (Mayer & Salovey, 1997; Salovey & Mayer, 1990) to reflect the idea that emotion plays a role in interaction with rationality in adaption and coping in life. Reflecting the idea that 'intelligence' is about learning, using higher order cognitive capacities and about adapting to the environment their definition saw emotional intelligence as being about learning, thinking and adapting using emotional information. Mayer and Salovey gradually refined their definition of EI and argued that it was a real intelligence, that is, it described a cognitive function (Mayer, Caruso, & Salovey, 1999). They came to define EI in working terms as "the ability to perceive and express emotions, to understand and use them, and to manage emotions so as to foster personal growth" (Salovey, Bedwell, Detweiler, & Mayer, 2000, p. 506). This definition encompasses their four-component model of EI with the four components being: (1) *Perception, Appraisal, and Expression of Emotion*, (2) *Using Emotion to Facilitate Thinking*, (3) *Understanding and Analysing Emotional Information* and (4) *Managing the Regulation of Emotion*.

While Mayer and Salovey originated the term EI (Salovey & Mayer, 1990) other approaches to the concept have since developed which has led to inconsistency in the way in which the term is used. Of these, Bar-On's approach – which is credited with coining the term "EQ" (Emotional Quotient; Bar-On, 1988) – is widely referred to in human scientific literature, and Goleman's (1995) is perhaps the most popularly known approach. Bar-On has broadly defined EI as addressing,

the emotional, personal, social, and survival dimensions of intelligence, which are often more important for daily functioning than the more traditional cognitive aspects of intelligence. Emotional intelligence is concerned with understanding oneself and others, relating to people, and adapting to and coping with the immediate surroundings to be more successful in dealing with environmental demands...In a way, to measure emotional intelligence is to measure one's "common sense" and ability to get along in the world. (Bar-On, 1997b, p. 1)

This definition is what is sometimes called a 'mixed-model' of emotional intelligence, that is, it includes cognitive ('intelligence'-type) functions but also personality-type characteristics (Mayer, Salovey, & Caruso, 2000). This is even more evident when one sees that the Bar-On 'Emotional Quotient Inventory' (EQ-i; Bar-On, 1997a) includes sections which refer to personality-type factors such as optimism. As Mayer et al. (1999, p. 268) have put it:

Such qualities as problem solving and reality testing seem more closely related to ego strength or social competence than to emotional intelligence. Mixed models must be

analysed carefully so as to distinguish the concepts that are a part of emotional intelligence from the concepts that are mixed in, or confounded, with it.

They, along with other researchers in the field (Roberts, Zeidner, & Matthews, 2001), have asserted that the term EI has become “unmoored” from both emotion and intelligence because so-called mixed models combine mental abilities (the ability to perceive emotion, for example) with self-reported qualities, such as optimism and well-being, that are clearly distinct from mental abilities. Mayer et al. (1999) have argued that EI should be conceptualised as an ability rather than a mix of traits and characteristics. Petrides and Furnham (2001, p. 426) also differentiate between ‘trait EI’ and ‘ability EI’, arguing that “ability EI should be studied primarily with respect to psychometric intelligence. Given that intelligence and personality are essentially independent domains... one would expect trait EI to be related to personality, but not to ability factors.”

The second question which arises in measuring EI is how this measurement is to be done. Here four different positions emerge. A first position is to argue that emotionality can only really be assessed qualitatively. Denzin (1984), for example, argues that emotionality has best been accessed by phenomenological methods, and that “human emotional interaction must be situated in the natural world. That is, interaction must be confronted and examined in its natural fullness in the world of lived experience” (1984, p. 7). Much of the sociological work on emotions have taken this approach (for example, Hargreaves, 1998; Hochschild, 1983), seeing emotions (and, as a consequence, cognition with emotions) as being culturally-bounded phenomena that can only be described and understood in culturally-specific contexts. With respect to seeking to measure intelligences, Gardner (1995, p. 202) has claimed with respect to his multiple intelligences model that each of his intelligences can be measured, but not through traditional IQ tests (for example, he recommends portfolio models). He outlines that any assessments must be, “‘intelligent fair’; that is, in ways that examine the intelligence directly rather than through the lens of linguistic or logical intelligence (as ordinary pencil and paper tests do).” This approach has been subject to considerable criticism, however, with researchers questioning whether some of Gardner’s intelligences (for example, bodily-kinaesthetic and interpersonal intelligences which involve motor skills and personality traits respectively) can be considered mental abilities (Neisser et al., 1996). Other simply identify a lack of empirical evidence with respect to the theory (see for example, Sternberg, 1999). As Deary has argued (2001, p. xiv), “statistics is central to research on intelligence...discovering the pattern and significance of the differences between people cannot be done without statistical examination of the data.”

A second position is to see emotional intelligence (like the parent concept of ‘intelligence’) as a general human capacity that can be assessed in ways similar to intelligence tests. One such test is the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2002a). The MSCEIT was designed, according to Roberts et al. (2001), as a result of several authors (including Mayer and Salovey) having advocated the development of objective, ability-based indicators of EI. The MSCEIT is a 141-item instrument, which provides skills scores for the four core emotional abilities that form the basis of the Mayer and Salovey model of EI. The MSCEIT asks the respondent to solve problems about emotions, or problems that require the use of emotion (Mayer et al., 2002b, p. 70). For example, respondents must view pictures of faces and indicate which emotions are present in the face. Using a five-point rating scale, the MSCEIT interprets respondents’ ability to accurately identify the emotions

expressed in the face. According to Mayer, Salovey and Caruso (2004, p. 200) true intelligence tests must have answers that can be evaluated as more or less correct, meaning some of the possible answers must be better than others. The 'correctness' of a particular answer on the MSCEIT is determined by either expert or normative sample consensus scoring methods (Mayer, Salovey, Caruso, & Sitarenios, 2003). Item scores reflect the percentage of people in the comparison sample (experts or the normative sample) who provided the same response. For example, if 70% of the expert sample (which included a panel of emotions researchers) indicated that a particular emotion regulation strategy was highly effective and a person chooses that answer, his or her score is incremented by .70. Researchers typically use expert scoring (Mayer et al., 2003).

A third model, also based on a pencil and paper approach to testing EI is the use of self-report questionnaires. The Bar-On EQ-i, for example, is a self-report measure of emotional and social functioning. Responses are based on a five-point Likert scale which range from "very seldom or not true of me" to "very often true of me or true of me" (Bar-On, 2000, p. 365). In this respect it is similar to many of the personality-type inventories that are widely used and, as was noted above, it does seem to contain some personality-type components. There are obvious validity questions which arise in relation to such an approach and Roberts et al. (2001, p. 200) have argued that, "self-report scales rely on a person's self-understanding; if the self-reports are inaccurate, these measures yield information concerning only the person's self-perception (rather than his or her actual level) of EI." This suggests that self-understanding is a key component of self-report measures. However, if self-understanding is inaccurate to begin with, this may affect the overall validity of the measure. With respect to discriminant validity, O'Connor and Little (2003, p. 1901) concluded that while the MSCEIT appeared to be measuring EI as a construct distinct from that of personality, the EQ-i appeared to be measuring personality traits. In assessing both measures Roberts et al. (2001, p. 227) conclude that, "EI is a real quality of the person, distinct from existing personality and ability factors and best measured by performance-based tests."

The fourth model is to look to combine different methods for studying and measuring emotions and emotional intelligence. Mixing qualitative and quantitative research methods potentially has the capacity to draw on the strengths of both approaches. While qualitative studies of emotion have typically provided rich descriptions and an understanding of the social and cultural contexts within which emotions are experienced they have typically not gone on to identify the differences between better or worse approaches to using emotional information in the process of adapting to one's environment (this will be explored in the next section). At the same time, quantitative approaches have tended to insufficiently deal with cultural and social contexts entirely. Sternberg (1999) and Thoma (2002) have, in different ways, both drawn attention to the need for quantitative measures to be constructed in ways that pay more attention to the context within which decisions or actions are taken. After all, if intelligence is about the ability to adapt to the environment (and not simply about higher cognitive functions) then context needs to be part of the understanding of the operation of such cognitive functions. There is now a growing recognition - particularly among researchers working in emotion in education (Corcoran & Tormey, in press; Sutton & Wheatley, 2003; Zembylas & Schutz, 2009) - that mixed-methods research offers the multi-perspectival answers that are now needed in order to make sense of what is actually being measured by such psychometric approaches.

3. What is the impact of having emotional intelligence in caring professions?

While academic researchers were coining and studying the concept of EI it would certainly not have given rise to such public interest were it not for the work of Daniel Goleman in popularising the term. A key part of public interest in the concept is probably related to Goleman's claims for the predictive validity of his model and that EI can matter more than IQ (Goleman, 1995). Goleman claimed that EI - which included, in his conceptualization, zeal, self-control and persistence - could be taught to children, could enable them to unlock their intellectual potential, and could at the same time counteract a sense of moral deficiency and enhance altruism in wider society (1995, p. xii). Few ideas can ever have been subject to so many claims as EI. Goleman followed the success of *Emotional Intelligence* with a second book, this time on emotional intelligence in the workplace in which more claims were made including the claim that, compared to IQ and expertise, emotional competences mattered twice as much in contributing to excellence in work (1998, p. 31). Independent reviews of Goleman's popular writings have since shown that many of his claims are unsubstantiated or excessive (Epstein, 1998; Hedlund & Sternberg, 2000; Roberts et al., 2001). Nonetheless the question remains valuable because, if EI is not found to be useful in helping people adapt to their world then it is not, by definition, a form of intelligence at all.

There has been considerable focus on the potential of emotional intelligence and its utility for managers (Caruso & Salovey, 2004; Goleman, 1998). However, there has been rather less focus on the role of emotional intelligence in other areas such as in caring professions, like teaching. This is, perhaps, surprising because emotions are inherent to teaching and it is considered one of the most stressful occupations (Hargreaves, 1998; Johnson et al., 2005; Kyriacou, 1987). Yet despite this, until quite recently there was relatively little focus on emotion in educational studies research. Indeed, the mention of the term "emotion" is absent from mainstream literature advocating educational reform (Hargreaves, 1998). As Rosiek has noted:

Human experience is an emotional affair...It is distressing, therefore, that we find ourselves in a moment when the public discourse about education is so exclusively focused on measurable cognitive outcomes of teaching. (2003, p. 399)

One of the reasons for the paucity of research in this area is the recency of the "emotional revolution" in psychology which began in the early 1980s (Sutton & Wheatley, 2003, p. 328). By the mid to late 1990s this had impacted on teacher education. The special edition of the *Cambridge Journal of Education* (edited by Nias, 1996), along with several articles by Hargreaves (1998, 2000), attracted some much needed attention to the area. However, according to Sutton and Wheatley (2003), broad sociological studies of beginning and experienced teachers' lives underpin much of the empirical literature on emotions in teaching. For example, recent studies have focused on a variety of pleasant (positive) and unpleasant (negative) emotions teachers confront while teaching (Hargreaves, 1998; Sutton & Wheatley, 2003). Good teachers are described by Hargreaves as being not just, "well-oiled machines" (1998, p. 835). At various times teachers, "worry, hope, enthuse, become bored, doubt, envy, brood, love, feel proud, get anxious, are despondent, become frustrated, and so on" (Hargreaves, 2000, p. 812). The experience of positive emotions can enhance teacher health and well-being (Fredrickson, 2000) as well as self-efficacy (Sutton & Wheatley, 2003). Teachers' experience of positive emotions also may help young students adjust to school

(Birch & Ladd, 1996), cultivate a stronger sense of community in the classroom (Schaps, Battistich, & Solomon, 1996), enhance academic performance and increase socially competent behavior in students (Wentzel, 2002). Unfortunately, according to Emmer (1994) teachers report experiencing negative emotions more frequently than positive ones. For example, teachers experience negative emotions due to the complexities and uncertainties of their work (Helsing, 2007). Teachers experience feelings of anger or frustration particularly when colleagues are uncooperative (Bullough, Knowles, & Crow, 1991), when students interrupt classroom activities or behave aggressively (Blase, 1986; Emmer, 1994), while guilt arises from failure to achieve goals associated with nurturing students and accountability demands (Hargreaves & Tucker, 1991; Oplatka, 2007). Lortie (1975, pp. 143-144) refers to “a kind of emotional flooding” and “a sense of inadequacy, the bitter taste of failure, anger at the students, despair, and other dark emotions” that teachers experienced when asked to assess the outcomes of their own teaching. A number of authors discuss teachers’ ability to regulate their own and their students’ emotions. Hochschild (1983, p. 7), for example, discusses the “emotional labour” involved in occupations such as teaching which requires an individual to induce or suppress feelings to maintain an appropriate public and professional identity. Others similarly refer to teachers’ attempts to “put up a front,” or “pretend” they are feeling a particular way even when they are not (Hargreaves, 1998; Sutton, 2004) or that they are expected to, by the culture of teaching, express love, sympathy, concern (Oplatka, 2007) and communicate in a more personal and moral manner with students (Klaassen, 2002). The ability to regulate and manage emotions is often related to the stress that teachers experience which has increasingly been recognised as an international phenomenon, as studies on teacher stress have been conducted in Canada (Klassen, 2010), France (Pedrabissi, Rolland, & Santinello, 1993), Italy (Pisanti, Gagliardi, Razzino, & Bertini, 2003), the Netherlands (de Heus & Diekstra, 1999), China (Hui & Chan, 1996), Australia (Pithers & Soden, 1998), and many other developed countries (Boyle, Borg, Falzon, & Baglioni, 1995; Kyriacou, 1987, 1998; van Dick & Wagner, 2001). In one study, Travers and Cooper (1993) found that more than thirty-percent of British teachers perceived their jobs as stressful with reports of increasing pressure, while Borg (1990) found about as many as a third of the teachers surveyed in various studies around the world reported that they regarded teaching as highly stressful (cited in Chan, 2006, p. 1042). It is therefore not surprising that reports (Alliance of Excellent Education, 2004; Ingersol, 2003) estimate as many as 50% of teachers leave the profession within five years of entering it with stress and poor emotion management continually ranking as the primary reasons why teachers become dissatisfied with the profession and end up leaving their positions (Darling-Hammond, 2001). Research into various aspects of teachers’ emotions is becoming increasingly important because of the increasing number of teachers leaving the profession, but also because negative emotions and experiences can reduce motivation (Pekrun, Goetz, Titz, & Perry, 2002), lower the quality of instruction (Helsing, 2007), and the “quality” of education (Schutz & Zembylas, 2009).

If emotions are an important part of teaching, this is likely to be seen nowhere so much as among beginning and preservice teachers. Positive and negative emotion experienced by beginning teachers has been well documented. According to Evelein et al. teachers, “express feelings ranging from resistance, powerlessness, fatigue in teaching to no problems and self-confidence” (2008, p. 1137). Erb likened beginning teachers’ emotions to a whirlpool:

From one experience to another, the world of the beginning teacher is never still. Although the direction of a whirlpool may be predictable, the degree of activity is less predictable. Opposing currents may create small or large whirlpools. Objects may stay afloat in gentle currents, or get sucked underneath the waters' surface by the overwhelming intensity of the force. (2002, p. 1)

A number of studies also report anxiety encountered by beginning teachers due to the complexities and uncertainties of learning to teach (Bullough et al., 1991; Erb, 2002; Lortie, 1975; Sutton & Wheatley, 2003; Tickle, 1991). Meyer (2009b) examined student teachers' emotions during the teaching practice experience (or internship) through written reflections from and interviews with student teachers. She outlines that:

Student teachers are introduced to teaching in a highly controlled environment and frequently feel powerless at the same time they are being asked to assume more control. In addition, it is common for student teachers' university supervisors and classroom mentors to sympathize with the myriad of emotions being experienced. At the same time, it is also common for supervisors and mentors to urge student teachers to manage their emotions and conform to professional expectations. (Meyer, 2009b)

It is emotional tensions such as these which make the student teaching practice experience worthy of further exploration. At the same time it would appear that little has changed since Lortie's (1975) work on teachers' lives. He wrote (1975, p. 237), "the way most beginners are inducted into teaching leaves them doubly alone; they confront a 'sink-or-swim' situation in physical isolation and get only occasional cultural support in the process." This raises questions regarding how well preservice teacher education programs deal with emotion. Critics of the current system have suggested that the negative emotions experienced by novice teachers could be as a result of the lack of preparation. Stuart and Thurlow (2000) argue that undergraduate education programs inadequately prepare student teachers for the demands of teaching. Meyer (2009b) highlights the gaps in teacher education programs in addressing some of the current work on teachers' emotions, while Zembylas and Schutz (2009) highlight the need to develop teachers' (including beginning and student teachers') strategies to manage the emotional challenges associated with their work.

As we noted above, the – typically qualitative – studies that exist are certainly useful in highlighting that teaching is an emotional affair, and that the capacity to learn about and use emotional information in solving problems and in adapting to the environment is likely to be enormously valuable. However what these studies do not do is provide a framework which would allow us to clarify what are the specific ability-sets around emotion that teachers would need to have to achieve this. Nor do they allow us to test which emotional skills are of value to teachers in practice by identifying which teachers have more or less of these abilities and how that impacts upon their practice. This is where the qualitative research on teachers can benefit from and be complemented by a more quantitative approach to emotional intelligence. The EI concept is particularly of value here as it would allow us to clarify particular sets of skills, measure them and to see their impact in practice. Drawing on the four component (or branch) model of Mayer and Salovey, it is immediately evident how these skills could be relevant to the classroom teacher.

- *Perception, Appraisal, and Expression of Emotion (PEIQ)*. The skills associated with this area refer to an individual's ability to recognise, appraise and express their own

emotional states (congruence) as well as the ability to empathise with and recognise the emotional states of others. This is a core skill for teachers because emotions are a signalling system and contain important data required for decision making and actions (Caruso & Salovey, 2004, p. 37). If teachers are unable to read these signals, then their information about a situation, about where both they and their students are at, is incorrect.

- *Using Emotion to Facilitate Thinking (FEIQ)*. Emotional states can often be harnessed by individuals towards a number of ends. The skills associated with this area refer to the individual's ability to use emotional states to aid problem solving and creativity as well as the individual's ability to capitalise on mood swings in the knowledge that moods generate a mental set which in some cases (happy moods) are useful for thinking intuitively or creative thinking and in others (sad moods) are useful when one needs to solve problems slowly with more attention to specific details. This skill area is important both in lesson planning and in responding to mood shifts within the classroom and taking these into account in enabling different types of thinking tasks. Positive moods help generate new ideas, facilitate creative thinking and inductive problem solving, whereas more negative moods may facilitate attention to detail and help in solving deductive reasoning problems (Isen, Daubman, & Nowicki, 1987; Palfai & Salovey, 1993).
- *Understanding and Analysing Emotional Information (UEIQ)*. Skills identified under this heading include the individual's ability to label and recognise emotions and also the relationships between various emotions, one's awareness of core relational themes that underlie the various emotions and also the transitions between various emotions. This skill area enables teachers to understand the way in which they and their pupils' emotions change and transition, as well as the underlying causes of these emotions. It is relevant in classroom management, for example, in recognising how emotions can progress from one to another (for example, from annoyance to anger to rage) and in recognising how to prevent issues arising by early and appropriate intervention.
- *Managing the Regulation of Emotion (MEIQ)*. Skills associated with this particular section are primarily concerned with the individual's openness to experience various moods and emotions and to generate or manage emotions in oneself and others towards desired ends. According to Intrator (2006, p. 234), "classrooms in particular, are awash in emotional energy." Teachers evaluate and respond to emotionally charged situations using a range of emotional regulation strategies (Sutton, 2004). This skill area enables teachers to effectively manage conflict type situations with pupils and strategize alternative, more desired outcomes.

It is evident that the EI model provides a framework for (a) clarifying what emotional skills are potentially of value to teachers, (b) for assessing the extent to which teachers have such skills (c) and to assessing if, in practice, having these abilities are in fact associated with success in teaching. According to emotional intelligence research, high EI in adults in general has been associated with less aggressive behavior; less drug, alcohol, and tobacco consumption; lower rates of anxiety and depression; higher empathy and well-being; and higher job satisfaction (Brackett, Mayer, & Warner, 2004; Mayer et al., 2002b). The ability to regulate emotions also should influence how teachers express emotions, manage stress, and interact with others (Gil-Olarte Marquez, Palomera, & Brackett, 2006; Gross, 2002; Lopes, Salovey, Côté, & Beers, 2005). At the same time, there are few studies looking at emotional

intelligence in teaching. Byron (2001) reported that novice teachers scored no differently on measures of emotional intelligence than the normative sample. Byron used an early version of the test (MSCEIT version 1.1). A contrary view is found in more recent research with secondary school teachers in England (Brackett et al., 2010). Using just one branch of the MSCEIT-Branch 4, this study shows that the mean MEIQ score (which they refer to as emotion-regulation ability) for participants was slightly lower (about 0.5 of a standard deviation) than those reported in the normative sample. They also found that teachers who are more skilled at regulating their emotions tended to report less burnout and job satisfaction; they also experienced greater positive affect while teaching and receive more support from the principals with whom they worked (Brackett et al., 2010). Corcoran and Tormey (2010) found, using a sample of 60 Irish student teachers, that their overall EI score was about 0.3 of a standard deviation below international norms.

While one should be slow to read too much into a small number of studies, carried out with relatively small samples, these findings are notable. They do suggest that some aspects of EI (such as emotional regulation) are associated with potentially valuable teacher outcomes. They also tell us that it is possible that teachers – perhaps especially beginning teachers – may actually have comparatively low levels of EI. Critics of current systems for preservice teacher education have suggested that the negative emotions experienced by novice teachers could be as a result of the lack of preparation. Stuart and Thurlow (2000) argue that undergraduate education programs inadequately prepare student teachers for the demands of teaching. Meyer (2009b) highlights the gaps in teacher education programs in addressing some of the current work on teachers' emotions, while Zembylas and Schutz (2009) highlight the need to develop teachers' (including beginning and student teachers') strategies to manage the emotional challenges associated with their work. It is to a study based on an attempt to equip beginning teachers with just such emotional competences that we now turn.

4. The impact of emotional competence training in preservice teacher education

As identified above, the concept of emotional intelligence holds significant promise for teachers in that it could help to identify what are the particular emotional abilities that are of value to teachers (such as the four component model seeks to achieve). If these abilities can be assessed (as the EI framework implies and as tests such as the MSCEIT seek to accomplish) and if these abilities are found to be particularly useful to teachers, then this knowledge would be of significant value to teachers and to those who work with them. Ideally, in such a scenario, teacher educators may look at how their programs could help develop EI in students – if that is possible. These were the ideas that this research sought to address.

The first aim of this research project was to see if an emotional intelligence or emotional competences program, integrated within a program of preservice teacher education, could increase EI in student teachers as measured by the MSCEIT. A second aim was to see if participation in the emotional competences workshop program had any impact upon students during their teaching practice placement. Recognising the need for mixed-methods approaches, both quantitative and qualitative data was collected from the students.

4.1 The emotional competences workshop program

The students who participated in the workshop series were in the third year of a four-year preservice teacher education program for second-level teachers in physical education, engineering education and science education. The purpose was to see if the workshops could be effectively integrated into a teacher education program which was already perceived to be a busy and intense program. The workshop series was offered as a normal part of the teacher education program (not as an additional workshop offered outside of the normal timetable), and was integrated into the tutorials offered to students on the module. It was offered as an option to students within an existing module, so that some students took the 'traditional' module tutorials (the control group), while others took the 'traditional' module tutorials that integrated the EI or emotional competences skills (the experimental group). All students were assessed in the same way on the module on the material addressed in the 'traditional' tutorials (in other words, EI skills were not part of the module assessment). The EI skills workshops had to be quite limited since the students who participated in the workshop series could not be disadvantaged in assessment when compared to other students.

The intervention involved a short emotional competences workshop program consisting of a two-hour class every second week for 12 weeks (six classes in all). It aimed to develop students' emotional intelligence capacity through a range of activities. Some of these activities were developed as part of the EI skill-building workshop (Caruso, Kornacki, & Brackett, 2005) – an application-based training course for MSCEIT certified individuals – most of which were modified to include a teaching and teacher education lens. In the intervening weeks, students had to engage with content relating to the compulsory preservice teacher education module to ensure coherency with other tutorial groups. During this time students were encouraged to develop and apply their emotional intelligence skills. Some of the activities included in the workshops are listed below.

- *Perception, appraisal, and expression of emotion:* The mood meter (Caruso et al., 2005) plots emotions along two dimensions: feelings (negative to positive) and energy (high to low). This activity helps students to monitor and track change in their own and other students' moods.
- *Emotional Facilitation of thinking:* In groups, one member (the storyteller) had to pick a card with an emotion word and tell a story from their previous teaching practice/practicum experience regarding that emotion, without using the word. The storyteller had to generate emotions in themselves and in the listener. The listener had to engage in active listening, ask question that reflected the storyteller's emotion and make empathic comments throughout. The third member of the group used a people watching chart, similar to that outlined by Caruso et al. (2004) to observe and evaluate the listener.
- *Understanding and analysing emotional information:* Students had to review a list of causes of emotions and reflect on times from teaching practice/practicum when they experienced that emotion. They had to indicate specific events that gave rise to a particular emotion. They also had to discuss the behaviour the emotion gave rise to, whether the emotion intensified or changed and so on.
- *Regulation of emotion:* Students watched video clips of teachers using preventative and responsive emotional management strategies and had to evaluate the emotionally

charged situations between the teacher and pupils. The aim of the activity was to identify how the teacher managed a conflict type situation with a pupil and strategise alternative more desired outcomes. Students also engaged in various relaxation techniques throughout the workshops and were also given a C.D. of relaxation exercises.

Overall, the Mayer and Salovey model of EI has a number of distinct strengths that make it suitable for work in this area; the EI model provides a framework for conceptualising emotional skills or competences, and the MSCEIT as a way of testing those skills.

4.2 The study design

Third-year undergraduate student teachers were invited to participate in a series of workshops aimed at developing their emotional intelligence capacity through a range of activities. Of the students who applied, 30 were selected at random (through the process of random allocation to tutorial groups by the university administration). These 30 were further divided into an experimental and a control group, again using a random selection methodology. The MSCEIT was administered (test 1) to these two groups of students. One group then undertook the emotional competences workshops, while the other did not and continued with their studies as normal. At the end of the process, the MSCEIT was re-administered (test 2) to both the experimental group and control group to identify what changes (if any) had occurred. Most of these students also participated in qualitative interviews exploring their own perceptions of emotion, of emotional skills and of their learning through their course. At this time the MSCEIT was also administered to another group of 70 undergraduate students (control group 2) selected using a stratified random

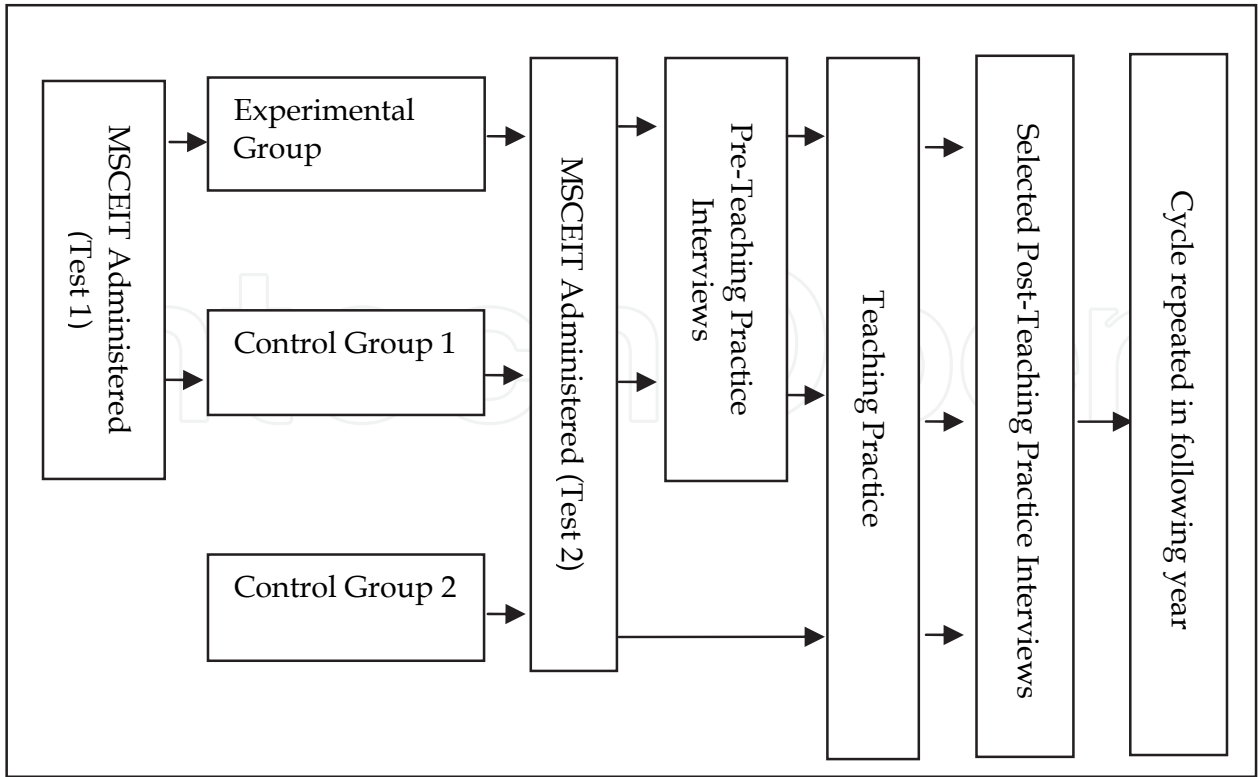


Fig. 1. Graphical representation of methodology (N = 200)

sampling methodology. This provided MSCEIT (emotional intelligence) scores for 100 students in total. In the later phase of the work, students were interviewed again after undertaking teaching practice to identify if their increased awareness of the skills of emotional intelligence had impacted upon their teaching. This entire process was then repeated the following year after careful review and planning. The second cohort (in cycle two) were students on the same education courses at the same point in their studies and drawn from the same applicant pool as the previous participants.

The college courses represented were as follows: Physical Education, Engineering and Construction Education and Science Education. Given the gender imbalance in the courses of study, the male student teachers were largely drawn from the Engineering and Construction programs and female students were largely drawn from Physical Education and Science programs.

4.3 Findings

As was reported elsewhere (Corcoran & Tormey, 2010; Corcoran & Tormey, 2011) the student teachers who participated in the emotional intelligence skills workshop did not show any significant increase in their measured MSCEIT during the course of their participation in the workshop program. Total EIQ for the experimental group remained static between test 1 and test 2, while for the control group it actually declined slightly (but not significantly). However, this apparent stability in fact hid some notable shifts at the level of what is referred to as branch scores (or ability areas). So, while the participants' scores for perceiving emotions in self and others (PEIQ) actually reduced over the course of the workshop series (perhaps as a result of over thinking their perceptions by the time they took test 2 or the absence of a parallel alternate test form), their scores for emotional regulation (MEIQ) increased by one third of a standard deviation. Although notable, however, this increase was marginally non-significant ($t=1.928$; $df=29$; $p=0.064$). No comparable pattern of increase was seen in the control group.

This finding was disappointing, but at the same time it was hardly surprising. EI is described as being an 'intelligence' and so, some would argue, should not really be teachable, especially given the limited nature and duration of the workshop series. At the same time, the notable (if non-statistically significant) increase in the MEIQ score for the experimental group was encouraging and the fact that it was not seen among those in the control group hinted that more was going on than simply the typical maturation process of the students.

When students were interviewed about their experiences, a clearer sense of the impact of the workshop series began to emerge. The first set of interviews took place after the MSCEIT had been administered to the group for the second time (see Fig. 1) and before their teaching practice experience. The interviews addressed issues relating to the four components identified by Mayer and Salovey, and students who had participated in the workshops showed a greater sense of awareness of these skills than those who had not. With respect to recognising emotions in self and others (PEIQ), for example, nine of the twenty-seven students who had participated in the workshops interviewed reported an awareness of body language, with seven of these students indicating that they had developed their

awareness as a result of activities in the workshops. For example, one student demonstrated an awareness of his own body language and appraised how it might be interpreted by others.

I suppose recognising people's emotions, even the way I'm sitting here with you, I could be like this [student folds arms and crosses leg] whereas I'm probably more open this way just chatting away to you. So yes I'd recognise that even afterwards when I came into class if I was talking to you I'd be like "she's sussing me out now."

Six students identified empathy as an important skill which they felt they had developed. For example, one student described how he managed an interaction with his niece differently after taking part in the workshops. He described how his ability to empathise not only helped him to see and understand things from her perspective, but also to reach a shared understanding.

Put myself in her position the next time it happened and then just talked it through as to why it couldn't happen. Like, see where she was coming from, accept that her thing was valid and then put your own point across and reach a compromise. That was a much better outcome, we both got what we wanted and it worked out fairly well.

Another student similarly reported how the workshops helped him to consider other people's emotions. He articulated the value of allowing people to express themselves and indicated that the ability to empathise with others was highly beneficial.

I certainly take more time to consider the emotions of the people I'm dealing with. This is something I feel will be very useful... In the past I may have found I might be a little too invasive, but if you consider that someone is coming to you say to speak about something that concerns them or whatever, they perhaps want you to investigate a little further. That they don't want to come out with directly how they're feeling or what's affecting them. They want you to perhaps draw them out a little bit, it makes it easier for them to speak of it. Certainly empathy is something of huge benefit if you can develop that. If this module is showing that that's developing within me that can't be bad.

Students who had participated in the workshops also showed an awareness of emotional management. Fifteen students highlighted strategies that involved modifying the situation as important regulation strategies. For example, they highlighted modifying lesson plans, modifying teaching methods, and refocusing lessons based on their own and their pupils' emotions. One student said, "Just look at the different things and how it could affect your class; you might have to change your whole plan depending on the day. I didn't really look into that in [previous teaching practicum experience] at all". In total, twenty-four of the twenty-seven students who were interviewed reported cognitive change strategies as important emotional regulation strategies. For example, they highlighted using relaxation techniques, shifting perspectives, self-talk, looking at things more positively and putting things into perspective.

Twenty-three of the thirty students in the control group were also interviewed. Obviously, given that they had not participated in the workshops they were unlikely to refer to emotional skills development through their tutorials; however, they were given opportunities to describe how they had developed emotional skills over the course of their

program more generally. They had also taken the MSCEIT and received feedback on it and were able to reflect upon its meaning for them. These students tended to highlight what they perceived to be gaps in their knowledge and skills rather than highlighting what they felt they had learned about emotional skills during their teacher education program. A typical response came, for example, from one student who said she never, “thought about how to construct an atmosphere that is positive or if you need loads of energy how to do that.” She discussed her surprise when pupils were not as excited about participating in an experiment she had organised on a previous teaching practice placement and said, “You would need to know the atmosphere there and try to increase their perception of the task and get them into the mood for doing it.”

Students were again interviewed after their next teaching practicum experience in order to identify if they had used the skills developed in the workshop series or if indeed they had ‘washed out’ when they were faced with the complex reality of classroom life once more. Those who had participated in the workshop series typically identified that they used some of the skills developed through the workshop series while on teaching practice. As one put it:

For me it definitely was effective for teaching practice. I know myself I did learn from it. At the start I was sceptical, I was thinking how will this work, how is it going to change and I said well if I learn one thing from it I will be happy, and I learned a lot from it, and it really did affect, compared to second year, teaching practice. I’m definitely more aware of it and it did help me teaching because I could tell where the [pupils] were like, he is going to drift now because I’m saying something that he is not interested in. You would ask them a question and you would see them looking away and you would spot them, just little things like that. Definitely reading emotions was a big thing for me. That was what the most part of the course that I used on teaching practice. It was the most effective.

Students that had participated in the workshops highlighted an increased awareness of their own and other people’s body language on teaching practice. Students highlighted activities in the workshops such as storytelling from teaching practice and group work activities as important in terms of developing these emotional skills. Students in the experimental group highlighted an increased awareness of their own tone of voice and of the tone of voice of others on teaching practice. While many students demonstrated a vague awareness of how emotions can enhance thinking, nobody directly highlighted which emotions were associated with success in different types of thinking tasks. Students were more likely to indicate that pupils’ moods changed at particular times of the day. Some indicated that activities in the workshops, such as the match the mood to the task activity, had made them more aware of this emotional issue. While a number of students indicated that they tried to see things from another perspective on teaching practice, students tended to be vague in articulating how they shifted perspectives. Students indicated that they were more aware of the relationships and transitions between various emotions in relation to themselves and others. They highlighted activities in the workshops as important in terms of making them more aware of emotional progressions on teaching practice. Students were more likely to focus on basic emotions such as anger, happiness and sadness with some demonstrating a limited emotional vocabulary, which may have inhibited their reasoning about emotion. Students also demonstrated some understanding of the causes of emotions, and an ability to engage in emotional what-if analysis.

Students in the control group tended to be very limited in the understanding of emotional processes that they displayed in the interviews post-teaching practice. Few students in the control group discussed an awareness of various skills relating to themselves and to others on teaching practice. Six students in the control group reported difficulties in regulating their emotions on teaching practice. Students highlighted the difficulty in taking pupils' behaviour and comments less personally and in regulating their pupils' emotions, with one student questioning whether the teacher education program adequately prepares students in terms of emotional regulation. While students in the control group were able to describe the strategies they used to regulate emotions while on teaching practice, some strategies were obviously less appropriate than others, with some students expressing regret when reflecting on their response to certain situations.

Overall, while the quantitative data showed little or no change in the group who had taken the EI skills workshop, and measured them as broadly comparable to the control group, the qualitative data showed some quite interesting differences. The group who had taken the EI-skills workshops showed a greater sensitivity to and awareness of emotions and emotional information in relation to teaching. This was true both before their teaching practice (that is, a short period after the workshop series) and after their teaching practice (a period of some months after the workshop series). The group who had not taken the workshop tended to speak about emotion issues with respect to what they felt they still needed to learn to be an effective teacher, rather than with respect to what they had learned over the course of their program. While the knowledge and awareness of those who had taken the workshops was sometimes presented in general and vague terms, it was far more specific and framed much more clearly than the views of those who had been in the control group.

5. Limitations and future directions

In this study the MSCEIT was used as a means of assessing EI in student teachers, as it appears to offer higher levels of discriminant validity and construct validity than alternative measures of EI. It was investigated whether or not a short EI-skills workshop, integrated into a teacher education program, would lead to an increase in measured EI. It did not, though it did hint at a possible increase in the emotional regulation score for those who participated in the workshops. This was combined with a qualitative approach to data collection, based on interviews with students who had participated in the EI skills workshop and those who had not. The findings indicate that despite the similarity of their average EI scores, the two groups showed notable differences with those who had taken the workshops showing a greater awareness of emotional issues and of emotional skills when compared to those who had not taken the workshops.

Despite considerable methodological strengths, these findings need to be interpreted in the context of some important conceptual and methodological limitations. First, it is possible that the MSCEIT is not sensitive enough to detect what were some important changes in students between their first and second testing. In addition to this, these data have been collected in an Irish context. As with all quantitative tests it is still open to question as to whether or not the norms are genuinely transferable across different ethnic groups or national origins (Sue, 1999). However, the test was reviewed for cultural applicability before its use and no issues with language were reported by participants during the testing. A

Confirmatory Factor Analysis (CFA) involving a larger sample was performed also to see if the factor structure remains valid in an Irish context. Second, another possible explanation is that the MSCEIT measures something that is more or less fixed ('emotional intelligence') and that the qualitative interviews were in fact picking up changes in something more malleable ('emotional competences' or 'emotional awareness'). Given that the changes noted in the students (whether they are deemed to be 'emotional intelligence' or 'emotional competences') were seen by the students to be quite meaningful in shaping and helping their practice in schools, it is clear that they were worth knowing about. Third, the MSCEIT asks participants to solve problems about emotions, or problems that require the use of emotion, and is based on scenarios typical of everyday life (Mayer et al., 2002b). However, presenting participants with broad social scenarios that lack any educational and teaching content (that is, they are not context-specific) may result in the participants abandoning their teaching role when taking the test and thereby compromise the results. For example, participants' responses may depend on their ability to empathize with the character in the scenario or understand the problem fully, owing to similar personal experience or familiarity with particular scenarios. This in turn raises methodological considerations and potential for future research; ideally scenarios should closely mimic reality (Roberts, MacCann, Matthews, & Zeidner, 2010; Sternberg, 1999; Thoma, 2002). This may mean a need to develop context-specific versions of tests, such as test specifically designed for teachers, for example. Fourth, it is possible that students' responses in the interviews may have been positively biased. Possible reasons for such bias include the relationship between the students and interviewer (who also facilitated the emotional intelligence skills education program). While techniques were used to overcome such bias, it is important to acknowledge that factors such as these may have influenced their responses. For these reasons, it seems clear that supplementing the quantitative data collection with qualitative data was quite valuable. Finally, this study investigates the impact of having emotional intelligence in a profession like teaching. However, future research needs to determine whether there is a relationship between students' levels of emotional intelligence (as measured on the MSCEIT), and both their performance as a teacher in schools (as measured by grades on teaching practicum) and their academic scores (Corcoran & Tormey, 2012). Given that teaching practice is considered a core component within teacher education programs across Europe (Drudy, 2004) and in the U.S. (Darling-Hammond & Baratz-Snowden, 2005), such research would explicitly uncover the EI skills that are associated with both teaching performance and academic scores.

6. Conclusion

The emotional intelligence concept is one that is of potentially enormous value to those in caring professions, like teaching. It provides a framework for making clear what emotional skills might be thought to be of particular value to teachers and why. It also provides a framework for assessing which teachers have more or less of these skills or abilities and for identifying if, in practice, these skills are actually associated with a superior teaching performance. Given the emotional workload involved in learning to be a teacher, the role of emotional intelligence at this stage in a teacher's career is of particular interest. However, the concept of emotional intelligence is still in its early stages, and there is a particular need, at this stage, for using mixed-methods approaches to looking at the role of emotional skills or capacities in teaching.

It is also worth noting that the data suggests that a very short input (six two-hour classes over twelve weeks, on top of an already full and intense program) was found by student teachers to be of real value to them in learning to teach. Critics of the current system recognise the need to better prepare student teachers to meet the challenges associated with the profession and have highlighted the gaps in teacher education programs in addressing some of the current research on teachers' emotions (Brookhart & Freeman, 1992; Fullan & Stiegelbauer, 1991; Goodlad, 1990; Kagan, 1992; Meyer, 2009a; Stuart & Thurlow, 2000). Some of the work that has been done on emotion in teacher education has proposed models that would require considerable change to and investment from programs, such as coaching/counselling models (Hoekstra & Korthagen, 2011) or teacher retreat models (Whitcomb, Borko, & Liston, 2008). This research shows that emotional competences and skills can be readily developed in preservice teacher education by providing students with a framework with which to make sense of and process the emotional experiences of being a student teacher.

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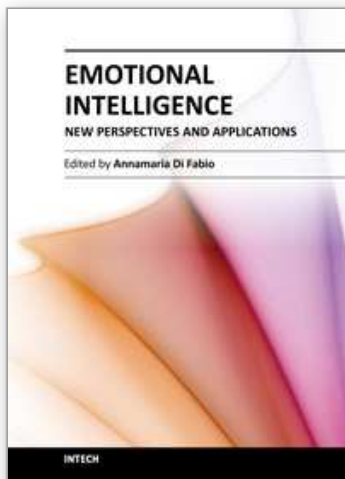
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Emotional intelligence is an emerging construct for applied research and possible interventions, both in scholastic, academic and educational contexts, organizational contexts, as well as at an individual level in terms of people's well-being and life satisfaction. From the presented contributions, it emerges how this volume is characterized by an interest to give an international overview rich of stimuli and perspectives for research and intervention, in relation to a promising variable of current interest, such as emotional intelligence. The goal is that this book further contributes to the affirmation of a particularly promising variable, such as emotional intelligence, which requires a greater interest and attention in both research and application field.

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