

**Evaluating the added value of an attitude-based measure of Emotional  
Intelligence – the Emotional Intelligence Profile (EIP)**

Thesis submitted for the degree of  
Doctor of Psychology  
at the University of Leicester

by  
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2019

## Declaration

By signing below, I confirm that this portfolio is my original work. The portfolio is being submitted in partial fulfilment of the degree of Doctor of Psychology and no part of it has been submitted for any other degree or academic qualification.

A handwritten signature in black ink that reads "Jolyon Maddocks". The signature is written in a cursive style with a prominent loop at the start of the first name and a horizontal line underlining the last name.

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Jolyon Maddocks

## **Abstract**

The aim of this thesis was to evaluate the added value of an attitude-based model of emotional intelligence (EI), as measured by the Emotional Intelligence Profile (EIP). The thesis comprises three parts. Part 1, the Literature Review, critically evaluated the pervading models of EI, and identified several limitations, some of which it was theorised may be partially addressed through the inclusion of attitudes as possible antecedents of EI. Part 2, the Research Project, tested this assertion by exploring the factor structure of an attitude-based model and measure of EI (the EIP). Four research aims were defined based on the limitation previously identified in the literature review. These were; (1) The EIP framework provides an organising structure for the two taxonomies and different facets of EI; (2) The EIP framework provides an ethical basis for EI behaviours; (3) The EIP sub-scales are consistent with the dynamic nature of EI facets; (4) The EIP framework reflects the automated (as well as conscious) aspects of EI. Results gave partial support for the factor structure of the EIP framework and by implication the four research aims. Part 3, a Service Evaluation, examined the utility of the EIP as an indicator of job performance. Results found specific competency factors related to different facets of EI. For users of the EIP, this study provides greater clarity on how the EIP scales relate to specific aspects of job performance, and from it makes recommendations for using the EIP to support assessment and development in the workplace.

## **Acknowledgments**

My thanks and gratitude to my supervisor Dr Catherine Steele, my employer and sponsor JCA Global, to my work colleagues, Dan Hughes, Steph Noble and Poppy Boothroyd, and to my business partner, John Cooper, for encouraging me to finally commit to this endeavour.

## **Word Count\***

Literature Review	5,870
Research Project	11,756
Service Evaluation	6,570
Critical Appraisal	4,927
Total	29,123

\*Word count excludes tables, mandatory appendices and references.

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## **Part 1: Literature Review**

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# The case for attitudes as antecedents of Emotional Intelligence

Maddocks. J.

## Abstract

Emotional Intelligence (EI) is broadly separated into an *ability* model, measured as maximal performance, and several *mixed* models, measured as typical performance. The two approaches to EI have been criticised for measuring different constructs, however, some authors have sought to link them, with ability EI being the antecedent of mixed EI. The proposition of this paper is to extend this link to include attitudes as potential antecedents of ability and mixed EI. It is proposed that the inclusion of attitudes within an EI framework provides a broader context for understanding the inputs and outputs of EI, something that is yet to be demonstrated by either the ability or mixed models independently. Furthermore, it is proposed that an attitude-based model of EI will help address some of the criticisms that currently face both models of EI. Specifically, attitudes may be used to provide an ethical and values led basis to EI; they could give greater insight as to the automatic, habitual and non-conscious processes of EI; and they could help support individuals more widely in their personal development.

## 1. Introduction

Emotional Intelligence (EI) has its origins in the concept of *social* intelligence which originates from the work of Edward Thorndike (1920) who described socially competent behaviour as “the ability to understand and manage men and women, boys and girls, and to act wisely in human relations”. The earliest reference to the term *Emotional* Intelligence was by Van Ghent (1961) followed by an article exploring the social roles of women (Leuner, 1966) and later an unpublished doctoral dissertation on emotion (Payne, 1985). Salovey and Mayer (1990) are credited with the first conception and definition of EI within a published journal, but it was not until 1995 when Daniel Goleman published “Emotional Intelligence; why it can matter more than IQ” that EI managed to capture the interest of the business world. Goleman’s book was seen as an egalitarian rebuttal to Herrnstein and Murray’s book “The Bell Curve” (1994) that argued the importance of IQ for understanding social class in society. IQ was seen by many as hard, elitist and difficult to develop, while EI (or EQ) was seen to be kind, and something that all people could develop. In 1995 ‘EQ’ was on the cover of Time magazine (Gibbs & Epperson) and ‘Emotional Intelligence’ was selected as one of the most useful new words or phrases by the American Dialect Society.

Subsequent papers in the Harvard business review (Goleman, 1998, 2000) led to EI becoming one of the most popular and influential concepts for leadership development of that century (Gibbs & Epperson, 1995). By 2009 it was estimated that over 150 consulting firms were offering EI-related products, and that 75% of fortune 500 companies had adopted EI services (Bradberry & Greaves, 2009). The demand from organisations to measure the concept fuelled a plethora of differing instruments, models and definitions of EI that led to considerable controversy over which, if any of these, was the ‘correct’ version (Daus & Ashkanasy, 2003).

The purpose of this paper is to highlight specific gaps in the existing models of EI that may be partially filled in by the inclusion of attitudes as antecedents and facilitators of EI. The paper will initially overview the established models of EI and then examine specific criticisms that may be addressed through this perspective. Evidence will then be presented on the relationships between attitudes and existing EI models

to support the notion that including attitudes within a framework of EI could provide a more complete picture of this construct.

## 2. Existing models of EI

During its relatively short evolution, two broad categories of EI have emerged, known as *ability* and *mixed EI* models (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Mayer & Salovey, 1997; Rosete & Ciarrochi, 2005). They differ in both their construction and how they are measured. The ability model was theoretically derived whereas the mixed models were empirically driven through psychometric construction and then theorised. This may partly account for their relative strengths: the ability model is seen to be a theoretically stronger and a truer measure of EI (Jordan, Dasborough, Daus, & Ashkanasy 2010), and mixed models are shown to be more predictive of workplace performance (e.g. Martins, Ramalho, & Morin, 2010; O'Boyle, Humphrey, Pollack, Hawver, & Story, 2011). Another key difference between the two models is that ability EI is measured as *maximal* performance with objective ability-like items, and mixed EI is measured as *typical* performance with subjective self-report questionnaires. *Typical* performance concerns how we tend to behave most of the time, whereas *maximal* performance concerns how we perform when exerting maximum effort. Petrides and Furnham (2001) argue that this difference in measurement yields different results even if they are purporting to measure the same construct of EI. This view may explain why there exists only a weak correlation between ability and mixed measures of EI (e.g. Brackett & Mayer 2003; Warwick & Nettlebeck, 2004). A distinguishing feature of the ability approach is that there is just one widely recognised model (Salovey & Mayer, 1990) almost entirely dominated by a single measurement tool from the same authors. The mixed models however suffer from the opposite challenge of having multiple definitions, models and measurement instruments, broadly separated into either competency or trait approaches. There follows a brief overview of the main models and instruments for ability and mixed EI.

*The ability model:* Mayer, Salovey and Caruso (2004) view ability EI as “a member of a class of intelligences including the social, practical and personal intelligences” and describe EI as “the cooperative combination of intelligence and emotion”. Their definition of EI: “the ability to perceive and express emotion, assimilate emotion and thought, understand and reason with emotion, and regulate emotion in the self and others” (Mayer, Salovey, & Caruso, 2000, in Salovey, Brackett

& Mayer, 2007, p. 82) is closely reflected in their model and measurement of EI. Their original abilities-based measure of EI was called the MEIS (Multi-factorial Emotional Intelligence Survey) (Salovey & Mayer, 1990), which was later updated to the Mayer, Salovey, & Caruso Emotional Intelligence Test (MSCEIT™, 1997). MSCEIT was drawn from the authors four-branch model of EI that measures four basic abilities: (1) perceiving emotions (in oneself, others, objects, etc.); (2) generating and using emotions to facilitate thought; (3) understanding emotional information; and (4) managing emotions in oneself and others. It is noteworthy that measures based on their model of EI tend to correlate more highly with cognitive ability tests than with personality tests (Mayer, Roberts, & Basade, 2008; Van Rooy & Viswesvaran, 2004), but the opposite is found for mixed measures of EI (Rosete & Ciarrochi, 2005), reinforcing the view that ability and mixed models measure different constructs.

*Mixed models:* One of the earliest models of mixed EI was developed by Reuven Bar-On (1985, 1997) who refers to the construct as “Emotional and Social Intelligence”. He defines EI as “a cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands”. Given that this paper is proposing attitudes as antecedent facilitators of EI, it is interesting to note that Bar-On refers to *facilitators of EI* but doesn’t differentiate between these facets. Bar-On coined the term Emotional Quotient (EQ) and developed one of the first mixed measures of EI, the Emotional Quotient Inventory (EQ-i). Originally designed as an experimental instrument to examine emotionally and socially competent behaviour (Bar-On, 1985), the EQ-i assesses five broad subtypes of EI: intrapersonal intelligence, interpersonal intelligence, adaptability, stress management and general mood. The EQ-i was later updated to EQ-i 2.0 by test publisher Multi-Health Systems (MHS, 2011) and this included significant changes to the items, norms, factors and subscales. The other instruments described in this paper have also been significantly altered over time along with modifications to their definitions and models. This is perhaps to be expected in a new and evolving subject area, but it creates challenges when trying to demonstrate the validity and viability of a moving construct.

Another well-established model of mixed EI is by Daniel Goleman (1998) who, although inspired by the authors of the ability model (Mayer, Salovey and Caruso), chose to collaborate with Boyatzis and Hay/McBer to create a competency-based instrument. Goleman's four-dimensional framework is hierarchical with self-awareness laying the foundation for self-management, and social awareness being the foundation for relationship management. Goleman's contention was that individuals are born with general EI which determines their potential for developing EI competencies, as measured by the Emotional Competency Inventory (ECI, 1999), later revised to the Emotional and Social Competency Inventory (ESCI, 2007). Cherniss and Boyatzis (2013) later expanded the emotional and social competencies model to include other underlying elements of EI such as "motivation", "unconscious dispositions", and "values and philosophical foundations", all of which have clear relevance to attitudes, discussed later in this paper as possible antecedents to EI.

Another mixed model of EI is derived from established personality theory. Petrides and Furnham (2001) view EI as a set of personality traits, defined as "a constellation of emotional self-perceptions located at the lower levels of personality hierarchies", and measured through the Trait Emotional Intelligence Questionnaire (TEIQ) (Petrides, Pita, & Kokkinaki, 2007, p. 288). Trait EI consists of four components – well-being, sociability, self-control and emotionality – and includes 15 facets such as assertiveness, self-esteem, social awareness and trait empathy. Supported by meta-analysis (Andrei, Seigling, Aloe, Baldaro, & Petrides, 2016) the authors view trait EI as encompassing the affective aspects of established personality taxonomies (i.e. the Big Five, the Giant three and the General Factor of Personality) as well as a portion of variance that lies outside of these dimensions. From this perspective they urge that other self-report measures of EI (mixed EI) should also be viewed through the lens of personality trait theory. The authors strenuously attempt to distance trait EI from other mixed models, claiming "there should be no doubt that this operational definition is antithetical to Bar-On's, Goleman's and Salovey and Mayer's definition, instrument and model, consequently it cannot be meaningfully grouped with any of them, least of all under a competence label" (Petrides, 2010, p. 137). However, the TEIQ was derived initially from a comprehensive content analysis of mixed EI models and constructs. It is also described as measuring "people's self-perceptions of their

emotional abilities” (Siegling, Saklofske, & Petrides, 2015, p. 397) with items such as “I would describe myself as a good negotiator” and scales such as Stress management, that closely reflect a competency approach. On this basis it is difficult to exclude TEIQ from the camp of mixed or competency-related models of EI and for it not to share many of the same inherent concerns discussed later.

These four approaches to EI (MSCEIT, EQ-I, ECI/ESCI, & TEIQ) paved the way for many other measures that largely fall within the ability and mixed/competency/trait models. For an overview on some of these other instruments refer to Siegling et al., (2015). In summary, ability EI aims to model conscious cognitive processes in perceiving, understanding, assimilating and managing emotions, measured as maximum performance. Mixed EI aims to model a broad and mixed array of emotion-related behavioural traits and competencies measured as typical performance. Given these marked differences, it is unsurprising that controversy remains over which, if either, is a more accurate and relevant approach to defining and measuring EI. Some observers see the debate over multiple definitions of EI as a “sign of vitality” (Cherniss, Extein, Goleman, & Weissberg, 2006) while others call for a single model and definition (Jordan et al., 2010). On balance practitioners often prefer the greater breadth of scales and predictive validity of the mixed models (Cartwright & Pappas, 2007; Joseph & Newman, 2010) while academics favour the greater precision of the ability EI model, describing the Salovey and Mayer definition as the “gold standard” in EI (Jordan et al., 2010).

### 3. A critique of EI models

The broad popularity of EI in the public and commercial sectors has been equally matched by the level of criticism within the academic literature. Critical reviews describe EI as an “elusive construct” (Zeidner, Matthews, & Roberts, 2001), an “intangible myth” (Matthews, Roberts, & Zeidner, 2003), and Locke (2005) dismisses research into EI as “voodoo science” that will go the way of the dodo bird. McClesky (2014, p. 79) describes there being “an environment of criticism and controversy that swirls around the academic field of EI research” and Spector and Johnson (2006, p. 325) conclude that “there is perhaps no construct in the social sciences that has produced more controversy in recent years”. Despite heavy criticism, Cherniss (2006) points out that EI is still a relatively new concept and that scholars have been debating the definition of general intelligence for over a century (Sternberg & Detterman, 1986).

*Mixed models:* It is the mixed models of EI that have come under the strongest criticism for their “theoretical under-development” (Murphy, 2006; Conte, 2005; Matthews, Zeidner, & Roberts, 2004). Critics argue that EI is merely a new “catch-all label”, a “grab bag” of content, and a “black box” of mixed EI constructs that have been around for decades and are not even aspects of EI (Joseph & Newman, 2010; Mayer et al., 2008; Murphy, 2006). Mayer and colleagues (2008) comment: “Generally speaking, these models include little or no justification for why certain traits are included and others are not.” Despite possible theoretical under-development, mixed measures have been shown to exhibit strong criterion-related validity in predicting job performance (Martins et al, 2010; Miao, Humphrey, & Qian, 2017), particularly in jobs with high emotional labour (Joseph & Newman, 2010) and to have small but significant incremental validity over personality (Andrei et al., 2016). Ability EI measures are considered to have a stronger theoretical basis (Daus & Ashkanasy, 2005; Matthews, Zeidner, & Roberts, 2002; Murphy, 2006).

The lack of theoretical consensus surrounding mixed EI, combined with its superiority as a predictor of performance, is a paradox that Joseph and Newman (2010) describe as an “ugly state of affairs”. Their subsequent meta-analysis (Joseph et al., 2015) revealed the “black box” of mixed EI measures to contain a combination of knowledge, skills, abilities, and other characteristics (KSAOs) that have well-established

links with job performance. They conclude that mixed models are engaged in a process of heterogeneous domain sampling which gives short shrift to the long-established constituent constructs that are the predictive workhorse, and they question the legitimacy of such a process for scale construction. Another study on six mixed EI measures found 42% of the items to be classified by content experts as direct measures of emotional stability (De Raad, 2005). A cynical view of mixed EI models might be that they cherry pick the most predictive constructs related to emotion and attach these to the popular bandwagon of EI. A more positive perspective argued by successive papers (De Raad, 2005; Petrides et al., 2007; Andrei et al., 2016, p. 274) is that trait EI organises under a single framework the main individual differences in affective personality, which have up to now been scattered across the basic Big Five personality dimensions and other models. In terms of the overall debate between mixed versus ability EI, Joseph and colleagues (2015, p. 317) conclude that what it may come down to in practice is choosing between either a more precise ability EI measure that is less predictive of performance, or a single short-hand mixed EI measure of KSAOs that is more predictive of performance but a less precise measure of EI, or a lengthy test battery that measures the KSAO domains in greater detail.

A related concern regarding mixed measures of EI is they do not measure the “real thing”, of EI being a form of intelligence (Ashkanasy & Daus, 2005, p. 448). Joseph et al., (2015, p. 316) describe the KSAOs as being “mixed competence traits” rather than constituting Emotional Intelligence and Daus and Ashkanasy (2003) caution not to confuse mixed model measures with *actual* measures of EI (the ability). Even authors of mixed EI measures seem to agree: Petrides et al., (2016, p. 339) describes TEIQR as more accurately measuring “trait emotional self-efficacy” and the ESCI instrument measures “emotional and social competencies” (Boyatzis, 2007). As previously suggested in this paper (Cherniss, 2010; Joseph et al., 2015; Mikolajczak, 2009), one way forward may be to recognise ability EI (the intelligence) as the antecedent to mixed EI (its behavioural manifestation).

*The ability model:* Some scholars go further still, challenging the premise that ability EI is a form of intelligence (Conte, 2005; Landy, 2005; Locke, 2005). Locke (2005, p.427) describes EI as an oxymoron since the very definition of intelligence involves rational, dispassionate thought and argues that “one cannot reason with emotion, one

can only reason about it”, describing EI not as intelligence but as “skill”. This position is strongly refuted by Ashkanasy and Daus, (2005) who argue that examining the world entirely through a cognitive lens is outmoded and entirely discredited. They point towards a solid body of evidence supporting the notion that emotions provide a form of intelligent feedback. For example, Damasio, Tranel, & Damasio (1991) demonstrated the importance of a person’s emotional/physiological state (somatic markers) in directing them towards making more advantageous decisions. The neuroscience of EI remains uncertain but evidence is mounting for specific brain networks associated with social cognitive ability and EI (Ling et al., 2019). There is psychometric evidence too: a Pan-American study with 15 cognitive ability tests found the MSCEIT ability measure of EI to produce a second-order factor of intelligence that was incremental to other facets of general intelligence (MacCann, Joseph, Newman & Roberts, 2014), a finding recently replicated by Evans, Hughes, & Steptoe-Warren (2019). Given that it took psychologists over a century to agree the definition of general intelligence (Sternberg et al., 1986), this debate may not be resolved soon.

On the basis that academics tend to favour the Salovey and Mayer definition of EI as an ability, it is their instrument, the MSCEIT: (Mayer et al., 2002), that is widely preferred over mixed models of EI as a true measure of EI (e.g. Antonakis & Dietz, 2010). However, the MSCEIT has been criticised for tapping into emotion-related *knowledge* rather than emotion-related *ability* (Ashton-James, 2003). For instance, knowing what one *should* say, or how one *should* behave to sustain a relationship in a specific situation does not mean that one *will* actually behave in this way in practice. In terms of skill acquisition (Anderson, 1996), an individual may have the declarative knowledge to report on their personal qualities or the actions they might take, but not act this way in practice if they have not embedded this knowledge for it to become procedural or automated. Conversely, an individual may be entirely competent to complete a task skilfully but lack conscious awareness of *how* they are doing it and score poorly on a knowledge (ability) test of EI. Ybarra, Kross, & Sanchez-Burks (2014) claim that most EI models adopt a conscious view of how people process emotional information and Fiori (2009) argues that incorporating non-conscious and automatic processes into a model of EI is critical because a large portion of social and emotional life is regulated through the deployment of such processes (Bargh & Chartrand, 1999;

Kahneman, 2011). Several situational judgement and multimedia tests (SJTs) have been developed as alternatives to the MSCEIT (Brasseur, 2013; Krishnakumar, 2016; MacCann, 2016; MacCann & Robert, 2008; Schlegel & Mortillaro, 2018) to reflect more closely what the individual actually does, rather than their theoretical knowledge. Although, for Ashton-James (2003) a truer measure of EI must place respondents in a situation where they experience the emotions they are asked to respond to, such as being observed through role play scenarios. Fineman (2004) endorses the observational approach and argues against the quantitative measurement of emotions, preferring instead a qualitative narrative approach as being “more abundant in insight, plausibility and texture”. He asserts (p. 731) that emotions are often “mixed, ambivalent and mundane” (Pratt & Doucet, 2000), so their measurement will at best only skim the surface of such experiences.

*Both models:* A further concern that is pertinent to both ability and mixed EI models is the ethical use of EI. EI is generally considered to fall under the umbrella of positive psychology (Salovey, Mayer, & Caruso, 2002) and there is indeed substantial evidence for the positive impact of EI (Austin, Saklofske, & Egan, 2005; Day, Furnham, & Petrides, 2003; Therrien & Carroll 2005). However, there is also evidence for negative associations with EI (Davis & Nichols, 2016). The so-called ‘dark side’ of EI may be directed towards oneself, such as internalising of symptoms and depression-proneness (Ciarrochi, Dean, & Anderson, 2002; Davis & Humphrey, 2012), or towards others, with traits such as narcissism, hubris, and Machiavellianism (Austin, Farrelly, Black & Moore, 2007; Judge, Piccolo, & Kosalka, 2009). However, a recent meta-analysis found a negative relationship between EI and Machiavellianism and psychopathy, and a non-significant relationship with narcissism (Miao, Humphrey, Qian, & Pollack, 2019). Caruso and Salovey (2004) admit: “A manager who is expert in managing emotions can use the ability to manipulate employees.” There are many examples in recent times of organisational leaders holding lax ethical standards leading to corruption, poor decision making and ultimately the 2008 global financial crisis (Boddy, 2011 pp. 163-166; Jacobs, 2009; Schlegelmilch & Thomas 2011). Carr (2000, p. 31) argues that the value of EI “is crucially dependent upon the moral ends it serves” and Segon (2015) argues for an ethical basis to EI, highlighting competency EI models in particular as lacking ethical foundations. Matthews et al., (2002, p531) suggests that

many EI competency characteristics are “little more than a dating agency for desirable qualities” and Fineman (2004, p. 729) expresses concern that EI descriptors are typically “an Americanized portrait of positive mental attitude”. He coined the term *commodification of emotions* to describe how managers are *expected* to feel (Fineman, 2000, p. 231) even though many ‘bad’ feelings such as anger, guilt, and boredom are often associated with successful leadership. Lindebaum (2009) urges that this is likely to lead to pressure in organisations for individuals to conform to emotional and behavioural norms by burying their true selves and projecting a false self (Huy, 1999, p. 231), which increases emotional labour (Hochschild, 1983, p. 231) and reduces what Huy (1999, p. 339) describes as “emotional authenticity”.

It may be helpful at this point to summarise the main limitations identified in this section. Mixed EI models have been criticised for their theoretical underdevelopment and measuring a “grab bag” of emotion-related personality attributes or KSAOs rather than actual EI. The ability EI model is considered to be a weaker predictor of performance and appears to neglect the non-conscious and automatic aspects of EI. Both approaches may lack sufficient ethical underpinnings and are accused of neglecting the dynamic and experiential element of emotions.

#### **4. Complimentary approaches to EI**

Rather than operating as competing models, several researchers have proposed a more complimentary approach as the way forward, with ability EI being antecedent to mixed EI. Joseph, Jin, Newman, and O'Boyle (2015, p. 302) theorise that "cognitive ability and ability EI are common antecedents to both mixed EI measures and job performance" on the basis that cognitive ability (which relates to ability EI) is a fundamental antecedent to performance (which relates to mixed EI) (Schmidt & Hunter, 1998). Cherniss (2010) recommends drawing a clear distinction between ability EI and emotional and social competencies (ESC) (i.e. mixed EI) using the *aptitude-knowledge continuum*, (Lichten & Wainer, 2000) where ability EI, the aptitude, refers to "the capacity to learn" and ESC, the knowledge, refers to "what a person actually has learned" (Mayer et al., 2008, p. 513). Based on this conception, Cherniss describes EI as the aptitude necessary for developing emotional and social competencies. Similarly, Mikolajczak (2009) proposes a three-level hierarchical model of EI whereby emotion-related knowledge underlies emotion-related ability (EI) that underlies emotion-related disposition (trait EI). This conception of EI being hierarchical is built upon in the following sections of this paper where the case is made for the inclusion of attitudes as antecedent to ability and mixed EI models. It is further proposed that this approach may help address some of the limitations previously identified in these models of EI.

## 5. Attitudes as antecedents of EI

As discussed, there are clear distinctions to be made between ability EI and mixed EI. Ability EI refers to the conscious processing of thoughts and feelings, and mixed EI refers to how this may manifest as behavioural traits and competencies. It may be inferred that if attitudes are shown to substantially influence thoughts, feelings and behaviours, then they may also be potential determinants of both ability and mixed EI. This section of the review discusses evidence for the relevance of attitudes to both models.

The relationship between attitude and behaviour has a long history of research and is well established (Bargh, Chaiken, Raymond, & Hymes, 1996; Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Festinger, 1957; Makin & Cox, 2004). One of the most researched and influential theories of the attitude-behaviour link is *cognitive dissonance*, where individuals feel compelled to align their behaviour with their attitude to avoid feelings of dissonance and anxiety (Festinger, 1957). A large meta-analytic review found an average correlation of .38 between attitude-opinions and behavioural actions (Kraus, 1995). With such a close emotional and empirical association between attitude and behaviour, it seems important to make this link explicit in any measure of mixed EI that refers to behavioural traits or competencies. For example, an organisation introducing customer service behavioural competencies is unlikely to succeed if employees' underlying attitude is, they do not want to be of service to others.

There is substantial evidence too that attitudes initiate and influence cognitive and emotional processes. Ajzen (2007) defines an attitude as "a disposition to respond favourably or unfavourably to an object, person, institution or event" and most contemporary social psychologists agree that a defining characteristic of attitudes is they are evaluative (Ajzen 1975; Bem 1970; Eagly & Chaiken 1993; Fishbein & Hill, 1981; Osgood, Suci, & Tannenbaum 1957; Oskamp, 1991) i.e. they elicit a cognitive and emotional response. Neuroscientific evidence shows that attitudes, when stimulated, activate the emotional centres of the brain within the limbic system and amygdala (Phelps, 2006; Zald, 2003) giving rise to an evaluative emotional response (Peikoff,

1991), which then exerts influence on thought and behaviour (Bargh, Chaiken, Govender, & Pratto, 1992; Fazio et al., 1986). These findings support the view that attitudes may have an important influence on the perception, facilitation, understanding and management of emotions as represented in the ability model of EI.

A criticism made earlier of the ability EI model is that it focuses on conscious cognitive processing of emotions and ignores automatic unconscious processes, missing out an important part of the EI puzzle (Ybarra et al., 2014, p. 96). Studies have shown that information is sent to the deeper less conscious limbic regions of the brain (often associated with emotion) 0.3 seconds before it reaches the higher more conscious regions of the brain (often associated with cognition) (LeDoux, 1996; Libet, 1985). This is significant to EI as it implies that conscious thinking and the degree of choice a person has over their thoughts, decisions and actions may to some extent be pre-influenced by their earlier automatic emotional response. Given that the initiation of emotions may be activated automatically by implicit attitudes (Bargh, 1989), it follows that attitudes may play an important role as precursors to EI. Fiori (2009) recommends a dual processing framework of EI where automatic and conscious processes combine to facilitate EI behaviour. Such an approach to EI, supports the inclusion of attitudes as integral part to this process.

The close association between attitudes and EI is often illustrated in models of self-development.<sup>1</sup> One promising example related to attitude change is *implicit theories* (Dweck & Leggett, 1988). This holds that people who have a *growth mindset* (incremental theories) (e.g. Aronson, Fried, & Good 2002; Blackwell, Trzesniewski & Dweck 2007) and believe that emotions, intelligence and behaviour can be changed, are more likely to put in the hard work and strategies to make this happen. Implicit theories of emotions have shown that those holding incremental theories more frequently use cognitive reappraisal as an emotional regulation strategy, experience more positive and fewer negative emotions, receive greater social support, are more likely to use mastery-oriented strategies rather than helpless strategies, and harbour

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<sup>1</sup> Being unconscious and automated does not mean that implicit attitudes and processes are inaccessible and cannot be brought into conscious awareness or be developed. Through introspection and self-observation, a person may become aware of their feeling, thinking and behavioural patterns, giving clues as to their unconscious attitudes (Bem, 1972, p. 2) which may in itself cause them to change their attitudes (Wilson, Dunn, Kraft, & Lisle, 1989).

higher expectations of success (Burnette, O'Boyle, Van Epps, Pollack & Finkel 2013; De Castella et al., 2013; Tamir, John, Srivastava, & Gross 2007). Growth mindset attitudes have also been associated with higher EI. Perreault (2014) found that general self-determination (GSD) could account for individual variations in EI, and other studies suggest that people's implicit theories about EI may influence their emotional abilities (Cabello & Fernández-Berrocal, 2015). Another self-development methodology linked to attitude and EI is *mindfulness*, described as "an *attitude* characterised by non-judgment of, and openness to, current experience" (Bishop et al., 2004; Brown & Ryan, 2003; Kabat-Zinn, Lipworth, & Burney, 1985). A systematic review of an eight-week mindfulness-based stress reduction programme (MBSR) found that MBSR led to changes in the brain's amygdala consistent with improved emotional regulation (Gotink, 2016). A recent meta-analytic review (Miao, Humphrey & Qian, 2018) found EI had a statistically significant association with trait mindfulness which increased with age, suggesting that mindfulness practice encourages the development of key abilities and competencies associated with EI. Both mindfulness and the growth mindset approach to self-development resonate well with Lindebaum's view (2009) that changing one's attitude to focus on the present is *synonymous with EI* and in turn lead to behavioural change. These examples lend credence to the view that attitudes may play an important role in understanding and developing the determinants of EI that are not explicitly included in either the ability or mixed models.

## 6. An attitude-based model of EI

The case has been made in this paper for attitudes as antecedents to EI, and some researchers have proposed linking the mixed and ability models (see Section 4). If these three elements of EI were combined to form a single organising model they may go some way in addressing many of the concerns raised in this review by utilising their complementary strengths. Specifically, mixed models are shown to be stronger predictors of performance, ability EI is considered to have a stronger theoretical basis, and attitudes provide a foundation to EI that could help strengthen EI theory and practice in several ways. Attitudes may be used to provide an ethical and values led basis to EI; they could give more insight as to the automatic, habitual and non-conscious processes of EI; and they could help support individuals more widely in their personal development. Furthermore, it is proposed that the inclusion of attitudes within an EI framework potentially provides a broader context for understanding the inputs and outputs of EI, something that is yet to be demonstrated by either the ability or mixed models independently. This may take the form of a hierarchical model where attitudes are the antecedent inputs of EI (the ability) that manifest as mixed behavioural traits and competencies i.e. the outputs of EI (see Table 1).

**Table 1: An input-output model of EI**

<b>EI process</b>	<b>EI model</b>	<b>Psychological facets</b>
EI outputs	Mixed EI	Behavioural traits and competencies
EI	Ability EI	Emotional and cognitive processes
EI inputs	Antecedents of EI	Attitudes

One model that may provide a plausible example of attitudes as inputs to EI is the OK Corral (Ernst, 1974). Based on the theory of Transactional Analysis (TA) (Berne, 1964) it comprises four *Life positions* (Table 2) defined as “one’s basic beliefs about self and others, which are used to justify decisions and behaviour” (Stewart & Joines, 1987). In brief, the top right of the matrix is the I Am OK, You Are OK position, shortened to I+ U+ or the ‘Get-On-With’ attitude. The bottom left refers to the I Am Not OK and You Are Not OK (I- U-), the ‘Get-Nowhere-With’ attitude. The bottom right

refers to the I Am OK and You Are Not OK (I+ U-), the ‘Get-Rid-Of’ attitude, and the top left is the I Am Not OK and You Are OK (I-U+), the ‘Get-Away-From’ attitude.

**Table 2: The OK Corral Life positions**

	<b>I Am Not OK (I-)</b>	<b>I Am OK (I+)</b>
<b>You Are OK (U+)</b>	Get-Away-From	Get-On-With
<b>You Are Not OK (U-)</b>	Get-Nowhere-With	Get-Rid-Of

This model may help address several of the concerns identified in this paper in three main ways. First, a potential benefit in applying the OK Corral matrix is to provide an organising model for the relationship between the “grab bag” of different constructs represented in the various mixed models of EI. For example, the Get-Rid-Of attitude relates to facets of EI that are more I+U- oriented such as: low awareness of others, inflexibility, mistrust, over-independence and aggression. This compares to the Get-Away-From attitude which may relate to EI facets that are more I-U+ oriented such as low self-awareness, low personal power, over-trusting, over-dependence and passivity.

Second, the OK Corral more easily captures the emotional variance and behavioural patterns that are missing from the ability and mixed models of EI (Fineman, 2004). For example, an individual who is usually passive and compliant (I-U+) but can no longer contain their frustration may rebound to being aggressive (I+U-). Or an individual who is usually assertive in handling conflict (I+U+) may under stressful circumstances become upset and withdrawn (I-U-). Interpreting EI behaviours through this lens could offer greater insight into the dynamics of EI behaviours.

Third, the OK Corral may help address a wider concern on the ethical application of EI. As previously discussed, EI is criticised for having a ‘dark side’, which may be directed towards oneself, such as ruminating over negative emotional experiences, or towards others such as manipulating others for personal gain, or by an organisation setting the agenda for what constitutes acceptable emotions and behaviours. Each of these scenarios are incompatible with holding the ethical and humanistic attitudes of I Am OK (unconditional self-acceptance) and You Are OK (unconditional regard for others).

## 7. Conclusion

It is over 25 years since the popularisation of EI, which has been dominated by an enduring stand-off between two opposing models: ability and mixed EI. It is recommended that the inclusion of attitudes as antecedents to both models, within a single organising framework, may potentially address some of the limitations identified by:

- a. providing context for the inputs and outputs of EI
- b. offering an organising model for the different facets of EI
- c. accommodating dual-processing (the automatic and conscious processing) of EI
- d. capturing the emotional variance and dynamic nature of EI facets
- e. facilitating long-term self-development (such as a growth mindset and mindfulness)

A positive step in this direction is to test the relationships proposed in this paper between attitudes and both models of EI. For examples, do attitudes demonstrate incremental and differential validity to EI measures, and is there a hierarchical relationship between EI attitudes, EI abilities and EI behaviours (mixed EI)? As a prelude to this, it is useful to evaluate the Emotional Intelligence Profile (EIP) (Maddocks & Hughes, 2017), an instrument that is derived from an attitude-based model of EI.

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## **Part 2: Research Project**

**Examining the factor structure of an attitude-based measure of  
Emotional Intelligence – the Emotional Intelligence Profile (EIP)**

# **Examining the factor structure of an attitude-based measure of Emotional Intelligence – the Emotional Intelligence Profile (EIP)**

Maddocks. J.

## **Abstract**

Measures of Emotional Intelligence (EI) are broadly separated into two taxonomies: measures of maximal performance – ability EI; and measures of typical performance – mixed EI. Both approaches are largely dominated by a few established instruments and models that have several inherent limitations. In this paper, an alternative model and measure of EI will be explored – the Emotional Intelligence Profile (EIP) – that includes attitudes as antecedents to EI, a feature not present in other models of EI. It is proposed that an attitude-based approach to EI holds several benefits, helping to address some of the limitations commonly identified in the mixed and ability approaches. First, it provides an organising framework for the two taxonomies and different facets of EI; second, it presents an ethical basis for EI behaviours; third, it reflects the dynamic nature of EI facets; and fourth, it represents the automated (as well as conscious) aspects of EI. Drawing on a sample of 1502 participants, this paper examined the factor structure of the EIP framework as a suitable model for testing these claims. Exploratory Factor Analysis did not replicate the six-part structure of the EIP framework but did lend support for the two streams of the EIP framework (Intrapersonal and Interpersonal), and separation of the Awareness tier from the Attitude and Behaviour tiers of the EIP framework. Subsequent regression analysis found the Attitude tier to be a far stronger predictor of the Behaviour tier ( $R^2$  change .43) than was the Awareness tier ( $R^2$  change .08). The results give partial support for the factor structure of the EIP framework and, by implication, for each of the four research aims. These findings suggest that EI attitudes play an important role in determining EI behaviours and should be considered within future measures of EI.

## 1. Introduction

Over the last 25 years, research into Emotional Intelligence (EI) has taken two distinct and contrary pathways dominated by a few prominent models. One examines EI as an *ability* (Mayer & Salovey, 1993), measured as *maximum* performance, the other describes EI as a *mixed* array of affect-related traits (Furnham & Petrides, 2003) or competencies (Boyatzis & Sala, 2004), measured as *typical* performance. The first definition of EI is credited to the authors of the ability model (Salovey & Mayer, 1990, p. 189) as “the ability to monitor one’s own and others’ feelings, to discriminate among them and to use this information to guide one’s thinking and action”. This was later conceptualised into a hierarchical model of four interrelated abilities: (1) perceiving emotions (in oneself, others, objects, etc.); (2) generating and using emotions to facilitate thought; (3) understanding emotional information; and (4) managing emotions in oneself and others (Mayer & Salovey, 1997) as measured by the Mayer, Salovey, & Caruso Emotional Intelligence Test (MSCEIT; 1997, 2002; MEIS, 1990).

Models and measures that fall outside of the ability EI camp are collectively termed *mixed* models (Mayer, Caruso & Salovey, 2000) as they include a mixed array of “non-cognitive capabilities, competencies and skills ...” (Bar-On, 1997). Mixed models may broadly be separated into either competency-based measures, such as the Emotional and Social Competency Inventory (ESCI) (Boyatzis, 2007), a 360 degree ratings questionnaire, and trait-based measures, such as the Trait Emotional Intelligence Questionnaire (TEIQ) (Petrides, Pita, & Kokkinaki, 2007), a self-report questionnaire. Competency-based measures of EI originate from the work of Daniel Goleman and colleagues at Hay/McBer, who defined emotional *competence* as “learned capabilities based on emotional intelligence which result in outstanding performance at work” (Goleman, 1998, p. 23). The trait EI approach proposed by Petrides and Furnham (2001) describes EI as encompassing the *affective* aspects of established personality taxonomies (e.g. the Giant three and the Big five) located at the lower levels of personality hierarchies. For a more thorough review of the EI models refer to Section 2 of the Literature Review.

The purpose of this paper is to examine the factor structure of an alternative model and measure of EI: the Emotional Intelligence Profile (EIP) (Maddocks, 2018). The EIP is an attitude-based model of EI that purports to improve upon some of the limitations of the ability and mixed models in four main ways: (i) by providing an organising structure for the two taxonomies and different facets of EI; (ii) by presenting an ethical basis for EI behaviours; (iii) by reflecting the dynamic nature of EI facets; and (iv) by representing the automated as well as conscious aspects of EI. The rationale for these four propositions will first be discussed in relation to the specific limitations they address. For a broader critique of the EI models refer to Section 3 of the Literature Review.

#### **i. An organising structure for the two taxonomies and different facets of EI**

*Limitation:* Mixed models and measures of EI have raised considerable concern from critics for their theoretical underdevelopment, lack of consensus over a definition, weak content validity and unstable factor structures (Conte, 2005; Matthews, Roberts, & Zeidner, 2004; Murphy, 2006). Critics complain that EI is nothing new, rather a “grab bag” of existing content, a “catch-all label” for desirable qualities, and a “black box” of mixed EI constructs that have been around for decades many of which are not even aspects of EI (Joseph & Newman, 2010; Mayer, Salovey, & Caruso, 2008; Murphy, 2006). Locke (2005, p. 428) laments that mixed models are “preposterously all encompassing” and asks “what does EI ... not include”, while Mayer, Salovey, and Caruso (2008, p. 505) comment: “Generally speaking, these models include little or no justification for why certain traits are included and others are not.” In recent years, however, progress appears to have been made on this front with trait EI showing favourable evidence regarding stable factor structure (Petrides et al., 2016), stronger content validity and robust construct validity (Andrei, Siegling, Aloe, Baldaro, & Petrides, 2016).

*Proposition:* the EIP is described as “a psychometric measure of the emotion-related aspects of personality, expressed in the form of attitudes, skills and habits that enable an individual to be both personally and interpersonally effective” (Maddocks &

Hughes, 2017, p. 2). It is a self-report questionnaire measuring 16 facets of EI placed within an organising framework and process as shown in Table 1 below.

**Table 1: The EIP framework**

		<b>Intrapersonal</b>	→ <b>Interpersonal</b>
EI output (Mixed)	<b>Behaviour</b>	Self Management	Relationship Management
EI practice (Ability)	<b>Reflection</b>	Self Reflection	Reflection on Others
	<b>Awareness</b>	Self Awareness	Awareness of Others
EI input (Antecedents)	<b>Attitude</b>	Self Regard	Regard for Others

The framework consists of two branches of EI, Intrapersonal and Interpersonal (Gardner, 1983; Brasseur, Grégoire, Bourdu, & Mikolajczak, 2013). The dominant arrows of influence move from left to right, such that Intrapersonal EI moderates and supports the Interpersonal branch of EI. For example, at the Awareness level, it may be easier to empathise with the feelings of others (Interpersonal EI) if one has experienced and become aware of similar feelings in oneself (Intrapersonal EI) (Gallup & Platek, 2002).

There are four levels to the framework with the dominant arrows of influence moving from the bottom upwards. The top three levels of this process are largely consistent with the original ability processing model of EI by Salovey and Mayer (1990), later portrayed as a cascading model by Joseph and Newman (2010), whereby emotional perception (Awareness), precedes emotional understanding (Reflection) which precedes emotional management (Behaviour). Additional to the EIP framework are underlying Attitudes which are implicit templates, patterns (Griffin, 2001) or simulations (Barrett, 2017) against which sensory stimuli are initially matched to invoke emotional, cognitive and behavioural responses (Bargh, 1989; Bargh, Chaiken, Govender, & Pratto, 1992; Fazio, Sanbonmatsu, Powell, & Kardes, 1986). For example, an Attitude of low Self Regard in relation to one's competence may give rise to negative feelings (such as humiliation), critical 'self-talk' (such as self-blaming) and

defensive behaviours (such as avoiding responsibility) (Kaplan, 1995, 2000). The EIP framework is partly derived from an EI model produced by Goleman (2000), that includes two Awareness scales (Self Awareness and Social Awareness) and two Behaviour clusters (Self Management and Relationship Management) but does not include the underlying Attitude tier in the EIP. Although both models share these scale clusters, the directional influence between them and their factor structure has not been established by the Emotional and Social Competency Inventory (ESCI) (Boyatzis, 2007), the instrument derived from the Goleman model.

The 16 EIP scales are placed within the EIP framework as described in the Methods section. Several of these are Behaviour scales, similar to those found in other mixed measures of EI. A key distinction however, within the EIP framework, is the underpinning status of the Attitude scales – Self Regard and Regard for Others. The Attitude scales are closely related to self-concept theory, described as “an active structure that organizes and gives meaning to past and current experiences, provides goals and standards for behavior, and motivates future choices and actions” (Harter, 2012, cited in Keefer, 2015, p. 10). In a review of self-report assessments for emotional competencies, Keefer (2015, p. 9) comments that “self-concept theory is conspicuously missing from the bulk of empirical research. I see this as a major oversight ...”. Despite this view, there has been widespread criticism of measures that include self-concept scales such as Self Regard as “irrelevant variables” that are “unmooring the concept” of EI (Mayer et al., 2008, pp. 504 & 508). In this paper it is argued that far from being irrelevant variables, the Attitude scales are essential as part of an organising framework for placing EI into context.

Other established instruments such as the Bar-On EQi (1985), the EQi 2.0 (MHS, 2011) and the TEIQ (Petrides et al., 2007) include the concept of Self Esteem (Self Regard) but do not include Regard for Others. In EIP theory this is considered a significant omission as it is the relative balance between these two constructs that explains patterns in the Behaviour scales. For example, the Attitude combination of low Self Regard and high Regard for Others may be indicative of passive and dependent behaviours, while the opposite combination of high Self Regard and low Regard for Others may be indicative of critical and aggressive behaviours (Ernst, 1971)

(further explanation of these attitude-behaviour patterns is given in the third proposition below).

With the exception of Goleman's four clusters of EI (2000) and the Salovey and Mayer (1990) four-stage process of EI, few measures of EI attempt to interpret the conceptual relationship between facets of EI as denoted by the directional arrows in the EIP framework. For instruments like TEIQ and Bar-On EQi this means that all scales, such as *Self-esteem* and *Assertiveness*, are given the same ontological status, that no distinction is made between EI processes such as *Emotional regulation* and EI traits such as *Optimism*, and that scales are collectively defined under broad descriptions such as "a constellation of emotional self-perceptions" and "affective aspects of personality".

A further feature of the EIP framework is that it incorporates and draws distinction between the ability and mixed models (Table 1). The ability EI model is partly represented by the Awareness and Reflection levels of the EIP framework (i.e. conscious processes), while mixed EI models (such as the trait and competency approaches) are represented as Behavioural outputs in the EIP framework. Similar complimentary approaches to bridge the gap between the ability and mixed models have been put forward by other researchers. Cherniss (2010) describes (ability) EI as the aptitude necessary for developing emotional and social competencies, and Mikolajczak (2009) proposes a three-level hierarchical model of EI whereby emotion-related knowledge underlies emotion-related ability (EI) that underlies emotion-related disposition (trait EI). Cherniss and Boyatzis (2013) present a more elaborate five-level model, that includes underlying elements to EI such as "motivation", "unconscious dispositions", and "values and philosophical foundations", that have clear resonance with the Attitude tier of the EIP framework. This conception of the EIP framework as a unifying model for the ability and mixed EI approaches, may be described as an *input-output* process (as shown in the first column of Table 1), where Attitude is the antecedent *input* of EI, Awareness and Reflection are the conscious *practices* of EI, and Behaviour is the manifesting *output* of EI. This relationship is discussed further in the fourth proposition.

On these grounds it is proposed that the EIP framework provides an organising model and rationale for the different facets of Emotional Intelligence and in so doing helps negate some of the criticism levelled against EI measures being described as a “catch-all label” and “grab bag” of content (Joseph & Newman, 2010; Murphy, 2006).

## **ii. An ethical basis for EI behaviours**

*Limitation:* EI is generally considered to fall under the umbrella of positive psychology (Salovey, Mayer, & Caruso, 2002) and there is indeed substantial evidence for its positive impact (Austin Saklofske, & Egan, 2005; Day, Therrien & Carroll, 2005; Furnham & Petrides, 2003). However, Kilduff (2010) expresses concern at the “overly-positive celebration of EI” and the imbalance of EI research focusing almost exclusively on the prosocial aspects (Antonakis, 2010). There is evidence too for negative associations with the so-called ‘dark side’ of EI (Davis & Nichols, 2016), with traits such as narcissism, hubris, and Machiavellianism (Austin, Farrelly, Black, & Moore, 2007; Judge, Piccolo, & Kosalka, 2009), although, a recent meta-analysis found a negative relationship between EI and Machiavellianism and psychopathy, and a non-significant relationship with narcissism (Miao, Humphrey, Qian, & Pollack, 2019). Well before the popularisation of EI, Goffman (1969) described the strategic manipulation and control of emotions to achieve personal gain. Caruso and Salovey (2004, p. 171) recognise too that “A manager who is expert in managing emotions can use the ability to manipulate employees.” Kilduff (2010) describes how the strategic disguise of one’s own emotions and the manipulation of others’ emotions may be used for self-serving purposes such as career ambition. As he puts it “getting ahead involves leaving others behind” (p. 146), high-EI executives may have the capacity to manage the regulation and expression of their emotions if it serves the overriding goal of getting ahead. They may be tempted to pursue personal agendas rather than the goals of the organisation (Kish-Gephart, 2010) and advance their own interests at the expense of others. Kilduff does not suggest that those high in EI are more prone to unethical behaviour, but considers the culture and practices within organisations, such as those with highly competitive internal promotion procedures, may accentuate self-serving behaviour. There are many examples in recent times of organisational leaders holding lax ethical

standards leading to corruption, poor decision making, and ultimately some have argued, the 2008 global financial crisis (Boddy, 2011 pp. 163-166; Guidi, 2009; Jacobs, 2009; Schlegelmilch & Thomas 2011). Carr (2000, p. 31 ) argues the value of EI “is dependent on the moral end which it serves” and Segon (2015) urges for an ethical basis to EI, highlighting competency EI models as lacking ethical foundations. After careful examination of the Emotional Competency Inventory (ECI) scales and framework (Sala, 2002), Segon concludes that any ethical outcome is “a matter of moral luck” and certainly not part of the ECI competencies themselves. This he suggests leaves managers and leaders open to potential decisions and actions that are unethical, citing several cases of how the “corporate psychopath” (Babiak & Hare, 2006) may display emotional competencies yet engage in corrupt and unethical practices.

*Proposition:* Unlike most EI models which are mainly empirically derived, the EIP was conceived from the top-down starting with its theoretical principles, asking first: what are the emotional needs of a human being (Griffin & Tyrell, 2001) and how may these be attained? The philosophical assumption, termed Physis (Aristotle, Physics, book II, Chapter 1), is that all living things, including people, are endowed with the innate resources to thrive and grow, but to do so they must learn how to harness their human resources. Drawn from Transactional Analysis (TA) (Berne, 1964), FIRO theory (Schutz, 1958), and other humanistic theories of psychology, eight underlying attitudes/mindsets (Table 2) were defined to facilitate behaviours (as defined by the 16 EIP facets) that enable an individual to meet their emotional needs (Maddocks, 2018, p. 3). The assumption is that when an individual behaves in a way that is not emotionally intelligent, they breach one or more of these attitudes. For example, an individual who does not control the expression of their feelings may hold attitudes that are inconsistent with attitude 3 – “No one else can control our feelings”, and attitude 5 – “Feelings and behaviour are separate”.

**Table 2: Attitudes that underpin the EIP facets**

1.	However you and others are, is OK
2.	Everyone is in control of and responsible for their actions
3.	No one else can control our feelings

4.	People are different; they experience the world differently, feel different things and want different things
5.	Feelings and behaviour are separate
6.	All feelings are justified, acceptable and important
7.	Change is possible
8.	People have a natural tendency towards growth and health

The proposition that attitudes support ethical EI practices is consistent with the position held by Segon (2015, p. 790) that “attitudes enable knowledge and behaviour to be applied in a way that demonstrates genuineness and authenticity” and that “ethical management” should be central to the measurement of EI. The primary EI attitude (1) “However you and others are, is OK” is represented directly in the EIP framework by the facets of Self Regard and Regard for Others, through which all the other EIP facets are filtered.

Self Regard and Regard for Others originate from the Rogerian concept of unconditional self-regard and unconditional positive regard for *others* (as a recommendation for the therapist) (Rogers, 1957). Both were later applied within Transactional Analysis theory (Berne, 1964) (described further in proposition iii) and defined as “one’s basic beliefs about self and others, which are used to justify decisions and behaviour” (Stewart & Joines, 1987, p. 119). Self Regard is conceptually similar, if not identical to the construct of self-esteem (Blascovich & Tomaka, 1991), which has been intensively studied as a variable of personality psychology. (See proposition iv for a synopsis of this research.) Other-esteem (Regard for Others) is a newer concept first defined by Hwang (1995) and may be considered analogous to the definition of self-esteem (Self Regard) as applied to *others* (Bowles, 2013).

In relation to the specific limitation of the second proposition, it is incompatible for unethical EI intentions or behaviour to be present in an individual who holds the core moral attitudes and guiding principles of the EIP described above. Equally, an individual who holds negative moral attitudes may be expected to display less ethical EI behaviour. Support is given for this by longitudinal research over 30 years

(summarised in Kaplan, 1995) showing direct and indirect effects of low self-esteem (also described as negative self-attitudes and self-derogation) on deviant behaviour.

### **iii. Reflecting the dynamic nature of EI facets**

*Limitation:* A wider ethical concern expressed by Fineman (2004) is in the use of psychometric questionnaires to measure subjective emotions and EI. He argues that “boxing” emotions by numbers is restrictive and bears crude resemblance to the complexities of a person’s affective life. Subjective emotions, he explains, can be difficult to categorise and multidimensional with ambiguities and contradictions. In his opinion, measures of EI at best skim the surface of emotional experience, missing much of the finer-grained nuance and context in which emotions are experienced. This is a view echoed by other critics of the psychometric approach to EI who share concerns that this may lead to pressure in organisations for individuals to conform to emotional and behavioural norms (Lindebaum, 2009), increasing emotional labour (Hochschild, 1983) and reducing emotional authenticity (Huy, 1999).

*Proposition:* The EIP is comprised of both linear and curvilinear scale facets. Several personality theorists argue the relationship between non-cognitive predictors and performance can be curvilinear (Benson & Campbell, 2007; Cucina & Vasilopoulos, 2005; Le et al., 2011; Pierce & Aguinis, 2013; Robie & Ryan, 1999). It is proposed that curvilinear scales provide a closer representation of the dynamic nature of several facets of EI than do linear single scales. For example, the optimal level for the control of emotions may fall between Under Controlled (reactive and uninhibited) and Over Controlled (repressed and inhibited). The dynamic nature of this relationship requires both poles of the curvilinear scale to be measured independently as both may (or may not) occur concurrently. For instance, someone who bottles up their feelings (Over Controlled) may also be less able to manage their eventual release (Under Controlled) due in part to the emotional labour of ‘surface acting’ (withholding of feelings) (Hochschild, 1983). For this reason, several facets of the EIP are measured with three separate sub-scales (one optimal scale and two sub-optimal scales i.e. ‘too little’ and ‘too much’).

The dynamic relationship between the three sub-scales may also be linked to the underlying Attitude scales of Self Regard and Regard for Others, as described by the OK Corral model (Ernst, 1971) of Transactional Analysis (Berne, 1964). For example, on the EIP scale of Conflict Handling, an individual who is Passive (too little) may hold the combined Attitudes of low Self Regard and high Regard for others, i.e. “others are of more value than me”, while an Aggressive (too much) individual may hold the opposite Attitude combination of high Self Regard and low Regard for Others, i.e. “I am of more value than others”. It is therefore suggested that the individual who scores lower on the Attitude of Self Regard may score higher on the sub-optimal Behaviour scales of Passive, Dependent and Over Trusting. While individuals who score lower on the Attitude of Regard for Others may score higher on the sub-optimal Behaviour scales of Mistrusting, Under Controlled, Aggressive and Over Independent.

It is proposed that the inclusion of three sub-scales (too little, optimal and too much) to measure EI constructs better represents the dynamic variability of EI than does a single linear scale approach. Although this adaptation may not fully address the wider concerns expressed by Fineman (2004) of reflecting “the complex multidimensional ambiguities and contradictions of a person’s affective life”, it arguably goes further than other self-report measures in meeting these concerns.

#### **iv. Representing the automated as well as conscious aspects of EI**

*Limitation:* One further concern rarely considered by publishers of EI models and measures is differentiating between conscious and automated processes. Ybarra, Kross, & Sanchez-Burks, (2014, p. 96) claim that ability EI models tend to focus on the conscious cognitive processing of emotions i.e. awareness, understanding, and management of emotions, but ignore automatic unconscious processes, missing out an important part of the EI puzzle. In contrast, mixed models of EI, that include dispositional, habitual and skill-based concepts, are more aligned to automated processes and make no distinction between these and more deliberate conscious processes. Consistent with theories of skill acquisition (Anderson, 1982; Fitts & Posner, 1967; Sun, Peterson, & Merrill, 1996), it is reasonable to expect that through conscious

practice, the facets of EI become more proceduralised, automated, unconscious and habitual over time. Fiori (2009) argues that incorporating automatic processes into a model of EI is critical because a large portion of social and emotional life is regulated through the deployment of such processes (Bargh & Chartrand, 1999; Kahneman, 2011). She recommends a dual-processing framework of EI where automatic and conscious processes combine to form EI behaviours.

*Proposition:* The EIP framework has been described as having four levels or stages of processing. It is proposed that the middle two tiers (Awareness and Reflection) are predominantly conscious cognitive processes whereas the Attitude and Behaviour tiers are more often automated and can work independently of or in parallel with the conscious stages. This is illustrated in the EIP framework below (Table 3) that shows a dual-processing model of EI, with both conscious processing and automated processing (where the conscious stages of Awareness and Reflection are bypassed).

**Table 3: Dual-processing stages in the EIP framework**

<b>Automaticity</b>	<b>Conscious</b>	<b>Intrapersonal</b>	<b>Interpersonal</b>
	<b>Behaviour</b>	Self Management	Relationship Management
	<b>Reflection</b>	Self Reflection	Reflection on Others
	<b>Awareness</b>	Self Awareness	Awareness of Others
	<b>Attitude</b>	Self Regard	Regard for Others

Black arrows indicate the direction of conscious influence. The grey arrow indicates the direction of automated influence.

Dual-processing models of conscious and automated EI have been advocated by other researchers (Evans 2008; Fiori, 2009; Ybarra et al., 2014) and are consistent with wider dual-processing theories of emotion (Baumeister, Vohs, DeWall, & Zhang 2007). For instance, research from neuroscience suggests that conscious experience of emotions occurs in a different part of the brain (the insula) (Damasio et al., 2000) from automatic affective responses (the amygdala) (Anderson & Phelps, 2002; Whalen et al., 1998). Cognitive literature also supports the view that conscious declarative knowledge and automated procedural behaviours can occur independently (Sun, Merrill, & Peterson, 2001). Examples include being skilful at managing one's emotions

but not consciously knowing the steps taken to do this, or alternatively, knowing how to manage one's emotions, but being unskilled at putting this into practice.

The close association between attitude and behaviour (the automated process) has been well documented (Bargh et al., 1992; Bargh, Chaiken, Raymond, & Hymes, 1996; Fazio et al., 1986; Festinger, 1957) and neuroscience supports the notion that sensory stimuli are initially pattern matched with templates of past experiences (akin to attitudes) that give rise to emotion, cognition and behavioural responses (Barrett, 2017, p. 63; Barrett & Simmons, 2015). As to which path they take in dual-processing (conscious or automated), may depend on whether they meet the threshold for conscious awareness (Baumeister et al., 2007). In support of other neuroscientific literature (Paton, Belova, Morrison, & Salzman, 2006; Russell, 2003), Baumeister et al., (2007, p. 170) contend: "it is mainly the automatic affective responses that directly contributes to causing behaviour."

The notion that individuals seek consistency and balance between attitude and behaviour is also central to cognitive models of psychology (Festinger, 1957; Heider, 1958; Makin & Cox, 2004; self-consistency theory – Korman, 1970; and self-verification theory – Swann, 1992). Lindebaum (2009, p. 233) asserts that "endeavours to stimulate individual's EI should centre upon attitudinal and perceptual changes, before behavioural responses can change too." If, as argued in the first proposition, Attitudes are the antecedents of EI Behaviours, then to make long-term sustainable change in EI Behaviour (i.e. change that is automated and habitual) requires a congruent change in Attitude, a component that is missing from the ability and mixed models of EI.

With respect to the EIP attitudes, research on self-esteem (akin to the EIP Attitude of Self Regard) shows consistent associations with each of the Big Five personality dimensions, with strong positive associations with Extraversion and Emotional Stability, and weaker positive associations with Conscientiousness and Agreeableness (Costa, McCrae, & Dye, 1991; Zeigler-Hill et al., 2015). High self-esteem has also been associated with a range of positive outcomes including positive well-being (Diener & Diener, 1995), psychological adjustment (Zeigler-Hill & Wallace, 2012) persistence on difficult tasks (Di Paula & Campbell, 2002), job satisfaction and job performance (a meta-analysis by Judge & Bono, 2001). However, the literature by

Baumeister, Campbell, Krueger and Vohs, (2003) debates whether high self-esteem is related to better performance. Other esteem (Regard for Others) is less well researched and has only limited credentials as a predictor of behaviour and performance (Busse, 2017).

The fourth proposition in this paper is that the EIP framework draws a distinction between automatic and conscious processing of EI, not as-yet demonstrated by either ability or mixed models. This is largely due to the inclusion of the Attitude layer in the EIP framework that represents the antecedent inputs to both the conscious and automated pathways, as described in the first proposition.

The four propositions described above lead directly to the four Research Aims that will be investigated in this study:

Research Aim 1: The EIP framework provides an organising structure for the two taxonomies and different facets of EI.

Research Aim 2: The EIP framework provides an ethical basis for EI behaviours.

Research Aim 3: The EIP sub-scales are consistent with the dynamic nature of EI facets.

Research Aim 4: The EIP framework reflects the automated (as well as conscious) aspects of EI.

The analysis that follows examines the factor structure of the EIP framework upon which the four Research Aims are derived. It is intended in this paper to demonstrate support for the EIP framework and so lend weight to the four Research Aims and for continued research in this area.

## 2. Method

### Design

The purpose of this study was to examine whether the factor structure of the EIP framework lends initial support to the four Research Aims outlined previously. Due to the different constructions of the linear scales and sub-scales, it was decided to examine both scale groups separately before doing so in combination. Each step in the analysis has particular relevance to the following Research Aims.

- Step 1: Linear scale analysis: Research Aim 1
- Step 2: Sub-scale analysis: Research Aims 2,3
- Step 3: Combined scale analysis: Research Aims 1,4

Exploratory Factor Analysis (EFA) with Principal Axis Factoring (PAF)<sup>2</sup> using oblique rotation (Promax)<sup>3</sup> was selected as the primary method for exploring the structure of the EIP scales in relation to the EIP framework and the four research aims. EFA is an iterative process, so several stages of analysis were conducted to arrive at the most meaningful solutions. The main results are presented in the Results tables, and further data from the iterative stages is presented in the Appendices. To support the validity of the EFA results, the analysis was repeated with two groups split from the larger opportunity sample.

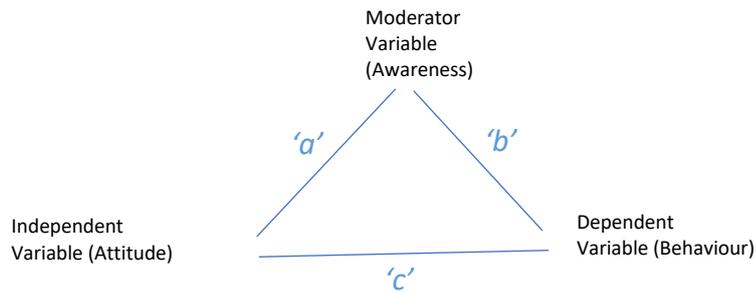
Subsequent regression analysis was conducted to examine the predictive relationship of Attitude and Awareness on Behaviour in relation to Research Aim 4. Dual-processing theory of EI (Fiori, 2009) proposes both automated and conscious processing routes for EI. The *conscious* route is modelled by the three levels of the EIP framework (Attitude, Awareness and Behaviour). This is shown in Figure 1 as route ‘a’ + ‘b’ where Awareness is a moderator (Baron & Kenny, 1986) between Attitude and Behaviour. The *automated* route connects the Attitude and Behaviour levels of the EIP framework bypassing the conscious Awareness level, as indicated by route ‘c’.

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<sup>2</sup> EFA was selected as a first step as opposed to Confirmatory Factor Analysis (CFA). CFA would require established theory to justify the factors and structure of the EIP framework, which has not previously been demonstrated. Different explanations for the EIP factor structure also emerged from this analysis.

<sup>3</sup> Oblique rotation was selected over orthogonal rotation as the EIP scales are interrelated.

**Figure 1: Conscious and automatic pathways of EIP**



Building on Research Aim 4, it was expected that Awareness and Attitude would both contribute as predictors of Behaviour, but that Attitude would contribute greater variance as it operates through both the conscious and automated routes, while Awareness operates only through the conscious route. It may be inferred therefore that any additional variance contributed by Awareness above Attitude indicates what proportion of the EI process is conscious. Also, that additional variance contributed by Attitude above Awareness indicates what proportion of the EI process is automated. Based on findings from the EFA, regression analysis was conducted in three steps.

- Step 1: Intrapersonal stream
- Step 2: Interpersonal stream
- Step 3: Combined (Intrapersonal and Interpersonal streams)

### **Participants**

The research study involved a total of 1,502 participants, an “excellent” sample size for PAF (Comrey & Lee, 1992). Of these, 533 were obtained from organisations approached via the EIP test proprietor, and 969 from an opportunity sample of individuals who completed the EIP during the period of this study. The sample includes mainly working adults, employed in a range of occupational sectors and management levels. There were more females (58%) than males (42%), modal age was 30 to 39 (31%), with 15% aged below 30, and 54% aged above 39. Over half the group (52%) were managerial level or higher, and 53% were qualified at degree level or above. Most identified as white British (84%) and from the UK (92%). Further demographics are

provided in Appendix A.

### Procedure

Participants were invited to complete the EIP questionnaire online and this took approximately 20 minutes. Instructions were presented directly about the questionnaire and participation was voluntary.

### Questionnaire

The EIP questionnaire was first produced in 2003 (Maddocks & Sparrow, 2003) and revised in 2017 (Maddocks & Hughes, 2017). It consists of 16 scales (Appendix B), five of which are composite scales derived from three sub-scales<sup>4</sup> (one optimal and two sub-optimal), making an additional 15 sub-scales. The internal consistency (Cronbach alpha) for all scales and sub-scales in the study sample ranged from .71 to .87 (Appendix C). The EIP scales are organised within the EIP framework (Table 4) as described in Research Aim 1. This has been reduced to a six-part framework by combining the Reflective Learning tier within the Awareness tier.<sup>5</sup>

**Table 4: The EIP framework**

	Intrapersonal	Interpersonal
Behaviour	Self Management	Relationship Management
Awareness <sup>5</sup>	Self Awareness	Awareness of Others
Attitude	Self Regard	Regard for Others

Black arrows indicate the theoretical direction of conscious influence. The grey arrow indicates the theoretical direction of automated influence (see Research Aim 4).

The conceptual relationship between the EIP scales and the EIP framework is shown in Table 5 below. Five of the 16 EIP scale facets are represented directly by the EIP framework categories, six are included within the category of Self Management

<sup>4</sup> Five of the EIP scales are composite scales, each derived from three sub-scales. This follows the premise of these scales having a curvilinear relationship with performance (see Research Aim3). The formula to calculate the overall composite scale (CS) score is;  $CS = OS - (SO1 + SO2 / 2)$  i.e. the optimal scale (OS) score minus the two sub-optimal scale (SO) scores (divided by 2).

<sup>5</sup> Reflective learning is a single scale that comprises both Self Reflection and Reflection on Others. It is grouped with the Awareness tier as both sets of scales relate to the conscious stages of EI processing (see Research Aim 4). This reduces the EIP framework to three tiers and six components.

and the remaining five are included within the category of Relationship Management. Three of the Relationship Management scales also have close association with Self Management<sup>6</sup>, as indicated in Table 5. (Scale intercorrelations are presented in Appendix L.)

**Table 5: Conceptual links between the EIP scales and the EIP framework**

<b>EIP framework</b>	<b>EIP scales</b>	<b>Sub-optimal scale</b> (‘too little’)	<b>Optimal scale</b>	<b>Sub-optimal scale</b> (‘too much’)
Attitude	Self Regard			
	Regard for Others			
Awareness (and Reflection) <sup>5</sup>	Self Awareness			
	Awareness of Others			
	Reflective Learning			
Behaviour: Self Management	Emotional Resilience			
	Personal Power			
	Goal Directedness			
	Flexibility			
	Authenticity			
	Balanced Outlook <sup>4</sup>			
	Connecting with Others			

<sup>6</sup> These three scales are statistically and conceptually related to both Self Management and Relationship Management (Appendix L). For instance, Conflict Handling may require remaining calm (Self Management) and assertive communication (Relationship Management). On balance, these scales are assigned to Relationship Management because they include observable interpersonal behaviours. Relationship Management is also influenced by Self Management as indicated by the arrows on the EIP framework.

Behaviour: Relationship Management	Trust <sup>4,6</sup>	Mistrusting	Carefully Trusting	Over Trusting
	Emotional Expression and Control <sup>4,6</sup>	Under Controlled	Free and in Charge	Over Controlled
	Conflict Handling <sup>4,6</sup>	Passive	Assertive	Aggressive
	Interdependence <sup>4,6</sup>	Dependent	Interdepende nt	Over Independent

### **3. Results**

#### **Exploratory Factor Analysis of the EIP framework**

Due to the different constructions of the linear scales and sub-scales, it was decided to examine both scale groups separately before doing so in combination. The following three steps were taken:

- Step 1: Linear scale analysis
- Step 2: Sub-scale analysis
- Step 3: Combined scale analysis

#### **Data preparation**

Analysis was conducted on the entire sample;  $n=1502$ , after the removal of 39 outliers mostly due to respondent error. Data was checked for asymmetry and kurtosis by visual inspection of histograms for normality which fell within acceptable parameters, with a slight negative skew towards positive self-scoring.

#### **Step 1: Linear scale analysis**

Exploratory Factor Analysis (EFA) using Principal Axis Factoring (PAF) was conducted on the 11 linear scales (Appendix D). A forced six-factor solution was attempted to reflect the six-part EIP framework. Three of these factors associated well with the EIP framework, although three were inconclusive with eigenvalues below .8.

- Factor 1: Self Regard and Self Management.
- Factor 2: Regard for Others and Awareness of Others
- Factor 3: Self Awareness and Reflective Learning
- Factors 4, 5 & 6: Inconclusive

A second PAF was specified with eigenvalues  $> 1$ . This produced a cleaner two-factor solution (Table 6),  $KMO = .859$  and a significant Bartlett test result. Factor 1

explained 39.6% of the variance, Factor 2 explained 13.3%, in total explaining 52.9% of the variance.

**Table 6: Pattern Matrix; two-factor solution for the linear EIP scales**

**Total Variance Explained**

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
<b>1</b>	4.819	43.812	43.812	4.355	39.595	39.595	3.809
<b>2</b>	1.881	17.098	60.910	1.462	13.288	52.883	3.329

Extraction Method: Principal Axis Factoring.

	Factor 1 Intrapersonal	Factor 2 Interpersonal
Self Regard	<b>.953</b>	
Emotional Resilience	<b>.773</b>	
Personal Power	<b>.710</b>	
Authenticity	<b>.694</b>	
Goal Directedness	<b>.556</b>	
Flexibility	<b>.533</b>	
Awareness of Others		<b>.865</b>
Reflective Learning		<b>.784</b>
Self Awareness		<b>.623</b>
Regard for Others		<b>.592</b>
Connecting with Others		<b>.541</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 3 iterations.

Highest factor loadings are shown in bold. Factor loadings below .3 are suppressed.

The two factors closely reflected the two streams of the EIP framework – Intrapersonal EI (Factor 1) and Interpersonal EI (Factor 2) in partial support of Research Aim 1. Ten of the 11 linear scales loaded on their respective streams. The only exception was *Self Awareness* that loaded on Interpersonal EI rather than Intrapersonal EI. This is likely to be due to its close association with *Awareness of Others* and *Reflective learning* which together form the middle tier of the EIP framework and load on Interpersonal EI (Factor 2).

### **Step 2: Sub-scale analysis**

Two models were theorised in Proposition iii, of there being a dynamic relationship between the three sub-scales. First, that the two sub-optimal scales would form around the ‘too little’ and ‘too much’ categories. Second, that the two sub-optimal scales would form around the Attitude themes of low *Self Regard* and low *Regard for Others*. Both scenarios would produce a three-factor solution with one factor being the ‘optimal’ scales. Clearly the analysis could not support both models as they are based on slightly different three-part structures.

PAF was conducted on the 15 sub-scales. A forced three-factor solution was achieved with KMO = .825 and a significant Bartlett test result (Table 7). Factor 1 explained 31.1% of the variance; Factor 2, 14.3%; Factor 3, 8.2%. In total 53.5% of the variance was explained. The result did not concur with the ‘too little’ / ‘too much’ option of Research Aim 3 but did align more successfully with the two Attitudes option of this Research Aim.

**Table 7: Pattern Matrix, three-factor solution for sub-scales**

**Total Variance Explained**

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
<b>1</b>	5.105	34.036	34.036	4.658	31.053	31.053	4.012
<b>2</b>	2.576	17.171	51.207	2.140	14.268	45.321	2.606
<b>3</b>	1.712	11.410	62.617	1.232	8.213	53.534	3.527

Extraction Method: Principal Axis Factoring.

	Factors		
	1 Optimal	2 Low Self Regard	3 Low Regard for Others
Assertive	<b>.872</b>		
Interdependent	<b>.835</b>		
Free and in Charge	<b>.706</b>		
Realistically Optimistic	<b>.692</b>		
Over Controlled	<b>-.391</b>		
Over Trusting		<b>.745</b>	
Passive	-.327	<b>.660</b>	
Dependent		<b>.656</b>	
Overly Optimistic		<b>.629</b>	.300
Mistrusting			<b>.815</b>
Aggressive	.360		<b>.722</b>
Over Independent			<b>.536</b>

Carefully Trusting	.332	.408	<b>-.508</b>
Pessimistic		.315	<b>.506</b>
Under Controlled		.459	<b>.504</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 5 iterations.

Highest factor loadings are shown in bold. Factor loadings below .3 are suppressed.

- Factor 1: Optimal (*Assertive, Interdependent, Free and in Charge, Realistically Optimistic, Over Controlled (-ve)*)
- Factor 2: Low *Self Regard* Attitude (*Over Trusting, Passive, Dependent, Over Optimistic* (about others)).
- Factor 3: Low *Regard for Others* Attitude (*Mistrusting, Aggressive, Over Independent, Carefully Trusting (-ve), Pessimistic, Under Controlled*)

Factor 1 included all but one of the Optimal scales (*Carefully Trusting*) plus a negative loading with *Over Controlled*. Factor 2 represents the Attitude of low *Self Regard*, except perhaps for *Over Optimistic* which may reflect an over-trusting and passive dependence on others. Factor 3 reflects the Attitude of low *Regard for Others*, except for the inclusion of *Carefully Trusting (-ve)* that cross-loaded with all three factors, and *Pessimistic* that could conceptually relate to both Attitude Scales. Despite these slight discrepancies, none of the findings were counter-intuitive and the results support Research Aim 3. This interpretation, that the EIP Behaviour scales are driven by the underlying Attitude scales is consistent with Research Aim 4. It also lends weight to Research Aim 2, indicating that negative attitudes (Low Self Regard and Regard for Others) drive sub-optimal (possibly non-ethical) behaviours.

The scree plot indicated a natural divide with four factors having eigenvalues >1. A second PAF was produced which provided a meaningful four-factor solution explaining a total of 60.1% of the variance (Table 8).

**Table 8: Pattern Matrix, four-factor solution for the EIP sub-scales**

**Total Variance Explained**

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.105	34.036	34.036	4.713	31.423	31.423	3.797
2	2.576	17.171	51.207	2.194	14.629	46.052	2.878
3	1.712	11.410	62.617	1.350	9.002	55.054	3.876
4	1.108	7.390	70.007	0.753	5.019	60.072	1.294

Extraction Method: Principal Axis Factoring.

**Factors**

	1 Optimal	2 Towards	3 Away	4 Against
Free and in Charge	<b>.819</b>			
Assertive	<b>.794</b>			
Interdependent	<b>.774</b>			
Realistically Optimistic	<b>.730</b>			
Passive		<b>.761</b>		-.429
Over Trusting		<b>.743</b>	-.458	
Dependent		<b>.656</b>		
Overly Optimistic		<b>.637</b>		
Under Controlled		<b>.483</b>		.473
Mistrusting			<b>1.018</b>	
Carefully Trusting		.388	<b>-.658</b>	
Over Independent			<b>.605</b>	
Pessimistic			<b>.470</b>	

Over Controlled			<b>.428</b>	
Aggressive				<b>.733</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 7 iterations.

Highest factor loadings are shown in bold. Factor loadings below .3 are suppressed.

- Factor 1: Optimal scales (*Free and in charge, Assertive, Interdependent, Realistically Optimistic*)
- Factor 2: Moving Towards (*Passive, Over Trusting, Dependent, Over Optimistic (about others), Under Controlled*)
- Factor 3: Moving Away (*Mistrusting, Carefully Trusting (-ve), Over Independent, Pessimistic, Over Controlled*)
- Factor 4: Moving Against (*Aggressive*)

The first factor represented the Optimal sub-scales (except for *Carefully Trusting* which loaded negatively on Factor 3). The other factors include all of the sub-optimal scales and were consistent with Karen Horney's (1945) theory of three 'neurotic trends' (Moving Away, Moving Towards, and Moving Against). There was one minor discrepancy: *Under Controlled*, which showed a high cross-loading with Factor 2 (Towards) and Factor 4 (Away), as it could understandably manifest as both behaviours. This interpretation of the sub-optimal scales as neurotic trends was not anticipated in Research Aim 3. However, this factor structure accounts for greater variance than the previous solution and may prove to be a stronger interpretation of the EIP sub-scales. Neurotic trends also have close relevance to the non-ethical and 'dark side' behaviours discussed in Research Aim 2.

### Step 3: Combined scale analysis

The first analysis in Step 3 sought to replicate the six-factor structure of the EIP framework from all 26 EIP scales (linear and sub-scales) (Research Aim 1). This was as an ambitious first step, due to the different and competing relationship between and within these groups of scales. For instance: linear scales operate differently from sub-scales; there is an interdependent relationship between the 16 EIP scales; and there is a cascading relationship between the six parts of the EIP framework. Furthermore, four

segments of the model are represented by single scales (*Self Regard, Regard for Others, Self Awareness, and Awareness of Others*), and these are less likely to form independent factors. Despite this it was hoped that factor analysis would provide an indication of emerging patterns. A forced six-factor PAF was conducted but proved unsuccessful in modelling the EIP six-part framework (Appendix E). Unsurprisingly this tended to mix the different findings from the previous linear and sub-scale analyses.

To remove potential method variance associated with the two different scoring systems (linear scales and sub-scales), composite scales were used in the next analysis instead of the separate sub-scales. A forced six-factor solution with the 16 EIP scales (linear and composite scales) was applied. This was of limited success as three of the components produced low eigenvalues  $<.8$  and the Self Management and Relationship Management scales were spread across all six factors (Appendix F). A second PAF with eigenvalues  $>1$  produced a cleaner three-factor solution with KMO = .928 and a significant Bartlett test result (Table 9a). Factor 1 explained 45.9% of the variance; Factor 2, 9.6%; and Factor 3, 3.8%. In total 59.3% of the variance was explained.

**Table 9a: Pattern Matrix, three-factor solution for the linear and composite EIP scales<sup>7</sup>**

**Total Variance Explained**

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
<b>1</b>	7.730	48.314	48.314	7.338	45.864	45.864	6.728
<b>2</b>	1.921	12.009	60.323	1.538	9.612	55.476	4.524
<b>3</b>	1.050	6.561	66.884	0.613	3.829	59.305	4.286

Extraction Method: Principal Axis Factoring.

	Factors		
	1 Intrapersonal	2 Awareness	3 Interpersonal
Self Regard	<b>.987</b>		
Emotional Resilience	<b>.785</b>		
Personal Power	<b>.773</b>		
Authenticity	<b>.759</b>		
Balanced Outlook	<b>.740</b>		
Emotional Expression and Control	<b>.613</b>		
Goal Directedness	<b>.612</b>	.467	-.318
Interdependence	<b>.604</b>		
Conflict Handling	<b>.557</b>		
Flexibility	<b>.527</b>		

<sup>7</sup> To support the validity of the PAF results, the analysis was repeated with two homogeneous groups split from the larger opportunity sample. The two sub-samples (Sample A; n=487, Sample B; n=490) were matched for age, gender, and occupational levels. Both sets of results (Appendix G & H) were consistent with the findings shown in Tables 6, 8 and 9, suggesting that these results are replicable. The only exceptions were four EIP scales (*Pessimistic*, *Over Controlled*, *Connecting with Others* and *Trust*) that in some instances cross-loaded more heavily with other factors than on the original analysis.

Reflective Learning		<b>.834</b>	
Self Awareness		<b>.706</b>	
Awareness of Others		<b>.547</b>	.472
Regard for Others			<b>.788</b>
Trust	.352		<b>.484</b>
Connecting with Others			<b>.342</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 5 iterations.

Highest factor loadings are shown in bold. Factor loadings less than .3 are suppressed.

- Factor 1: Intrapersonal (Self Regard + Self Management scales)
- Factor 2: Awareness (Self Awareness + Awareness of Others + Reflective Learning)
- Factor 3: Interpersonal (Regard for Others + Relationship Management scales)

Limitations: The least convincing factor was Factor 3 (Interpersonal) where only two Relationship Management scales (*Connecting with Others* and *Trust*) loaded on this Factor. This may be because Relationship Management is the converging point for the other five parts of the EIP framework, making it more difficult to isolate this component. Theoretically, three of the composite scales in Factor 1 (*Emotional Expression & Control*, *Conflict Handling*, and *Interdependence*) are related to Relationship Management, and to a lesser extent with Self Management (see Footnote 6, Table 5). The reason they load on Factor 1 (Intrapersonal) may be due to these scales having stronger correlations with *Self Regard* than with *Regard for Others* (Appendix L). Conceptually it makes sense that confidence to express oneself (*Emotional Expression & Control*), be assertive (*Conflict Handling*), and act independently (*Interdependence*) are associated with higher *Self Regard*.

Other anomalies are *Goal Directedness* (Factor 1), which cross-loads with Factor 2 (Awareness), which may be because *Goal Directedness* requires awareness of what you want. *Awareness of Others* (Factor 2) cross-loads with Factor 3 (Interpersonal) which may be because *Awareness of Others* also falls into the Interpersonal stream on the EIP framework. *Connecting with Others* has a low factor loading which may be due to its close association with *Awareness of Others* in Factor 2.

In terms of the six parts of the EIP framework, these three factors distribute visually as shown in Table 9b below. This is an interesting result as it indicates a close association between the Attitude and Behaviour layers of the EIP framework. For the Intrapersonal stream, Self Regard (Attitude) and Self Management (Behaviour) form one component (Factor 1), and for the Interpersonal stream, Regard for Others (Attitude) and Relationship Management (Behaviour) form another component (Factor 3). It is noticeable that both Attitudes achieve the highest loading within their factors, consistent with these being possible antecedents of EI Behaviour. The Awareness layer of the EIP framework forms a separate component (Factor 2) to both the Attitude and Behaviour layers consistent with this being a specific form of emotional processing (conscious). Although the three-factor structure does not entirely support the six-part explanation of the EIP framework, it does provide tentative support for the input-output model in Research Aim 1 (as illustrated in Table 1) and for the dual-processing theory in Research Aim 4 (as illustrated in Table 3).

**Table 9b: Three factor distribution within the six parts of the EIP framework**

	Intrapersonal	→ Interpersonal
Behaviour	Factor 1	Factor 3
Awareness	Factor 2	Factor 2
Attitude	Factor 1	Factor 3

Given that these findings suggest a closer relationship between the Attitude and Behaviour levels than with the Awareness level, it was decided to examine the predictive relationship between these three levels of the EIP framework (as explained in the methods section). This is explored in the next stage of analysis through regression analysis.

### 3.2 Regression analysis of the EIP framework

Factor analysis of the Combined scales (Table 9a) indicated separate factor structure for the Intrapersonal (Factor 1) and Interpersonal (Factor 3) streams of the

EIP framework. Therefore, regression analysis was conducted on each stream separately before doing so in combination.

Step 1: Intrapersonal stream

Step 2: Interpersonal stream

Step 3: Combined (Intrapersonal and Interpersonal streams)

**Step 1: Intrapersonal regression analysis**

Based on dual-processing theory and the input-output model of the EIP framework, the variables were assigned as follows. The Self Management Behaviour scales (*Emotional Resilience, Personal Power, Goal Directedness, Flexibility, Authenticity, Balanced Outlook*)<sup>8</sup> were defined as the dependent variable (i.e. the Output), the Attitude scale (*Self Regard*) as the independent predictor variable (i.e. the Input), and Awareness (*Self Awareness and Reflective Learning*) as a second predictor variable (i.e. as a potential moderator variable). The first regression (Table 10) included *Self Regard* as Model 1 and *Self Awareness and Reflective Learning* as Model 2. Model 1 accounted for a substantial 56.8% of the variance in Self Management, and Model 2 accounted for 9.7% additional variance, a small but significant amount.

**Table 10: Intrapersonal regression analysis for Self Regard and Self Awareness predicting Behaviour**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.754 <sup>a</sup>	.568	.568	.65720882	.568	1975.153	1	1500	.000
2	.816 <sup>b</sup>	.666	.665	.57871113	.097	218.262	2	1498	.000

a. Predictors: (Constant), Self Regard

b. Predictors: (Constant), Self Regard + Reflective Learning + Self Awareness

<sup>8</sup> Three composite scales (*Emotional Expression & Control, Conflict Handling and Interdependence*) that load on Factor 1 (the Intrapersonal stream) were not included in this analysis because they are theoretically related more to Relationship Management than Self Management (see Footnote 6 in Table 5).

A second regression (Table 11) was carried out to test for the incremental value of *Self Regard*, with Model 1 and Model 2 being reversed. In this case, *Self Awareness* accounted for 20.6% variance and *Self Regard* accounted for an additional 45.9% variance, a large effect size ( $f^2=0.85$ ).

**Table 11: Intrapersonal regression analysis for Self Awareness and Self Regard predicting Behaviour**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.454 <sup>a</sup>	.206	.205	.89145300	.206	194.895	2	1499	.000
2	.816 <sup>b</sup>	.666	.665	.57871113	.459	2058.926	1	1498	.000

a. Predictors: (Constant), Reflective Learning + Self Awareness

b. Predictors: (Constant), Reflective Learning + Self Awareness + Self Regard

Overall, for the Intrapersonal regression analysis, *Self Regard* had a strong predictive association with Self Management, while *Self Awareness and Reflective Learning* had a far lower but still valuable additional moderating effect on this relationship. These results indicate a close predictive relationship between Attitude and Behaviour and to a lesser extent between Awareness and Behaviour for the Intrapersonal stream of EI.

## Step 2: Interpersonal regression analysis

For the Interpersonal regression analysis, two scales from Factor 3 (*Connecting with Others* and *Trust*) were included as the dependent variable of Relationship Management. *Regard for Others* was the first independent variable (Model 1), and *Awareness of Others* and *Reflective Learning* were input in Model 2 as a potential moderating variable.

The results show that *Regard for Others* accounted for 29.8% of variance and *Awareness of Others* accounted for an additional 4.5% variance (Table 12).<sup>9</sup> When Model 1 and Model 2 were reversed, *Awareness of Others* accounted for 24.6% of the variance and *Regard for Others* accounted for an additional 9.6% variance (Table 13), a small effect size ( $f^2=0.12$ ).

**Table 12: Interpersonal regression analysis for Regard for Others and Awareness for Others predicting Behaviour**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.546 <sup>a</sup>	.298	.298	.83794158	.298	637.732	1	1500	.000
2	.586 <sup>b</sup>	.343	.342	.81145999	.045	50.750	2	1498	.000

a. Predictors: Regard for Others

b. Predictors: Regard for Others + Reflective Learning + Awareness of Others

**Table 13: Interpersonal regression analysis for Awareness of Others and Regard for Others predicting Behaviour**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.496 <sup>a</sup>	.246	.245	.86870864	.246	244.995	2	1499	.000
2	.586 <sup>b</sup>	.343	.342	.81145999	.096	219.970	1	1498	.000

a. Predictors: Reflective Learning + Awareness of Others

b. Predictors: Reflective Learning + Awareness of Others + Regard for Others

The predictive relationship between Attitude (*Regard for Others*) and Behaviour (Self Management) was not as strong for Interpersonal as it was for Intrapersonal. Also, in contrast to the Intrapersonal regression, *Awareness of Others* accounted for almost as much variance as *Regard for Others*. This may be due to the cumulative influence of other Intrapersonal scales (*Self Regard, Regard for Others and Self Awareness*) on *Awareness of Others*, as illustrated by the EIP framework (Table 1).

<sup>9</sup> This analysis was repeated with all Interpersonal Behaviour scales (including the previously excluded scales of *Emotional Expression & Control, Conflict Handling and Interdependence*). The result was very similar with *Regard for Others* accounting for 30.4% variance, and *Awareness of Others* accounting for an additional 9.0% variance (Appendix I).

### Step 3: Combined (Intrapersonal and Interpersonal streams) regression analysis

The third regression examined the three levels of the EIP framework with the two streams (Intrapersonal and Interpersonal) combined. The dependent variable was the combined Behaviour scales (Self Management and Relationship Management). Model 1 was the Attitude scales (*Self Regard* and *Regard for Others*), and Model 2 was the Awareness scales (*Self Awareness*, *Awareness of Others* and *Reflective Learning*).

The results showed Attitude to account for 62.8% variance, and Awareness to account for an additional 7.9% variance (Table 14)<sup>10</sup>, a small effect size ( $f^2=0.09$ ). When reversed, Awareness accounted for 27.3% and Attitude accounted for 43.4% variance (Table 15), a large effect size ( $f^2=0.77$ ). This suggests a close predictive relationship between Attitude and Behaviour with Awareness playing an important but secondary moderating role.

**Table 14: Combined regression analysis for the Attitude and Awareness scales predicting Behaviour**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.793 <sup>a</sup>	.628	.628	.61017184	.628	1266.295	2	1499	.000
2	.841 <sup>b</sup>	.707	.706	.54231925	.079	133.854	3	1496	.000

a. Predictors: Regard for Others + Self Regard

b. Predictors: Regard for Others + Self Regard + Reflective Learning + Self Awareness + Awareness of Others

**Table 15: Combined regression analysis for the Awareness and Attitude scales predicting Behaviour**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.522 <sup>a</sup>	.273	.271	.85352955	.273	187.454	3	1498	.000
2	.841 <sup>b</sup>	.707	.706	.54231925	.434	1107.278	2	1496	.000

a. Predictors: Reflective Learning + Awareness of Others + Self Awareness

b. Predictors: Reflective Learning + Awareness of Others + Self Awareness + Self Regard + Regard for Others

<sup>10</sup> This analysis was repeated with all Behaviour scales (including the previously excluded scales of *Emotional Expression & Control*, *Conflict Handling* and *Interdependence*). The result was very similar with Attitude accounting for 63.6% variance, and Awareness accounting for an additional 9.6% variance (Appendix J).

This analysis was also completed with Awareness as Model 1, accounting for 31.6% variance; *Regard for Others* as Model 2, accounting for an additional 4.7% variance; and *Self Regard* as Model 3, accounting for a further 37% variance, a large effect size ( $f^2=0.59$ ) (Table 16). This supports the notion that *Self Regard* plays a more important predictive role than *Regard for Others*, as purported by the EIP framework.

**Table 16: Combined regression analysis for the Awareness, Regard for Others and Self Regard scales predicting Behaviour**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.562 <sup>a</sup>	.316	.314	.82809650	.316	230.288	3	1498	.000
2	.602 <sup>b</sup>	.363	.361	.79920731	.047	111.255	1	1497	.000
3	.856 <sup>c</sup>	.733	.732	.51797482	.370	2067.883	1	1496	.000

a. Predictors: Reflective Learning + Awareness of Others + Self Awareness

b. Predictors: Reflective Learning + Awareness of Others + Self Awareness + Regard for Others

c. Predictors: Reflective Learning + Awareness of Others + Self Awareness + Regard for Others + Self Regard

## 4. Discussion

The aim of this paper was to examine the structure of the EIP framework which differs from ability and mixed models of EI mainly through the inclusion of Attitudes as antecedents of EI. It was proposed, largely through the inclusion of attitudes, that the EIP framework addresses four specific limitations identified in other models of EI.

### **Research Aim 1: The EIP framework provides an organising structure for the two taxonomies and different facets of EI**

The first limitation identified was that mixed models suffer from “theoretical under-development” and are simply a “grab bag” of desirable qualities (Joseph & Newman, 2010). It was proposed that the EIP framework provides an organising structure for the different facets of EI.

Analysis of the linear scales does not entirely support the six-part framework of the EIP but does lend support for the two streams of the framework (Intrapersonal and Interpersonal) (Table 6). Similarly, analysis of all 16 EIP linear and composite scales (Appendix E) does not reproduce the six-part structure of the EIP framework either, but does show a relationship between Attitude and Behaviour within the two streams, with Self Regard and Self Management forming one factor, and Regard for Others and Relationship Management forming another (Table 9a). The bottom-up relationship within the two streams is also supported by regression analysis, indicating that Attitude accounts for greater variance in Behaviour than Awareness. These results are consistent with Research Aim 1 – that Attitudes are antecedent inputs of EI that manifest as Behavioural outputs of EI.

Less support is found for separation of the three tiers of the framework (Attitude, Awareness and Behaviour) than for the two streams, apart from the Awareness scales which factored together (Table 9a). This may raise doubts as to the directional influence of arrows from left to right within each tier of the framework. However, regression analysis lends support for Self Regard being the cornerstone of the framework, accounting for a large proportion of variance in both Self Management

and Relationship Management scales over and above Regard for Others and the Awareness scales (Table 16).

Separation of the Awareness tier from the Attitude and Behaviour tiers may also indicate a distinction between the ability model (as represented by Awareness) and the mixed models of EI (as represented by Behaviour). This is consistent with research showing only a weak correlation between ability and mixed models of EI (Brackett, 2003; Warwick, 2004). The closer association of Attitude with Behaviour than with Awareness suggests that the EIP attitude-based model of EI is more closely related to mixed models than the ability model of EI. This too is consistent with the input-output proposition of the EIP framework (Table 1).

Critics argue that constructs falling outside of the ability model of EI (i.e. Attitude and Behaviour) are “unmooring the concept” (Mayer, Salovey, & Caruso, 2008) from measuring the “real thing”, of EI as a form of intelligence (Ashkanasy & Daus, 2005). Far from unmooring the concept, it has been argued in this paper that incorporating the antecedent inputs of EI (Attitude) and output manifestations of EI (Behaviour) provides context for understanding the practice of *actual* EI (Awareness). With initial support for the input-output model, this lends weight to the potential benefits that may arise from including both the Attitude and Behaviour elements within a unifying model of EI. Namely, behavioural measures of EI have been shown to be more predictive of workplace performance than ability measures (Martins, Ramalho, & Morin, 2010; O’boyle, Humphrey, Pollack, Hawver, & Story 2011), and to more easily accommodate the subjective nature of emotions (Siegling, 2015), and the benefits of attitudes within a model of EI have been outlined in the four Research Aims.

Overall, the results support the two streams of the EIP framework, but less so the six-part structure. The two streams are dominated by the influence of Attitude on Behaviour as proposed by the input-output interpretation of the EIP. This interpretation of the framework lends partial support for Research Aim 1 in providing an organising structure for the different facets of EI.

## **Research Aim 2: The EIP framework provides an ethical basis for EI behaviours**

It is argued in Research Aim 2 that the Attitude scales of Self Regard and Regard for Others provide an ethical basis for the Behaviours of EI. As discussed in Research Aim 1, there is consistency between a person's Attitude and their Behaviour, so it may be inferred that holding an Attitude of "value and acceptance towards oneself and others" (the definition for the Attitude scales) will incline a person towards more ethical intentions and behaviour. Regression analysis (Tables 10-16) supports the notion that the Attitude scales influence the Behaviour scales with a close association found between these two layers of the framework, endorsing this aspect of Proposition ii.

Results from the sub-scales analysis suggest that sub-optimal behaviours may group around the themes of low Self Regard and low Regard for Others. In Table 7, Factor 3 (low Regard for Others) includes Behaviours that are indicative of greater self-interest and a less ethical orientation (i.e. *Mistrusting, Aggressive, Over Independent, and Emotionally Under Controlled*). Factor 2 (low Self Regard) on the other hand includes behaviours which are more self-effacing and less self-serving (*Over Trusting, Passive, and Dependent*). However, low Self Regard could harbour frustration and resentment that may lead to low Regard for Others. For example, a typically Passive individual (low Self Regard) may occasionally become *Aggressive* (low Regard for Others) when expressing their pent-up frustration, or they may show aggression through passive-aggressive behaviours such as sabotage and disruption. Some researchers argue that self-serving behaviours, such as being arrogant, conceited, and self-interested may arise from having too much self-esteem (Self Regard) (Baumeister, Smart, & Boden 1996). However, under the EIP model (and Transactional Analysis theory) such behaviour is indicative of low Self Regard which may be masked by behaviours that demonstrate a low Regard for Others.

Further analysis of the sub-scales (Table 8) reveals a stronger factor structure that corresponds with Karen Horney's (1945) categorisation of three 'neurotic trends'. Horney initially described ten '*neurotic needs*' (Horney, 1942) that she later grouped

together and modified into the three *trends*. For Horney, the three trends represented inflexible and unhelpful ways of relating to others. The Moving Away trend, also known as the resignation or withdrawal solution, is characterised by being free from dependence on others, serene and aloof, and unmoved by strong emotions. The Moving Against trend, also known as the expansive or aggressive solution, is characterised by hostility towards others, competition, control, dominating others, demand for power and seeking prestige. The Moving Towards trend, also known as the self-effacing or compliance solution, is characterised by seeking constant approval from others, being dependent on others, and by exhibiting submissive behaviour. As with the EIP optimal scales, it is important to note that the three behaviour patterns are not unhealthy until they become extreme (sub-optimal), disproportionate and indiscriminate.

Horney's three-part classification provides an explanation for 'dark side' characteristics of personality (Hogan & Hogan, 2001) and leadership derailment (Benson, 2006), and has been linked to scales in both the Hogan Development Survey (HDS) (Hogan & Hogan, 1997) and the Global Personality Inventory© GPI (Schmit, Kihm, & Robie, 2000). Hogan and colleagues (2010) maintain the underlying cause of derailment can usually be traced back to an inability to manage one's behaviour (Self Management), a core aspect of the EIP model. Examination of the ten sub-optimal EIP scales shows a close conceptual relationship with the 11 derailment scales from the Hogan Development Survey (HDS) (Hogan & Hogan, 1997) (Appendix K). The HDS personality scales are derived from DSM IV personality disorders that include labels such as 'narcissistic' and 'paranoid' and have been described as contributing to unethical leadership practices (Babiak & Hare, 2006; Furnham, 2010). A recent study also identifies associations between the sub-optimal EIP scales and the Dark Triad (narcissism, Machiavellianism, and psychopathy) (Maddocks, 2019). Linking the EIP sub-optimal scales to the neurotic trends, the HDS 'dark side' traits and the Dark Triad further supports the position that the sub-optimal scales may be sensitive to non-ethical aspects of EI as put forward in Research Aim 2.

Given these initial findings in Research Aim 2, future research may take several paths. Analysis could be extended to examine other EIP scales such as *Authenticity*,

and the eight EI attitudes such as ‘Everyone is in control of and responsible for their actions’, that may influence ethical behaviour. It may also be useful to include an objective measure of specific ethical behaviours and outcomes to demonstrate criterion-related evidence for this research aim. Further insight into the ‘dark side’ of EI may also be gained by examining the statistical relationship between the EIP sub-optimal scales and the 11 HDS scales.

### **Research Aim 3: The EIP sub-scales are consistent with the dynamic nature of EI facets**

The third Research Aim investigates if the three sub-scales (optimal, ‘too much’ and ‘too little’) reflect the dynamic variation in aspects of Emotional Intelligence more effectively than single linear scales. Two outcomes are considered, one that sub-scales would form factors around the ‘optimal’, ‘too much’ and ‘too little’ domains; the other that they would form factors around the Attitudes of ‘low Self Regard’ and ‘low Regard for Others’, plus an ‘optimal’ component.

A three-factor solution (Table 7) emerges that broadly represents the second of these two options. For example, with the *Conflict Handling* scale, *Assertive* falls into Factor 1 (Optimal), *Passive* into Factor 2 (low Self Regard), and *Aggressive* into Factor 3 (low Regard for Others).

Further analysis revealed a four-factor structure (Table 8) that accounts for greater overall variance than the three-factor solution, indicating this to be the more robust explanation for the sub-scale patterns. This solution corresponds with Karen Horney’s three neurotic trends (1945) as described in Research Aim 2.

Both the three-factor (Attitude) and four-factor (neurotic trends) solutions support the view of the EI composite scales being non-linear with the optimal and sub-optimal scales loading on separate factors. This lends weight to Research Aim 3 that the EIP sub-scales provide a more dynamic and nuanced portrayal of EI Behaviours, as requested by critics of EI measures (Fineman, 2004). For example, with the *Interdependence* scale, an individual may be *Interdependent* (optimal) when they have an Attitude of high Self Regard and high Regard for Others, *Over Independent* (Moving

Away) when they have an Attitude of low Regard for Others, and *Dependent* (Moving Towards) when they have an Attitude of low Self Regard.

There are other benefits to be gained from sub-optimal scales within an EI measure. As discussed in Research Aim 2, examining the sub-optimal aspects of EI broadens the horizons of EI into ‘dark side’ traits, leadership derailment, and non-ethical behaviours. Expanding interpretation of EI into these areas may reveal more breadth to EI not available from traditional single linear scale measures of EI. For example, Kaiser, LeBreton, and Hogan, (2015, p. 55) “unexpectedly” found that *low* scores, as well as high scores, on ‘dark side’ scales, were associated with extreme ineffective leadership behaviours. ‘Dark side’ personality traits have also been shown to provide incremental validity over bright side traits of the Five Factor Model (FFM) in predicting leadership performance (Harms, Spain, Hannah, Hogan, & Foster, 2011). There is robust evidence too that negative information and experiences have a stronger impact on behaviour and performance than positive experiences (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Kahneman, 2011), and that sub-optimal EIP scales have greater impact on leadership climate than optimal EIP scales (Maddocks, 2017). Miao and colleagues (2019, pp. 195-196) conclude in their recent meta-analysis on EI and the dark triad that “future studies may investigate whether there is ‘too much of a good thing’ effect of EI” and “should explore the possibilities of curvilinear relationships”. In essence, there are strong grounds for continuing research into the non-linear relationship of EI scales.

#### **Research Aim 4: The EIP framework reflects the automated (as well as conscious) aspects of EI**

The assertion made in Research Aim 4 is that the EIP framework is a dual-processing model that represents both conscious and automated processing of EI. Conscious processing includes all three levels of the framework, while automated processing bypasses Awareness, directly linking Attitude with Behaviour (Table 3).

Results on the PAF for all EIP scales (Table 9a) produced two factors that combine the Attitude and Behaviour scales, and a separate factor for the Awareness scales, consistent with there being an automated pathway. Subsequent regression

analysis (Table 14 & 15) found incremental value for both Attitude and Awareness in predicting Behaviour, consistent with there being a parallel conscious pathway. It is postulated in Figure 1 that “Attitude would contribute greater variance as it operates through both the conscious and automated routes, while Awareness operates only through the conscious route.” The findings in Tables 14 & 15 show Attitude to account for an additional 43% variance in Behaviour (after partialing out Awareness), and Awareness to account for an additional 7.9% of variance in Behaviour (after partialing out Attitude). The greater incremental value of Attitude over Awareness in predicting Behaviour may tentatively suggest that EI operates at a more automated than conscious level, as suggested by Baumeister et al. (2007).

The results are less clear for the Interpersonal stream (Table 12 & 13) where Regard for Others is only marginally more predictive than Awareness of Others, and in Table 16 where far more variance is attributable to Self Regard than Regard for Others. This may suggest that the two streams should be interpreted cautiously or in combination, rather than independently, when considering either the dual-processing or the input-output interpretation of the EIP framework (see Research Aim 1).

If, as implied by these findings, EI operates at a more automated than conscious level, there may be some important implications for the application of EI. For example, should greater emphasis be placed on automaticity than conscious awareness to facilitate longer-term, sustainable and habitual change in EI behaviour, much sought after by organisations investing in employee development? Also, what are the most effective ways to develop EI automaticity through the application of conscious EI? And, should greater attention be given to the complimentary relationship between conscious EI (ability) and automated EI (mixed), instead of the more divisive relationship that is perpetuated between maximum performance (ability EI) and typical performance (mixed EI) measures of EI?

Research Aim 4 largely follows on from Research Aim 1 that looks for similar separation of the three tiers, describing Attitude as *antecedent inputs* of EI, Awareness as the conscious *practice* of EI, and Behaviour as *outputs* of EI. The focus of both research aims is to examine the vertical axis of the EIP framework from the bottom up i.e. the influence of Attitude and Awareness on Behaviour. It may also be of interest to

consider whether this relationship is reciprocal i.e. does Behaviour influence Attitude (Festinger, 1957) and how might this be moderated by conscious Awareness.

### **Limitations**

A key limitation of this study is the use of a single instrument and method of measurement – a self-report questionnaire – to measure and infer several different conceptions of EI: Attitude, Awareness, Behaviour, ability, mixed/trait, conscious EI, and automaticity. Evidence suggests that people are generally poor judges of their emotional skills with only weak-to-moderate associations between self-report measures of emotional competencies and performance on external tests of emotional abilities (Brannick, Wahj, Arce, & Johnson, 2009). Boyatzis (2016) proposes that the behavioural level of EI can only adequately be measured through observation by others. It is conceivable too that some feelings, especially painful ones may be placed protectively outside of a person's awareness (Gabriel, 1999; Kets de Vries, 1991) making them less accessible to self-report. However, some psychologists argue in favour of self-report as a preferred approach to measuring EI. Seigling, Saklofske and Petrides (2015) assert that self-report is more straightforward than maximum performance measures of EI as this methodology is consistent with the subjective nature of emotional experience. There is growing evidence too that the predictive effects of self-reported emotional competencies are independent of, and additive to, the effects of externally measured emotional abilities (Davis & Humphrey, 2012; Di Fabio & Saklofske, 2014). This has prompted Keefer (2015, p. 5) to conclude that “self-report ratings provide unique information ... that *ought* to be included in both research and practice of emotional competencies” (italics are original emphasis). Keefer (2015) also recommends using different assessment methodologies for assessing emotional competencies such as 360 ratings, situational judgements and experimental studies but recognises this can be time consuming and expensive. This is perhaps why there is so little research into the separation between conscious and automated EI processes (Fiori, 2009), and why measurement of both ability and mixed/trait EI is rarely done in practice (Joseph, Jin, Newman, & O'Boyle, 2015).

Another potential concern with this research is the use of the EIP instrument, which is not an established academic research instrument. The EIP is also associated with the same author as this research, presenting a potential conflict of interest. The main reason for using the EIP is that it is the only instrument derived from an attitude-based model of EI, the focus of this paper. As for the psychometric properties of the EIP, these may be found in the technical manual (Maddocks & Hughes, 2017) which is currently under independent review by the BPS.

In Research Aim 1 it is inferred that the Awareness tier of the EIP framework relates to the ability model of EI and the Behaviour tier relates more to the mixed models of EI. If this line of enquiry is to be pursued, then it is preferable to include established measures of ability and mixed EI in future research. Research Aim 1 also described the EIP Attitude scales as inputs to EI and the Behaviour scales as outputs of EI. It would be interesting to consider more widely what other inputs (such as temperament, needs and values) and what other output measures (such as 360 observation and competency ratings) may also play a role in this process. One further limitation affecting Research Aim 1 is the close alignment between the Relationship Management composite scales with the Self Management scales. This distinction may be useful for practitioners, but for the purposes of analysing the EIP factor structure it may be simpler to combine these scales into a single 'Behaviour Management' stream.

In Research Aim 2 it is claimed that the Attitude scales of Self Regard and Regard for Others provide an ethical basis to the other EIP scales. As recommended in the discussion, further analysis could examine the eight underpinning humanistic mindsets to the EIP and other ethically-related EIP scales, such as Authenticity. It is also recommended that more objective criterion measures of ethical behaviour and outcomes are included in future research.

Research Aim 3 is in response to concerns that trait EI measures do not do justice to the nuances of how emotions impact on behaviour. The EIP is not a state-based instrument and does not claim to represent this degree of variability. However, it is claimed that the EIP sub-scales indicate consistent patterns of behavioural variation in relation to emotions (such as emotional Over Control followed by emotional Under Control). It would be valuable to extend this research to see if sub-

scale behaviour patterns and traits correspond with state-based measures of behaviour, emotion and physiological activity.

Research Aim 4 is the most ambitious. There are strong theoretical grounds that EI operates both consciously and automatically, and indeed the findings from this research are consistent with this research aim, but they do not claim to demonstrate its construct validity. This would require more specialist cognitive and neuroscientific research, with additional forms of measurement and validation. The EIP framework provides a useful overarching model, but with compromises. For example, Reflective learning is combined with the Awareness tier of the EIP framework and does not represent all stages of conscious processing as defined by the ability model of EI. A useful description of the level of analysis that may be required to represent the mental processes needed to validate Research Aim 4 is given by Miners, Côté, & Lievens, (2018).

## 5. Conclusion

The purpose of this analysis was to provide support for the structure of the EIP framework from which were drawn four research aims or inferences that may address specific limitations of established EI models and measures.

In Research Aim 1, the results do not entirely support the six-part separation of the EIP framework, which is partly anticipated due to the complex interaction of scales. However, there is support for the two streams (Intrapersonal and Interpersonal) and for the middle Awareness tier of the EIP framework. The main finding to emerge from this research is the close relationship between the Attitude and Behaviour tiers of the EIP framework. This is consistent with the assertion in Research Aim 1 that the Attitude scales are antecedents or *inputs* to EI, and the Behaviour scales are manifestations or *outputs* of EI. These findings also lend support to Research Aim 4 that the EIP framework may be indicative of both conscious and automated processing of EI. This is further endorsed by regression analysis that shows the Attitude (automated and conscious) tier of the framework to account for far more variance in Behaviour than the Awareness (conscious) tier. These results are also supportive of Research Aim 2 that the Attitude scales of Self Regard and Regard for Others provide an ethical basis for and influence upon EI Behaviour.

In Research Aim 3, the four factors that emerge from the sub-scale analysis suggested that the curvilinear relationship of the optimal and sub-optimal scales provide a more nuanced and richer interpretation on the variability of EI Behaviour than may be accessed through single-scale measurement. This finding is also of relevance to Research Aim 2, with the sub-optimal scales forming three distinct factors (neurotic trends) that may be indicative of unethical and 'dark side' facets of Behaviour.

Overall, this research makes two key contributions to the field not present in existing models and measures of EI:

First, and most significant, is the inclusion of Attitude as an underlying basis to EI. It has been argued in this paper and supported by the results that attitudes are antecedents to EI, they support automaticity of EI behaviours, and provide an ethical

platform for EI. These features have important implications in the workplace. If attitudes are antecedents to EI and support automaticity of EI behaviour, this will enable individuals to make longer-term sustainable improvements in EI: i.e. to develop EI attitudes that lead to habitual changes in EI behaviour. Also, if attitudes provide an ethical platform for EI, this will encourage good practices that support the wellbeing of individuals, and integrity of organisations. On these grounds it is recommended that EI attitudes are included within future measures of EI.

Second, measuring certain facets of EI as non-linear constructs more accurately represents the dynamic and changeable nature of EI, and more clearly elicit the 'dark side' elements of EI behaviour. A potential benefit of assessing the extremities of EI ('too little' and 'too much') may be to improve the prediction of job performance (Miao et al., 2019), an avenue that is examined further in the Service Evaluation.

Neither of these considerations (attitudes as antecedents of EI, and non-linear measurement of EI) have been adequately addressed by either the ability or mixed (trait or competency) models of EI. Rather, they appear to have been somewhat neglected by the publishers of EI instruments. This paper does not claim to present a definitive solution to these concerns but does provide initial support for a model and measure of EI that recognises these important considerations. In doing so, it is hoped this will encourage further research into these two areas that may be incorporated into existing and future models and measures of Emotional Intelligence.

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### **Part 3: Service Evaluation**

**Evaluating the utility of the Emotional Intelligence Profile (EIP) as an  
indicator of job performance**

# Evaluating the utility of the Emotional Intelligence Profile (EIP) as an indicator of job performance

Maddocks. J.

## Executive Summary

The Emotional Intelligence Profile (EIP) is intended for use in the assessment and development of Emotional Intelligence (EI) in the workplace. A key criterion therefore in evaluating the EIP is to establish its utility as an indicator of job performance. The literature examining the relationship between EI and job performance is largely presented through meta-analytic studies that aggregate global measures of EI with global measures of job performance. There are calls in the literature for greater specificity and context in examining this relationship.

The purpose of this study was to examine the relationship between the 16 EIP facets and 32 work-related performance criteria. The following hypothesis was therefore tested: *EIP scale scores (self-ratings) will significantly correlate with and show differentiation between job performance competencies as measured by supervisor ratings.*

In this study, 401 participants completed the EIP with supervisor ratings on 32 job-related competencies. Exploratory factor analysis reduced the 32 competencies to four factors. Factor 1 was defined as 'Striving and Adapting' related to the concept of 'getting ahead'. Factor 2 was defined as 'Analysing and Executing' related to the concept of 'getting it right'. Factor 3 was defined as 'Collaborating and Supporting' related to the concept of 'getting along'. Factor 4 was defined as 'Leading and Influencing' related to the concept of 'getting the best from others'.

The four factors were then correlated with the 16 EIP scales. Results found clear differentiation, with specific competency factors related to different aspects of EI, in support of the hypothesis. Factor 1 was clearly related to Intrapersonal aspects of the EIP; Factor 2 had little apparent relevance to the EIP scales; Factor 3 was more specifically related to Interpersonal aspects of the EIP, and Factor 4 was related to the overt expression of emotions and EI. These findings were further corroborated by comparison with earlier expert ratings that mapped the EIP scales to the 32 competencies.

For users of the EIP, this study provides greater clarity on how the EIP scales relate to specific aspects of job performance, supporting its use for assessment and development in the workplace. These insights may be applied in several ways, such as

guiding the interview questions in a job selection process, identifying potential strengths and development needs for talent management, and linking personal EI strengths to jobs for careers guidance.

It is important to recognise that these findings are indicative only, based on a single study, and should not be overgeneralised. Subject to this caution, the following recommendations may be inferred from these findings:

1. Practitioners may gain greater utility from the EIP by differentiating between the Intrapersonal and Interpersonal aspects of EI when relating them to aspects of job performance, rather than using an overall score of EI.
2. Competencies that relate to Factor 2 (Analysing and Executing) may have little relevance to the EIP scales. The practitioner should look for alternative form of assessment for this factor.
3. Users of the EIP are advised to conduct a thorough job analysis to specify which competencies are relevant to the job role which will then inform which EIP scales are of relevance to the job role.
4. Following Point 3, practitioners may use the results from this analysis (see Table 5) to inform their choice of EIP scales that may be of relevance to the required competencies for the specified job role.
5. Due to the close relationship between single competencies, it may be more useful to use competency clusters in predicting job performance, such as the factors identified in this study, than to differentiate between competencies within the same cluster or factor.
6. The EIP should be used as an indicator of job performance only. The instrument should not be used in isolation but in combination with other forms of assessment to inform decision making.
7. It is likely to be a combination of EIP scales, rather than any single facet of EI, that are used to interpret the relationship with a single competency or competency factor.
8. The results from this study may be used to derive specification equations (based on unit weightings of EIP scales that correlate with factors) as predictive indicators of the competency factors. Their use should however be subject to the conditions listed above.
9. It is recommended that an organisation making frequent use of the EIP, develop in-house normative data and conducts a criterion related validation study with job performance indicators. This may replicate to the methodology used in this study.

## 1. Introduction

The EIP is an attitude-based model of Emotional Intelligence (EI) that differs from the more established mixed, trait, competency and ability models (Maddocks & Hughes, 2017). It is therefore important to demonstrate the credentials of the EIP questionnaire independently from other EI instruments. The EIP was intended for the assessment and development of individuals' Emotional Intelligence within the workplace. It has a wide remit of applications both for assessment, such as candidate selection, internal promotion, and talent identification, and for development, such as team working, talent management, and leadership development. A primary focus therefore in establishing the utility and validity of the EIP is to examine its relationship with job performance. Evidence for the relationship between EI and job performance will first be reviewed before setting out the objectives of this study.

Many authors have criticised EI as being conceptually redundant for having significant overlap with other domains, such as personality and cognitive ability, and providing only weak utility as a predictor of job performance (Antonakis, 2004; Conte, 2005; Harms & Crede, 2010; MacCann, Matthews, Zeidner, & Roberts, 2003). However, a growing number of meta-analytic studies demonstrate EI to be a small but significant incremental predictor of job performance and related criteria (Andrei, Seigling, Aloe, Baldaro, & Petrides, 2016; Miao, Humphrey, & Qian, 2017). These studies tend to separate subjective self-report measures (often referred to as mixed, trait or competency models) from objective ability measures of EI, with self-report measures being the stronger predictor of job performance (Joseph & Newman, 2010). As the EIP is a self-report measure, this paper focuses on studies that pertain to this approach.

The earliest meta-analytic study of EI and job performance was completed by Van Rooy and Viswesvaran (2004), comprised of 19 work-related studies. They produced a generally favourable conclusion, of EI (mixed and ability) adding incremental validity beyond personality and cognitive ability and being predictive of job performance criteria ( $P=.23$ ). Later meta-analyses have shown even more encouraging results. O'Boyle, Humphrey, Pollack, Hawver, and Story (2011) examined the relationship between mixed EI and specific work outcomes for 27 studies

producing a corrected correlation of  $p=.28$  with job performance, and substantial relative importance (13%) in the presence of the Five Factor Model (FFM) of personality and cognitive ability. Joseph and Newman (2010) examined 118 performance-related studies on EI and found mixed EI produced a strong correlation with job performance ( $p=.47$ ) and clear incremental value over the FFM and cognitive ability ( $r^2 = 14.9\%$   $ps <.05$ ). These results were later re-examined (Joseph, Jin, Newman, & O'Boyle, 2015) with the inclusion of more studies (34 mixed EI studies) and applying more stringent performance criteria<sup>11</sup> resulting in a noticeably smaller effect size ( $p =.29$ ) than the earlier  $p=.47$  estimate, closer to the effect sizes reported in the previous meta-studies. In their conclusion the authors describe mixed measures of EI as “a practical, shorthand alternative to a lengthy battery of several more traditional KSAOs” (p. 318).

A systematic review and meta-analysis (Andrei et al., 2016) of the Trait Emotional Intelligence Questionnaire (TEIQ) (Petrides & Furnham, 2001) (containing 24 articles reporting 114 incremental validity studies) demonstrated consistent incremental variance over personality dimensions in explaining different areas of functioning (including happiness, emotional labour, perceived stress, life satisfaction, anxiety, leadership roles and well-being). Although the pooled effect size was relatively small ( $R^2$  change = .06), the authors emphasised this as being “practically significant” with 80% of the 114 incremental studies yielding statistically significant results. They conclude that trait EI has incremental validity “putting to rest the assertion that it is redundant with basic personality dimensions” (p. 274).

An area of EI and workplace performance that has received a lot of attention is leadership (Podolny, Khurana, & Besharov, 2010). Leadership has been described as an “emotionally laden process” (George 2000, p 1046), and leader’s emotions and their associated behaviours have been found to profoundly influence followers’ emotional reactions (Bono & Ilies, 2006). The early literature on EI and leadership (Goleman, 1995; Kemper, 1999, p. 16) was criticised for making exaggerated and unsupported

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<sup>11</sup> In this study variance was removed for general self-efficacy and self-rated performance (as well as for personality and cognitive ability) producing almost no incremental validity. However, this stringent approach may be considered harsh given the criterion being predicted is job performance.

claims (Matthews, Roberts, & Zeidner, 2004; Locke, 2005), that have since been replaced with more balanced views from both sides of the debate (Antonakis, Ashkanasy & Dasborough, 2009). In a review of the literature, Walter, Humphrey and Cole (2012, p. 217) conclude: “empirical evidence ... clearly suggests that emotional intelligence is an important driver of effective job performance and successful leadership”. A meta-analysis on EI and job performance (Miao, Humphrey, & Qian, 2016) found a positive relationship between leaders’ EI and subordinates’ job satisfaction ( $k=20$ ,  $N=4665$ ,  $P=0.308$ ). Dominance analysis found mixed EI alone to account for an “impressive” 49.9% relative importance of subordinates’ job satisfaction, with the remaining 50.1% accounted for by six other predictors including cognitive ability and the FFM of personality. From this result they assert that “emotionally intelligent leaders will produce satisfied followers” (p. 21). However, findings from one meta-analysis (Harms & Crede, 2010) were more equivocal. In examining the relationship between transformational leadership and EI on 62 independent samples, results produced a very high validity estimate of .59 for same-source ratings (supervisor ratings for both EI and leadership performance), which dramatically reduced to .12 for different-source ratings (self EI ratings and supervisor performance ratings). This lower result is more consistent with other meta-analytic studies of personality and transformational leadership which range from a low of .09 (for Openness) to a high of .23 (for Extraversion) (Bono & Judge, 2004).

Despite mostly positive results, Walter, Cole and Humphrey (2011) speculate that the relative importance of EI dimensions may differ depending on the specific leadership criterion under consideration. Brasseur, Grégoire, Bourdu and Mikolajczak (2013) postulate that in some cases intrapersonal EI may carry more weight than interpersonal EI (e.g. for managing job stress) but the opposite may be true in other cases (e.g. for building relationships). Ybarra, Kross, & Sanchez-Burks (2014) comment that there is no reason to assume that someone who is strong in one area of EI, such as being aware of their own feelings, will be capable in another area of EI, such as being aware of the feelings of others. They call for greater specificity in examining the relative importance of both EI dimensions and job performance criteria. Only two of the meta-analytic studies described above (Andrei et al., 2016; Joseph et al., 2010)

attempt to differentiate EI into broad component parts; in the main, most studies aggregated EI as a single overall score (Ybarra et al., 2014). This makes it difficult to find systematic and generalisable research for specific EI scales and performance competencies.

Joseph and Newman (2010, p. 72) call for more research into the relationship between EI and actual job performance and recommend that the decision to use an EI measure should be based on job type, in particular the emotional labour of the job role. Zeidner, Matthews and Roberts (2004, p. 390) suggest “systematic emotional task analysis” needs to be conducted to match the different facets of EI to the criterion space defined by different kinds of occupation – if needs be, by developing contextualised tests oriented towards the emotional challenges of specific jobs. Ashkanasy and Humphrey (2011) propose that EI will play a more important role in jobs involving social interaction and emotional labour, such as sales and teaching. In the Joseph and Newman (2010, p. 54) meta-analysis described previously, they found EI (ability) to positively predict performance in high emotional labour jobs (such as sales and care work) and negatively predict performance in low emotional jobs (such as computer programmers, accountants, and technicians). However, the Miao et al., (2017) meta-analysis did not manage to replicate this result and they suggest this may be because emotional labour is used in a wide variety of jobs (Humphrey, Ashforth, & Diefendorff, 2015). Petrides et al., (2016, p. 338) propose that future research should move on from examining the incremental validity EI, that they believe has been demonstrated, to focus instead on jobs that are heavy in emotional labour.

Many of the recommendation for future research point towards greater specificity in understanding the relationship between facets of EI and job performance with emphasis on the emotional aspects of the job. The purpose of this study is to examine the relationship between the EIP facets and work-related performance criteria. The following hypothesis will therefore be tested: *EIP scale scores (self-ratings) will significantly correlate with and show differentiation between job performance competencies as measured by supervisor ratings.*

A key benefit of this study is to provide users of the EIP with greater insight and confidence in relating EIP scale scores to their application in the workplace. For

example, users of the EIP could directly link EIP scales to specific work-based competencies that have been identified as relevant to certain job roles. This insight may be applied in several ways, such as guiding the interview questions in a job selection process, identifying potential strengths and development needs for talent management, and linking personal EI strengths to jobs for careers guidance.

## **2. Methodology**

The purpose of this analysis was to examine the statistical correlation between the scales on the EIP questionnaire and job performance as measured by supervisor ratings on the JCA Global competency framework.

The first stage of analysis was to extract statistically meaningful factors from the 32 work-related competency dimensions. This was considered necessary because the 32 competencies and their structure were derived conceptually rather than from statistical analysis. Factor analysis also helped to group the competencies into fewer manageable clusters and identify the proportional contribution attributable to each competency within each factor. This was done through exploratory factor analysis (Principal Axis Factoring with promax rotation) of the supervisor ratings. An oblique rotation was chosen because conceptually it was expected that performance factors would be interrelated. Cases rated as 'not observed' by supervisors were removed from this analysis.

The second stage of analysis was to correlate the 16 EIP scales and 15 EIP sub-scales with the resulting performance factors. This allowed comparisons to be made between performance factors in terms of their relationship to the EIP scales.

### **Participants**

A total of 401 volunteer participants drawn from a diverse range of organisations, functions and managerial levels took part in this study. The sample included a higher proportion of females (62%) than males (38%), mostly aged between 30-49, (60%; aged 30-49, 21%; aged 50+, 19%; aged 16-29), predominantly white (92% white, 8% BAME), many in managerial and leadership roles, (7% directors, 55% managerial, 7% supervisory, 31% other or not-stated), and largely educated to degree level or higher (70%).

### **Procedure**

Participants were invited to complete the online EIP questionnaire which took approximately 20 minutes. A consent form (Appendix A), briefing information

(Appendix B), and completion instructions were presented directly about the questionnaire. Participation was voluntary.

Line managers were invited to complete online job performance ratings on 32 competencies, which took approximately 15 minutes. A consent form, briefing information and completion instructions were presented directly about the questionnaire. Participation was voluntary. Whether participants and line managers had or had not participated was only identifiable to the facilitator.

### **Questionnaires**

The EIP questionnaire (Maddocks & Hughes, 2017) has been explained in detail in the previous research paper (Maddocks, 2018). It is a self-report measure that comprises 158-items, 16 scales, five of which are composite scales that form 15 sub-scales (optimal and sub-optimal scales). The 16 scales (Table 1) fit within an organising framework of Emotional Intelligence (Table 2). Scale definitions are provided in Appendix C.

**Table 1: The EIP scales**

<b>EIP framework</b>	<b>EIP scales</b>	<b>Sub-optimal scale</b> (‘too little’)	<b>Optimal scale</b>	<b>Sub-optimal scale</b> (‘too much’)
Attitude	Self Regard			
	Regard for Others			
Awareness (and Reflection)	Self Awareness			
	Awareness of Others			
	Reflective Learning			
Behaviour: Self Management	Emotional Resilience			
	Personal Power			
	Goal Directedness			
	Flexibility			
	Authenticity			
	Balanced Outlook	Pessimistic	Realistically Optimistic	Over Optimistic
Behaviour: Relationship Management	Connecting with Others			
	Trust	Mistrusting	Carefully Trusting	Over Trusting
	Emotional Expression and Control	Under Controlled	Free and in Charge	Over Controlled
	Conflict Handling	Passive	Assertive	Aggressive
	Interdependence	Dependent	Interdependent	Over Independent

**Table 2: EIP framework**

	<b>Intrapersonal Intelligence</b>	<b>Interpersonal Intelligence</b>
<b>Behaviour</b>	Self Management	Relationship Management
<b>Awareness</b>	Self Awareness	Awareness of Others
<b>Attitude</b>	Self Regard	Regard for Others

Job performance was measured using the JCA Global competency library (JCA Global, 2016) designed to cover the breadth of the job performance domain, with an emphasis on managerial and leadership behaviour. This comprises four supra-competencies which are split into eight competency clusters, that further divide into 32 competencies, each consisting of 12 behavioural descriptors. The structure of the 32 competencies is illustrated in Table 3. Supervisors rated individuals using an online supervisor rating form, on a six-point scale (Very Ineffective to Very Effective, or Not Observed) covering the 32 work-related competencies.

**Table 3: The JCA Global competency library**

<b>ADAPT</b>	
<b>Providing Support</b>	<b>Adapting to Challenges</b>
Valuing people	Managing conflict
Behaving with integrity and authenticity	Showing resilience
Upholding organisational values	Responding to change
Team working	Displaying flexibility
<b>DELIVER</b>	
<b>Managing tasks</b>	<b>Pursuing goals</b>
Organising and prioritising	Driving for success
Following procedures and working with details	Displaying commercial awareness
Ensuring customer satisfaction	Acting with initiative

Delivering results	Showing career ambition
<b>THINK</b>	
<b>Analysing information</b>	<b>Learning and creativity</b>
Researching and investigating	Learning agility
Analysing situations and making judgments	Creativity and innovation
Writing with impact	Inspiring others
Solving problems	Strategic and conceptual thinking
<b>INSPIRE</b>	
<b>Shaping relationships</b>	<b>Providing leadership</b>
Communicating and presenting	Directing and guiding
Influencing people	Coaching and developing others
Building professional networks	Managing talent
Connecting with people	Making decisions

### 3. Results

To identify the major aspects of job performance, Principal Axis Factoring (PAF) with oblique rotation was conducted on participant ratings where a complete set of data was available (n=229) i.e. excluding all cases with any 'not observed' or missing values. Listwise deletion reduced the sample size from n=401 to n=229.

An unrestricted analysis produced 6 factors with eigen values >1 (KMO = .928, with a significant Bartlett's test result) (Appendix D). However, the sixth factor had limited scope, primarily representing just one competency: Managing Conflict. A second PAF, selecting a five-factor solution, produced a more meaningful result (Appendix E) accounting for 54.4% of variance. Although all five factors were conceptually different, there were only three primary loadings on Factor 5, two of which had relatively low loadings, and all three had conceptual relevance to Factors 1, 3 and 4. This was tested for by producing a four-factor structure that accounted for 51.7% of the variance (Appendix F). As expected, the three competencies from Factor 5 merged into Factors 1 and 4, with two other competencies (Delivering Results and Writing with Impact) moving into other entirely compatible factors. For greater parsimony, the four-factor solution was preferred over the five-factor solution. For completeness, a final three-factor solution was produced (Appendix G) accounting for 48.5% of variance. In this case, most of the competencies in Factor 4 joined Factor 1, making it a very broad factor. This resulted in a loss of differentiation between important aspects of the Leading & Influencing factor that were present in the four-factor solution. The four-factor solution was therefore selected as the preferred option, which is presented in Appendix F as a pattern matrix and below in Table 4 alongside the eight competency clusters in the original conceptual model. Alpha coefficients for the four factors were all between 0.8 and 0.9, confirming the internal consistency of each dimension.

**Table 4: Competency framework: four-factor solution**

	Factors			
	1 Striving & Adapting	2 Analysing & Executing	3 Collaborating & Supporting	4 Leading & Influencing
<b>Adapting to challenges</b>				
Showing resilience	.589			
Responding to change	.742			
Flexibility	.711			
Managing conflict				.434
<b>Providing support</b>				
Team working			.645	
Valuing people			.908	
Upholding organisational values			.598	
Behaving with integrity and authenticity			.704	
<b>Managing tasks</b>				
Organising and prioritising		.713		
Following procedures and working with details		.845		
Ensuring customer satisfaction			.438	
Delivering results		.461		
<b>Pursuing goals</b>				
Driving for success	.626			
Acting with initiative	.785			
Displaying commercial awareness	.599			
Showing career ambition	.739			
<b>Providing leadership</b>				
Directing and guiding				.760
Coaching and developing others				.675
Making decisions	.381			
Managing talent				.703
<b>Shaping relationships</b>				
Building professional networks	.425			.337

Influencing people	<b>.319</b>			<b>.329</b>
Communicating and presenting	<b>.319</b>			
Connecting with people			<b>.650</b>	
<b>Learning and creativity</b>				
Learning agility		<b>.388</b>		
Creativity & innovation	<b>.599</b>			
Strategic & conceptual thinking	<b>.539</b>			
Inspiring others	<b>.304</b>			<b>.580</b>
<b>Analysing Information</b>				
Researching and investigating		<b>.707</b>		
Analysing situations and making judgements		<b>.728</b>		
Writing with impact		<b>.301</b>		<b>.392</b>
Solving problems		<b>.594</b>		

Highest factor loadings are shown in bold. Factor loadings below .3 are suppressed.

As shown in the four-factor solution (Table 4), the 32 competencies fall broadly within their eight competency clusters described in Table 3. Exact mapping with the eight clusters was not expected as these had been grouped conceptually rather than statistically into sets of four competencies. The four factors are labelled according to their competency content as described below.

- **Factor 1** includes 12 competencies that account for 40.2% of the variance. These relate to pursuing goals, adapting to challenges, thinking creatively and strategically, and networking. This factor is defined as ‘striving and adapting’ and relate to the concept of ‘getting ahead’ (Hogan & Shelton, 1998).
- **Factor 2** includes seven competencies that account for 7.4% of the variance. These relate to analysing information and problem-solving, following procedures, organising and delivering tasks. This factor is defined as ‘analysing and executing’ and relates to the concept of ‘getting it right’.
- **Factor 3** includes six competencies that account for 5.4% of the variance. These relate to building productive relationships with others, providing support and demonstrating integrity. This factor is defined as ‘collaborating and supporting’ and relates to the concept of ‘getting along’.

- **Factor 4** includes seven competencies that account for 4.4% of the variance. These relate to managing people, managing conflict, and inspiring and influencing others. This factor is defined as ‘leading and influencing’ and relates to the concept of ‘getting the best from others’.

Having established the job performance factors, the next stage of analysis was to correlate supervisor ratings of performance with self-ratings on the EIP scales (Table 5). Participant scores on the four performance factors were calculated by averaging the ratings for all competencies which had a primary loading on that factor. Equal unit weighting was given to each of the primary competencies. The unit-weighted scoring approach was preferred to using the specific factor loadings,<sup>12</sup> it is a simpler method which makes the subsequent analysis more generalisable to other occupational samples (DiStefano, Zhu, & Mindrila, 2009).

A factor score was only created for participants where there were valid line manager ratings for at least 80% of the competencies loading on that factor. This approach was taken to maximise the sample sizes available for validation while ensuring resulting scores represent the breadth of each performance factor sufficiently.

Pairwise deletion was applied within each performance factor in preference to listwise deletion across all four factors which would have significantly reduced the sample size.<sup>13</sup> The main consequence of pairwise deletion is having different sample sizes across each factor, meaning that correlation coefficients cannot be equally compared between the four performance factors.

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<sup>12</sup> Weighted analysis (shown in Appendix H) produced slightly fewer but more significant correlations than unit weighting.

<sup>13</sup> Results from listwise deletions are shown in Appendix I, which produced fewer and less significant correlations than for pairwise deletion.

**Table 5: EIP correlations with job performance factors**

Predictor variables (EIP scales)	Factor 1	Factor 2	Factor 3	Factor 4
	(Striving & Adapting) N=383	(Analysing & Executing) N=374	(Collaborating & Supporting) N=392	(Leading & Influencing) N=309
<b>Attitude</b>				
Self Regard	.10	-.06	.03	.01
Regard for Others	.03	-.05	.191**	.08
<b>Awareness</b>				
Self Awareness	-.04	-.08	.03	-.02
Awareness of Others	.00	-.05	.152**	.10
Reflective Learning	-.02	-.02	.03	.00
<b>Behaviour: Self Management</b>				
Emotional Resilience	.104*	-.05	.01	.00
Personal Power	.215**	.05	.103*	.122*
Goal Directedness	.08	.01	.02	.02
Flexibility	.187**	.03	.04	.03
Authenticity	.04	.01	.02	.08
Balanced Outlook	.120*	.00	.111*	.127*
<i>A Pessimistic</i>	-.208**	.03	-.151**	-.127*
<i>B Realistically Optimistic</i>	.07	-.04	.06	.09
<i>C Overly Optimistic</i>	.00	-.10	-.04	-.05
<b>Behaviour: Relationship Management</b>				
Connecting with Others	.04	-.156**	.06	.01
Trust	.07	-.04	.104*	.10
<i>A Mistrusting</i>	-.101*	.05	-.140**	-.06
<i>B Carefully Trusting</i>	.04	-.07	.08	.08
<i>C Over Trusting</i>	.01	-.07	.04	-.02
Emotional Expression & Control	.09	-.02	.140**	.120*
<i>A Under Controlled</i>	-.108*	-.07	-.153**	-.127*
<i>B Free and in Charge</i>	.03	-.06	.09	.05
<i>C Over Controlled</i>	-.10	-.01	-.10	-.132*
Conflict Handling	.138**	.02	.140**	.155**
<i>A Passive</i>	-.155**	.01	.03	-.140*

<i>B Assertive</i>	.09	-.04	.07	.07
<i>C Aggressive</i>	-.02	<b>-.121*</b>	<b>-.262**</b>	-.09
Interdependence	<b>.109*</b>	-.07	.02	.02
<i>A Dependent</i>	-.01	.07	.06	.04
<i>B Interdependent</i>	<b>.109*</b>	-.04	.00	.04
<i>C Over Independent</i>	-.09	.06	<b>-.116*</b>	-.04

\*  $p < 0.05$ , \*\*  $p < 0.01$ . Significant correlations in bold. There are five EIP composite scales, each consist of three sub-scales in italics reflecting 'too little' (A), 'the right amount' (B) and 'too much' of a specific behaviour (C).

Looking across the competency factors (Table 5), 11 of the 16 EIP scales show significant correlations with job performance competencies. The five EIP scales that do not correlate significantly (Self Regard, Self Awareness, Goal Directedness, Authenticity and Reflective Learning) are all Intrapersonal Intelligence scales. Of the 11 correlated scales, seven of these correlate with a single competency factor suggesting that these EIP scales differentiate in their relationship to aspects of job performance. The other four EIP scales (Personal Power, Balanced Outlook, Emotional Expression & Control, and Conflict Handling) correlate with two or more competency factors, suggesting that these EIP scales are broader attributes of job performance. This was confirmed by creating a single overall EI performance factor (excluding Factor 2 which did not appear related to EI) which produced significant correlations with these four EIP scales and Awareness of Others (Appendix J). Overall, the results support the hypothesis that EIP scale scores (self-ratings) significantly correlate with and show differentiation between job performance competencies as measured by their supervisor's ratings. More detailed analysis of the differentiation between the four factors is described below.

### **Factor 1: (Striving & Adapting)**

In Table 4, ten of the 12 competencies in Factor 1 are conceptually relevant to Intrapersonal aspects of EI rather than Interpersonal aspects of EI (the main clusters include: Adapting to Challenges, Pursuing Goals, and Learning and Creativity). The exception being the two competencies that fall within the 'Shaping Relationships' cluster. This is supported by the correlation results in Table 5, with only two of the eight EIP scales in Factor 1 (Trust and Interdependence, both with lower correlations) being pure Interpersonal facets of the EIP framework.

In Table 5, eight of the EIP scales correlate with Factor 1. Four of these are positive correlations. Emotional Resilience and Personal Power fit with the label of 'Striving'; and Flexibility and Interdependent fit with the label of 'Adapting'. The other four scales were negative correlations: Pessimistic and Passive may undermine 'Striving' behaviour and Mistrusting and emotionally Under Controlled may undermine 'Adapting' behaviour. These EIP scales account for 9.9% of variance in this sample (Appendix K), producing a small-medium effect size ( $F^2=0.11$ ).

#### **Factor 2: (Analysing & Executing)**

In Table 4, the seven competencies in Factor 2 are broadly cognitive rather than emotional aspects of performance, and so are of less relevance to the concept of Emotional Intelligence (EI). This is borne out by the results in Table 5, showing only two significant correlations with the EIP scales, one of which is a negative correlation with Connecting with Others. These EIP scales account for 4.1% of variance in this sample, producing a small effect size ( $F^2=0.043$ ).

#### **Factor 3: (Collaborating & Supporting)**

In Table 4, the six competencies in Factor 3 have more conceptual relevance to Interpersonal aspects of EI than the competencies in Factor 1. This is supported by positive correlations with two Interpersonal EIP scales in Table 5 (Regard for Others and Awareness of Others), and stronger correlations with four Relationship Management scales. This interpersonal theme is also consistent with the dominant competency of 'Valuing people' in Factor 3. The EIP scales in Factor 3 account for 8.9% of variance in this sample, producing a small-medium effect size ( $F^2=0.089$ ).

#### **Factor 4: (Leading & Influencing)**

In Table 4, the three highest loading competencies in Factor 4 (Directing and guiding, Coaching and developing others, and Managing talent) are all contained within the 'Providing Leadership' cluster. The main correlations in this factor (Table 5) are with the EIP composite scales (Balanced Outlook, Emotional Expression & Control, and Conflict Handling) suggesting that leadership is influenced by getting the appropriate balance of not having too much or too little of these EI behaviours. The EIP

scales account for 3.6% of variance in this sample, producing a small effect size ( $F^2=0.037$ ).

## 4. Discussion

The results show that within this sample different EIP scales correlate significantly with specific aspects of job performance demonstrating divergent validity. This lends weight to the argument that EI should be examined on a more granular basis, relating specific EI competencies to specific job roles and to specific emotionally demanding tasks (such as handling customer complaints, coping with setbacks, and conflict resolution).

A key purpose of this study was to provide practitioners with greater insight and confidence in relating EIP scale scores to their application in the workplace. With this in mind, interpretation of the main scale combinations (Table 5) within and across competencies is given below:

- Four EIP scales (Personal Power, Balanced Outlook, Emotional Expression & Control, and Conflict Handling) were present across the three EI-related competency factors (1,3 & 4). These EIP scales suggest that individuals who feel comfortable taking responsibility have a positive but realistic attitude, manage the expression of their emotions, and deal effectively with conflict will perform more effectively in the workplace.
- The 11 EIP scales and sub-scales that correlate with Factor 1 suggest that individuals who are resilient, self-assured, and adaptable are more Striving and Adapting in the workplace.
- The two EIP scales and sub-scales that correlate with Factor 2 suggest that individuals who are less attentive to others and less aggressive are more Analytical and Executing in the workplace.
- The 12 EIP scales and sub-scales that correlate with Factor 3 suggest that individuals who value, trust and understand others, have a realistic outlook, and remain calm in expressing their emotions are more Collaborative and Supportive in the workplace.
- The eight EIP scales and sub-scales that correlate with Factor 4 suggest that individuals who are confident, have a positive outlook, manage conflict well,

and are better able to express themselves will Lead and Influence others more effectively in the workplace.

These interpretations should be considered cautiously as they are based on a single sample producing small-medium effect sizes. However, this may be a conservative estimate with possible attenuation of the sample and unreliability of line manager ratings. To evaluate the EIP correlations it is useful to draw a comparison with a previous study presented in the EIP technical manual (Maddocks & Hughes, 2017). In this study the 16 EIP scales were mapped against the same 32 competencies based on an importance and consensus rating by ten EI experts. Ratings were made on a four-point scale from Not Important to Very Important. Although the ratings were not made against the four competency factors, they still provide a potential basis for comparison. A summary of these results in relation to the competencies in each of the four factors is presented in Appendix L.

In Factor 1 (Striving & Adapting), four of the eight EIP scales that correlate with this factor (Emotional Resilience, Flexibility, Personal Power and Balanced Outlook) were consistently rated by experts as Important/Very Important for at least half the competencies in this factor, and four were rated as Fairly/Not Important (Trust, Emotional Expression & Control, Conflict Handling, and Interdependence). The key difference between these two sets of EIP scales is that the scales rated as Important are Intrapersonal (Self-Management) aspects of EI and the scales rated as less important are Interpersonal (Relationship Management) aspects of EI. This further endorses the interpretation of Factor 1 as an Intrapersonal factor.

In Factor 2 (Analysing & Executing), neither of the EIP scales that load on this factor were rated by experts as Important for any of the seven competencies in this factor. This further suggests that the clusters in this factor (Analysing Information and Managing Tasks) are not directly related to aspects of EI. This is an important consideration when conducting aggregate correlation studies between EI and job performance. If more cerebral and task-related aspects of job performance are unrelated or negatively correlated with mixed/trait EI they should either be removed or considered separately within future meta-analytic studies.

In Factor 3 (Collaborating & Supporting), six of the eight EIP scales (Regard for Others, Awareness of Others, Trust, Emotional Expression & Control, Conflict Handling and Interdependence) were consistently rated by experts as Important/Very Important for half or over half of the competencies in this factor, and four as Fairly/Not Important (Personal Power and Balanced Outlook). The noticeable difference between the six Important EIP scales and the other two EIP scales is they are all Interpersonal aspects of EI, confirming this interpretation of Factor 3.

In Factor 4 (Leading & Influencing), two of the four EIP scales (Emotional Expression & Control, and Conflict Handling) were consistently rated by experts as Important/Very Important for over half of the competencies in this factor, and two as Fairly/Not Important (Personal Power and Balanced Outlook). It is worth noting that the two Important/Very Important scales are about how individuals express themselves, which may be of particular relevance to Leading and Influencing (Factor 4). They are highly observable behaviours that impact upon others, particularly when expressed as sub-optimal behaviours i.e. emotionally Under Controlled and Aggressive.

Overall, the expert analysis corroborates findings from this study. Ten of the 11 EIP scales that correlate with one or more of the performance factors concur with the expert ratings as being Important/Very Important. This comparative analysis helps provide clearer differentiation and interpretations of the performance factors. Taking the expert ratings into account, Factor 1 is even more clearly related to Intrapersonal aspects of EI. Factor 2 has little apparent relevance to the EIP scales. Factor 3 is more specifically related to Interpersonal aspects of EI, and Factor 4 is related to the overt expression of emotions and EI.

Before discussing broader implications from this study, some further observations can be made. The results lend partial support for the structure of the EIP framework (Table 2). Differences were found between the two streams of the EIP framework with Factor 1 (Striving & Adapting) being mainly related to Intrapersonal aspects of EI (Self Management) and Factor 3 (Collaborating & Supporting) being mainly related to Interpersonal aspects of EI (Relationship Management). This is consistent with factor analysis of the EIP framework (Maddocks, 2018) and of the Profile of Emotional Competence (PEC) (Brasseur et al., 2013), both of which found

separation between Intrapersonal and Interpersonal streams of EI. If this difference were commonly identified in other measures of EI, then it may be useful to distinguish between Intrapersonal and Interpersonal EI in future meta-analyses of job performance.

It is also interesting to observe that Factor 3 (Collaborating & Supporting) accounts for all three Interpersonal tiers of the EIP framework (Regards for Others, Awareness of Others and several Relationship Management scales), supporting the notion of a three-tier cascading model of EI. However, this is not replicated by the Intrapersonal stream of Factor 1 (Striving & Adapting), which does not include either Self Regard or Self Awareness. The absence of both these scales in any of the factors may be because they are underlying facets of EI which have less direct observable relevance to workplace behaviours and are less attributable to any specific elements of job performance.

With only two EIP scales correlating with Factor 2 (Analysing & Executing) it may be inferred that EI has a minimal relationship with more cognitive or task-based functions. It is interesting to observe that this is the only factor where a lower score on a positive EIP scale (low Connecting with Others) correlates with higher job performance. It may be that interacting and attending to others are distractions from more cerebral activities. There is also a negative correlation with Aggressive; it may be that when people become aggressive, they are less able to think clearly and accurately (Ogilvie, Stewart, Chan, & Shum, 2011). Research suggests that there is an important association between emotion and cognition in both a positive and negative direction; positive emotions may enhance, and negative emotions may impair cognition (Forgas, 1995). A meta-analysis (Lench, Flores, & Bench, 2011) has also shown discrete emotions to predict changes in cognition, judgement, experience, behaviour and physiology. It may be of value to examine in more detail the relationship between specific facets of EI and cognition, such as the impact of 'Emotional Expression and Control' on judgement and decision making.

It is interesting to note that many of the correlations in this study are with *sub-optimal* EIP scales (indicated by scale rows A and C in Table 5). As discussed in the previous research paper (Maddocks, 2018) these scales add value in demonstrating

over-use and under-use of EI. This is illustrated in Factor 4 (Leading & Influencing) where correlations are found for both emotional Over Controlled and Under Controlled. For example, it is likely that a person who represses their feelings will eventually release them in emotional outbursts. Several commentators (Benson & Campbell, 2007; Harms, Spain, Hannah, Hogan, & Foster, 2011; Hogan & Hogan, 2001; Le et al; 2011) have argued the benefits of exploring negative as well as positive leadership behaviours. There is robust evidence too that negative information and experiences have stronger impact on behaviour and performance than do positive experiences (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Kahneman, 2011; Maddocks, 2017). It may also be of relevance that the five EIP scales that do not correlate with performance factors (Self Regard, Self Awareness, Goal Directedness, Authenticity and Reflective learning) all focus on the 'self' and appear more introspective. Self-reflection may be a useful precursor to self-development, but can also lead to rumination, self-doubt, and insecurity (Wilson & Dunn, 2004). This study examined the relationship between EI and positive performance (competencies): a useful extension of this research may be to include negative performance indicators.

## 5. Implications

The results from this study support the hypothesis that EIP scale scores (self-ratings) correlate significantly with and show differentiation between job performance competencies as measured by supervisor ratings. This provides users of the EIP instrument with greater confidence when making interpretations and predictions of work-related performance from EIP scale scores. Demonstrating criterion-related validity is only a first step in evaluating the utility of the EIP instrument. Replicating these results with homogenous sample groups and differentiating between job sectors and contexts is necessary before drawing firmer conclusions. Longitudinal research showing predictive evidence that the EIP scale scores are related to future job performance in the workplace would also be valuable, but this would take a long-term commitment from organisations. It would also be of interest to gain feedback from users of the EIP to compare their experience of the EIP with previous editions of the questionnaire, and to identify whether any improvements in the statistical properties of the instrument are matched by improvements in the user experience. For example, do users find this edition of the EIP to be more accurate and predictive of actual job performance? For those EIP users who have experience with other mixed, trait and competency-based EI instruments, it would also be valuable to compare their feedback on these products with the EIP.

Despite the need for continued research in this area, there are some practical implications and recommendations that EIP users and organisations may take from this study. These fall into three categories; 'interpretation', 'good practice' and 'further studies'. With 'interpretation', the EIP practitioner is advised not to interpret EI as a single construct but to separate it into the two streams identified in Factors 1 and 3, of Intrapersonal and Interpersonal EI. It is also recommended that EIP facets are not interpreted in isolation but in combination with other EIP facets that are shown to relate to the performance criteria. Similarly, due to the clustering of competencies within factors it is recommended that competencies are interpreted in meaningful groups (the factors identified) rather than attempting to overinterpret differences between closely related single competencies. As regards 'good practice' these results endorse the importance of conducting a thorough job analysis to specify relevant

competencies, and to recognise that some of these may be unrelated to EI (such as those in Factor 2; Analysing and Executing). Also, as with other forms of assessments the EIP has only partial relevance to performance competencies so should not be used in isolation but in combination with other appropriate measures. In terms of 'further studies', there is opportunity for organisations to extend applications from this study. They may wish to produce specification/prediction equations, using the combination of EIP scales as indicators of job performance factors. They could develop interview or coaching questions that relate to the relevant EIP scales and competency factors. Ideally, organisations that collect sufficient EIP and job performance data will also conduct internal criterion validation studies to support their use of the EIP.

This study is a useful step forward in understanding how the EIP (an attitude-based measure of EI) relates to performance. An extension of this research would be to compare the EIP with other instruments that represent the established ability, trait and competency models of EI, and their relationship to the four job performance factors identified in this study. Furthermore, to examine if the EIP adds incremental value in predicting the four performance factors beyond other EI instruments or established measures and models of personality, such as the Big Five Factor Model. Overall, this study provides strong initial grounds for the EIP being a useful instrument when considering the relationship between EI and job performance.

These results also have broader implications on the future direction of research into EI and job performance. As discussed in the introduction, the mainstay of evidence is based on meta-analytic studies which by their nature aggregate data. Different EI tools are grouped together, EI scales are often combined into a single score, and performance data is collated from different performance criteria, rater groups, and job domains. In this study the case has been made that some aspects of EI are more important than others to different aspects of job performance. For instance, in Factor 2 (Analysing & Executing), EI is found to have very little relevance to this aspect of job performance. With the growing body of research, it may soon be possible to conduct meta-analytic studies that are more refined and focus on specific aspects of EI and work performance. In recent years progress has been made in this direction. The Joseph et al., (2015) meta-analysis included only employed individuals, separated

self-rated performance from supervisor ratings, and considered the KSAOs (Knowledge, Skills, Abilities and Other characteristics) of EI separately. Andrei et al., (2016) collated enough data on the Trait EIQ to conduct meta-analysis on this instrument alone, and Miao et al., (2017) separated out jobs with higher and lower emotional labour. One way forward is to gain consensus on a single organising model for the different facets of EI, against which specific criteria of job performance could be consistently compared. Such a framework has been produced for personality inventories in the form of a 'periodic table of personality' (Woods & Anderson, 2016), akin to the periodic table of chemical elements. Until such time, it may prove difficult to draw broader conclusions on the relationship between specific elements of EI with specific criteria of job performance.

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## **Part 4: Critical Appraisal**

## 1. Background

My interest in the field of Emotional Intelligence goes back to the start of my career in 1993 when I had the opportunity of working with Will Schutz, the author of FIRO theory (Schutz, 1958), who proposed that behaviour is largely driven by our feelings, self-concept and self-esteem. This was a theory I found to be particularly relevant when working with disaffected teenagers with low self-esteem. All too often, following behavioural support and interventions, these teenagers soon returned to their old negative pattern of behaviour. In response to this, I began developing activities that focus young people on the feelings and attitudes that drove their behaviours. The results were impressive, with higher retention rates on apprenticeship schemes and greater sustainability on employment programmes. It was during this time that I began working with Tim Sparrow, a psychotherapist, who recognised that much of the work he was doing with his patients and that I had been doing with teenagers was closely related to the recently emerging concept of “Emotional Intelligence”.

Another reason for my interest in EI came about from my growing dissatisfaction with personality inventories. At this time, in the 1990s, occupational psychology was largely dominated by traditional psychometrics that focused on the stable aspects of psychological functioning such as trait personality and cognitive ability tests. This predictive approach to measurement seemed to me a pessimistic view of personality and IQ as being destiny rather than allowing for the possibility that people could manage their personalities and become more effective. As a coach, I termed this the “so what” factor. Personality inventories helped individuals identify their predispositions and characteristics but not how to develop and change their behaviour. In my role as a coach I would often find myself discussing with the client their feelings and attitudes as a mechanism to help change their behaviour. This coincided with the popularisation of EI by Daniel Goleman, whose seminal book “why EQ matters more than IQ” was seen as a rebuttal to the pervading paradigm of IQ as fate and the so-called “cognitive elite” (Herrnstein & Murray, 1994). It was also a time of significant advances in neuroscience that demonstrated the importance of emotions to cognitive processes and personal development (Damasio, 1994; Ledoux, 1996).

The convergence of these elements led Tim Sparrow and I to set about creating a model and measure of Emotional Intelligence that incorporated attitudes as the basis of our approach to personal development. We began by identifying a set of attitudes that underpin emotionally intelligent behaviours which lead to the 16 facets of the EIP scales as described in my literature review. I didn't expect then, that this early interest would consume much of my future career. We produced the first version of the instrument in 1998 which has been through two revisions, most recently with a major revalidation of the items in 2017. There are several derivative reports for personal coaching, group work, selection assessment, and resilience, and a range of different instruments derived from the EIP model: the individual EIP, the Team EIP, the 360-degree EIP, and the Leadership Climate Indicator. Further information and detail on the background to the EIP may be found in the second edition of *Emotional Intelligence at Work, how to make change stick* (Maddocks, 2018).

I have long been interested in completing doctoral-level research into the EIP model and instrument but was reluctant to commit to the duration of a PhD. In recent years I became aware that a professional doctorate was available for Chartered Occupational Psychologists, which seemed ideal for my situation. In 2016 I intended to conduct a major revision of the EIP items and decided this was the right time to combine it with an academic piece of research. I chose Leicester University, partly because of the location (to avoid travelling into London), and because there was an academic supervisor who had practitioner experience as an occupational psychologist.

## **2. Ethical Approval**

I was surprised by how much supporting detail was required for ethical approval (amounting to over 20 documents) and up-front commitment to my methodology and data collection. At first, ethical approval felt like an inconvenient hurdle, but in hindsight, the rigorous process enabled me to do a lot of preparatory thinking on the plan and shape for my thesis, and the more pragmatic aspects of implementation. For example, writing the participant briefing put me in the metaphorical shoes of the participant, something I had not fully appreciated. From this, I made a change to the procedure that gave participants greater anonymity and reassurance. The high standards of ethical approval were also compliant with later GDPR legislation, introduced in 2018, two year after I started my research. Completing the ethical approval process not only pre-empted potential risks, it also gave me, my employer, the participants and their organisations confidence in the process and therefore greater willingness to participate in my research.

### **3. Literature Review**

I very much enjoyed the first stage of my literature review, which involved extracting and reading the relevant papers, organising the content, and presenting an overview structure to my supervisor. It was the next stage that I found to be the most difficult part of my entire dissertation. I struggled to get into the flow of writing, and became very self-critical, believing that every sentence had to be written to the same scholarly level as the journals I had read. It took me several weeks to get through this barrier and allow myself to write without the burden of excessive self-censorship. Over the three years of completing my thesis, I have continued to improve in this respect and learned how to make improvements iteratively.

My initial intent with the literature review was to present “an overview on the current status and future direction of EI in the workplace”. To my frustration, I found some recent high-quality papers that I felt already did exemplary justice to this title. This had a positive effect, as it forced me to take the bolder step of focusing on my own theoretical view of EI, and to make the case for “attitudes as antecedents of EI”. I was quite unsure about taking this path, as I had not seen a lot of literature that related to this specific subject area. However, once I reviewed the literature through this perspective, I began to see how several key criticisms of EI could be addressed through an attitude-based approach. This also drew me into several fascinating areas that fell outside of the mainstream literature on EI, such as neuroscience, social cognition, self-concept theory and psychometric design. Completing the literature review made me realise that this phase in the process was the first stage of an investigation that helped me to formulate the questions that I wanted to answer in my research.

#### 4. Research Project

My original research proposal questions were two-fold:

- a. Does the EIP theoretical framework have construct validity?
- b. Does EIP add incremental validity to personality temperament (trait and type measures) as a predictor of workplace performance?

Following completion of my literature review I realised that I would only be able to adequately address the first of these questions (a) within the parameters of a 12,000-word research study. This was disappointing, as I had already collected data on job performance (supervisor competency ratings), personality (Goldberg, 1992), and another EI instrument (Schutte, 1998) to address the second question (b). Fortunately, this did not go to waste as I included the job performance data in my service evaluation and presented results from the personality data analysis at the DOP conference (Hughes & Maddocks, 2018). Although question (b) did not form part of my PsyD submission, I was pleased to find that the EIP showed incremental validity over the big-five personality markers consistent with other well established EI instruments. I have not as-yet examined the data from the Schutte EI instrument, as in hindsight I would rather have chosen the Trait EIQ instrument as my comparison tool – because in recent years this has established itself as the dominant academic benchmark of self-report EI measures. As I discuss later, it has been interesting to see how the field of EI has evolved since the outset of my PsyD, although one of the challenges this presented was incorporating the latest relevant findings into the earlier stages of my research.

I must admit to feeling slightly uninspired by my initial research question (a), which was quite generic. It was only from completing my literature review that I identified with greater confidence how the EIP model could differentiate itself from other established models of EI. The premise of my original thinking was that including attitude within a model of EI would lead to more sustainable changes in behaviour. From reading the literature, I made some important connections with the EIP model – most notably that the attitudes within the EIP framework provide an ethical basis to EI, that they may also reflect the automaticity of EI, and that the ability and mixed models of EI may both be reflected in the EIP framework (Maddocks & Hughes, 2018). These

observations were quite profound to me, helping formalise the structure of my literature review and the subsequent research aims that I tested in the research phase.

A valuable piece of verbal feedback I received from my annual review was that I had “packed a lot” into my research. I question whether my broad coverage of the four research aims was too extensive, and if I should have been more focused. This was partly a consequence of my literature review which had directed me towards these four paths of enquiry. It was also driven by an underlying anxiety that I would not have enough to write about and that I was afraid to miss things out. To the contrary, I found the more I explored an area, the more questions emerged and the more I wanted to explain. This presented me with the opposite challenge of having to reduce the word count. In hindsight I am pleased I covered all four research aims as they were all related areas that I found interesting and important. The most interesting of these that I considered a significant gap in EI literature is the concept of dual-processing and automaticity. It was something I had not been aware of before my literature review and I still wonder why there are only two substantive papers on this subject area given its profound implications to how EI is understood and practised. The other area that I stumbled across in the data-analysis was the link between EIP sub-optimal scales and Karen Horney’s neurotic needs (Horney, 1942). This was an unexpected and pleasant surprise that sent me down another pathway of exploration. It was these types of ‘aha!’ moments, where I made links between ideas or where data produced unexpected findings, that were a very rewarding part of my research work.

As discussed in my literature review, the field of EI is strongly divided between critics and advocates, and there are many other significant criticisms of EI that my research does not claim to address. Foremost of these are: the debate on a single agreed definition of EI; whether EI is a form of intelligence; the incremental validity of EI over existing constructs of personality; and whether self-report is an appropriate way to measure EI. Reading some of the critical papers was sometimes dispiriting and forced me to question the value of EI and consequently my research. I also read the counter arguments to these and came to the view that both sides have merit and the reality lies between the extremities of both positions. I also realised that being aware of these broader often theoretical arguments was important, but that I should remain focused on the questions I wanted to answer. Having now researched the four

research aims, my thinking has come full circle; I believe the questions I addressed help answer some of the broader questions on EI. For example: differentiating between conscious and automated EI processes gives greater clarity to the definition, measurement and uniqueness of EI; recognising the dynamic nature of EI facets is consistent with evolving theory on personality traits being developable; and incorporating ethical principles to a model and measure of EI reduces the likelihood of it being misapplied in the workplace.

After completing my initial analysis and interpretation of the results, I received feedback from my second supervisor that my method of analysis (Principal Components Analysis with Orthogonal rotation) was “perfectly defensible” but there may be merit in considering Exploratory Factor Analysis with oblique rotation as an alternative. I had originally considered this approach along with the option of Confirmatory Factor Analysis but decided against this. I discussed this with my primary supervisor who advised me that the feedback from the second supervisor was positive about my analysis, if I could defend my position. This left me with three options:

1. To rerun the analysis and rewrite my results and discussion based on possible new findings.
2. To rerun the analysis for comparison but retain my existing results and defend my approach.
3. Not to rerun the analysis and defend my approach

At first, I was reluctant to consider re-analysing my results but instead spent time seeking further information from the literature to support my approach (option 3). The further I investigated the various approaches the more I realised that my supervisor’s advice was probably the better option, so I decided to rerun the analysis taking his advice (Principal Axis Factoring with oblique rotation). To my relief, the results were consistent with the original findings, and even more strongly in support of my original interpretation. This process was a useful learning experience; it taught me to consider the merits of all feedback, however troublesome it may be, rather than immediately seek to defend my approach.

Having worked in business for many years I am not unused to receiving constructive feedback on my performance, and having written a textbook, I have been through many of the struggles that accompany this process. Perhaps the main difference in completing my PsyD, was being outside of my comfort zone in terms of academic writing and research. I found my supervisor's feedback to be insightful, constructive, and encouraging, and this helped me improve what I had written without feeling downhearted. What I found more difficult was having to rewrite material I had spent a long time thinking through and crafting. My normal practice at work is to double check what I have written and be content with it being 80% or "good enough". However, it is the extra 20% improvement that takes a disproportionate amount of time and effort. Although I consider myself to be quite detailed and analytical, completing the PsyD has pushed me to operate at an even higher level of scrutiny and rigour than I was used to.

Other key attributes I have applied and extended throughout this process are perseverance, mental focus and organisation. It is rare in my job role to focus on a specific project for more than six months, but the PsyD has occupied my time on and off for over four years (including prior to starting formally). Much of it I completed outside of work, during weekends, evenings and holiday periods. Sometimes it was a joy and other times it was a strain. The most enjoyable parts were when I made progress: my thoughts flowed, I made insightful connections, and I was excited by the results. The most difficult times were when I became stuck, muddled by countless journals, spending hours rewriting a single paragraph, or unable to find the correct commands on SPSS. Over the PsyD years, I have developed techniques, partly through Emotional Intelligence, that have helped improve my mental focus, tenacity and planning. For instance, I notice that my ability to think clearly and write fluently is much improved when I slow down my breathing, focus my attention, detach myself from others, do not impose any time restrictions on myself, and find a conducive environment.

## 5. Service Evaluation

Preparing options for my service evaluation helped me to think more widely about the implications, limitations and unanswered questions of EI and the EIP instrument. Some of the studies I considered were:

- Given that academics prefer the more precise ability measure and practitioners prefer the mixed model measures, what are the criteria used by each group for their choice of EI instrument?
- In my experience, practitioners usually use the same EI instrument for assessment and development applications. In this scenario, what considerations are made to differentiate how they are applied?
- Following on from my Research Aim 1, I was interested to explore to what extent organisations consider the ethical aspects of EI test use.
- A couple of recent meta-analytic papers have demonstrated that EI is developable (Hodzic, Scharfen, Ripoll, Holling, & Zenasni 2017; Mattingly & Kraiger, 2019). I wanted to examine how EI/EIP scores may change pre and post development intervention and compare this to a trait measure of personality.

In terms of my overall thesis I was keen to maintain a clear flow between the three stages (literature review, research project and service evaluation) that demonstrated a progression along the theme of “what is the added value of an attitude-based measure of EI?”. This began with my literature review which identified the relative differences and merits of an attitude-based model of EI over ability and mixed/trait approaches. Followed by my research project which tested four research aims using an attitude-based framework of EI (the EIP). The third phase was my service evaluation, in which I decided to examine how well an attitude-based measure of EI (the EIP) held up in practice as a measure of performance in the workplace. As a service evaluation it was perhaps not the most exciting or novel piece of research, but it did address one of the primary questions posed by users of psychometrics: “Does the instrument predict performance?” I also wanted to give it an angle beyond a pure criterion-related study that had relevance to the broader field of EI. For this I chose to highlight the limitations of current performance-related EI studies and the need for

greater specificity by differentiating between performance criteria and between facets of EI. Overall, I found the process more straightforward than the previous two stages of my research, having learned to be more structured in my planning, specific in my objectives, and confident in my skills of research, analysis and report writing.

If I was to continue my research into a fourth phase I would like to draw direct comparisons within the same samples between the EIP and other measures of mixed/trait EI. This may include comparing their incremental validity in predicting performance, their relative mapping onto to the recently developed periodic table of personality (Woods & Anderson, 2016), intercorrelations between scale facets on different instruments and their factor structures, and differences pre and post developmental training/coaching interventions. These studies would move beyond conceptual differences between EIP and other instruments identified in my four research aims, to demonstrate whether these differences make a real impact on performance in the workplace. It would also help identify areas of commonality between EI measures and underlying consistencies in the theme of mixed/trait EI.

## 6. Reflections

I am fortunate to work in a company of occupational psychologists and to be part of the research and development team. This has given me the opportunity to seek advice from experts in their fields as well as from my two PsyD supervisors, which has enabled me to work independently as a distance learning student, with occasional need to communicate with fellow PsyD students for mutual support. Generally, I found myself to be on track in keeping to the timelines and I completed my annual submissions to the required standard. I broadly followed an annual process, completing my literature review in year 1, my research project in year 2, and the service evaluation and critical appraisal in year 3. Within each year I submitted my plan, delivered several drafts for my supervisors to review, attended regular supervisor meetings, and completed the end of year review with an assessor, which I found to be a helpful and reassuring process.

I benefited greatly from ensuring that my research was aligned with the expectations of my employer, who allowed me time to conduct the research and gave me access to their clients for the collection of my data. My employer (also my sponsor) was keen that I disseminated my research, which I did at the DOP conferences in 2017, 2018 and 2019. It was essential that I maintained a good working relationship with individuals in the organisation to gain their cooperation at the early stages of my research. For example, I needed to persuade the IT team to incorporate some specific changes to the online administration of the existing questionnaire and reporting system that would accommodate the requirements of my project.

Before starting my PsyD I considered myself a relative expert in Emotional Intelligence, so I had modest expectations as to what I would learn about EI. However, the literature review challenged many of my assumptions, forced me to be more objective in my observations, and gave me greater clarity on how the EIP model differs from other approaches to EI. This led to some unexpected revelations that helped form my research aims. I also learned a lot in areas where I lacked expertise, such as reviewing academic literature, organising data, using SPSS, and academic writing.

As a part-time student, I completed my PsyD while continuing as a practitioner. At first, I drew boundaries between my job role and my academic research, but over time the two became more integrated and the crossover in learning more apparent. For example: I now use SPSS more frequently to support my research projects at work; I am more interested in the literature review and methodology sections of papers when attending conferences and reading journals; and I source stronger evidence-based references when producing materials for consultancy and training courses. Also, as a line manager my PsyD has enhanced my ability to support others in their work, such as: helping colleagues to think through both sides of an argument before making a presentation to their client; providing colleagues with specific papers and evidence-based research to support their work; and encouraging trainee occupational psychologists to think and write more critically in preparing for Chartership. My PsyD research has also provided several tangible benefits to my employer. For instance, my thesis has provided a further level of rigour in demonstrating the theoretical principles, unique features and psychometric properties of the EIP instrument, which have been incorporated within the technical manual, recently submitted to the BPS for review.

As well as there being transferable benefits from academia to my job role, there are also some tensions. Being the author of the instrument used in my thesis and an employee of the organisation that distributes it, brings potential conflicts of interest. Maintaining impartiality in my review, analysis and writing required a change of mindset. Inevitably, in my job role and as the author of the EIP, I have vested interest in extolling the virtues of the instrument rather than highlighting its limitations. In my literature review, I consciously aimed to be impartial and objective, but for my first draft I received feedback that I may have over-extended my critique of EI without giving due balance to the positives.

Another piece of salient advice I received on my literature review was: "Aim to tell the reader a story." After reading many journals, I observed that the academic writers were objective but not necessarily impartial; they had a story and argument they wished to present. I was fascinated by one paper, "Does leadership need emotional intelligence" (Antonakis, Ashkanasy, & Dasborough, 2009) that presented correspondence between three eminent academics, debating their very opposing

views on EI. Just like practitioners, academic papers often present the case that promotes their perspective. Discovering this was an important turning point for me, as it gave me greater confidence and freedom to formulate my research aims and assert my opinions. No doubt there was a degree of unconscious-bias in my interpretation of papers and presentation of findings, but I endeavoured to present evidence from both sides of the debate, justify my research aims, disclose all salient findings, and highlight the limitations of my research.

The PsyD process has taught me that the academic-practitioner divide is not a binary separation but a continuum. There are those who operate at the extremes, and may be critical and dismissive of the other, but I think this is driven by misunderstandings and fear. Having a foot in both camps has helped me to feel more confident with academic material and to support my work colleagues in doing the same. I would recommend the PsyD to other practitioners as it has helped me bridge a divide between academia and practice which is prevalent in the field of occupational psychology, as highlighted by the divergent opinions on Emotional Intelligence.

I am pleased to have neared the end of the PsyD process but will miss having the focus, discipline and mental stimulation this has given me. It is not quite time to recycle my journals, as I continue my research into the EIP model. Most recently I presented a paper at the DOP conference (Maddocks & Noble, 2019) which I am in the process of submitting, along with my PsyD research, to peer reviewed journals. As mentioned previously, one of the challenges I recognised early into my literature review was that my initial objectives may need refinement in light of what I learned later on. This is particularly the case with doctoral research where the research spans several years; the researcher may be a relative novice at the time they submit their original proposal, and over the years the field they are researching may be developing rapidly. Having gone through this process I now feel better positioned to formulate a coherent publication strategy. I anticipate that this will be pitched at second tier journals with an initial publication to demonstrate the unique value and psychometric properties of the EIP before using it to demonstrate other benefits to the wider field on EI.

Over the last 25 years I have taken a largely applied approach to EI with one eye on the theoretical literature. Completing my PsyD gave me a far better understanding on how this had been paralleled from an academic perspective, starting with exaggerated claims about EI in the late 1990's, conflict and criticism in the early 2000's, to a more balance, realistic and evidence-based approach in the last decade, not dissimilar to the forming, storming and norming stages of any new relationship. EI has not just been of interest to psychologists but has influenced society, politics, corporate and educational life. The concept has been at the forefront of a fundamental shift in the western world, where psychological well-being, resilience, mental-health, mindfulness and other EI-related concepts have become mainstream applications. Having the advantage of specialising in EI throughout this period has given me a wider context and understanding of EI that helped frame my PsyD research.

As discussed in the introduction, there were two reasons why I pursued an interest in EI back in 1995: one was a desire to make personal change and development more sustainable, and the second was my frustration with personality inventories. My PsyD has helped with both of these concerns. First, my research into automaticity has helped explain how EI may become embedded and sustainable through the formation of habits and attitudes. Second, my review of the literature reassured me that personality inventories and EI measures are more complementary than antagonistic. It is interesting to note the recent movement within personality research towards the malleability of traits more in keeping with the notion of EI being developable and trainable (Roberts et al., 2017). My PsyD has also led me to continue my research interests in this area. Following on from my service evaluation, I looked at the incremental validity of the EIP over the Big Five personality factors in predicting job performance. I also completed the first mapping of an EI instrument to the periodic table of personality (Woods & Anderson, 2016), indicating that EIP covers some of the affective and social aspects of personality more thoroughly than ten established personality inventories, reaffirming the complementarity between EI and personality. My expectation for the future is that there will be an ever-closer merging of trait EI within personality theory. EI facets will be organised within broad standardised frameworks of personality that distinguish the emotional, social and developable

aspects of personality, with more granularity than the pervading Big Five model. Moreover, that EI may be accommodated more easily within such models given the movement away from the intransigent view that personality traits are non-developable.

Completing the critical appraisal has been a valuable, thought-provoking and timely activity. I turned 50 this year and the business I co-founded 25 years ago was acquired. Reflecting on the past 25 years I can see a clear pattern of personal endeavour that led me to embark upon my PsyD. On the one hand, continuous striving for self-development has provided me with a sense of purpose, achievement and well-being, and on the other hand I recognise an unconscious drive to over-compensate for self-perceived inadequacies. Completing a PsyD has supported me with both endeavours; it has given me greater confidence in my ability to question and persevere with intellectually demanding tasks, but also, I hope, the wisdom to be more accepting and compassionate towards myself and others.

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## Appendices

### Part 2: Research Project

#### Appendix A: Demographic information

DEMOGRAPHIC VARIABLE	DETAILS
<b>Occupational sector</b>	The most represented occupational sectors in the sample were: Other (23%), Health and Social Care (16%) and Professional Services (13%). The remaining population demonstrated a spread across eight other sectors including; Admin, Financial Services, Human Resources, Retail, Sales, Self Employed, Student, and Technology.
<b>Occupational level</b>	5% of the sample were Directors, 9% were Senior Managers, 24% were Middle Managers, 14% were Supervisors, 3% were Graduate Trainees and 33% were Non-Managers. The remainder of the sample chose not to disclose their occupational level.
<b>Gender</b>	42% of the group were male and 58% were female.
<b>Age</b>	The age range of this sample was 16 to 50+ years. The most represented age ranges in the sample were: 30 to 39 (31%), 50+ (30%) and 40 to 49 (24%). The remaining 15% of the sample identified with the age groups 16 to 19 and 20 to 29.
<b>Country of nationality</b>	92% of this group were from the UK. Within the remaining 8%, there were 47 countries represented, with none exceeding more than 1% of the sample.
<b>Ethnic background</b>	84% of the sample identified themselves as White British, 7% as other White backgrounds (White Irish and Other) and the remaining sample identified as either Asian or British Asian (Indian, Bangladeshi, Pakistani or Other), Black or Black British (African, Caribbean or Other), Chinese or Other and of mixed origin (e.g. White and Asian).
<b>Educational level</b>	53% of the population had high-level qualifications (Bachelor's degree (36%), Master's degree (15%) and Doctorate level (2%)). 16% of the population had qualifications at HNC or HND levels and 28% held school-level qualifications. The remainder of the population had no formal educational qualifications or chose not to disclose them.

## Appendix B: The EIP scale definitions

### Attitude Scales

**Self Regard** is the degree to which you accept and value yourself.

**Regard for Others** is the degree to which you accept and value others as people.

### Awareness scales

**Self Awareness** is the degree to which you are in touch with your body, feelings, and intuition.

**Awareness of Others** is the degree to which you are in touch with the feelings of others.

**Reflective Learning** is the extent to which you reflect on what you and others feel, think and do and alter your behaviour accordingly.

### Behaviour: Self Management scales

**Emotional Resilience** is the degree to which you are able to pick yourself up and bounce back when things go badly for you.

**Personal Power** is the degree to which you believe that you are in charge of and take responsibility for your outcomes.

**Goal Directedness** is the degree to which your behaviour is related to your own long-term goals.

**Flexibility** is the degree to which you feel free to adapt your thinking and your behaviour to match changing situations.

**Authenticity** is the degree to which you invite the trust of others by being principled, reliable, consistent and known.

**Balanced Outlook** is how well you manage to balance optimism and realism.  
(Pessimistic, Realistically Optimistic, Over Optimistic)

### Behaviour: Relationship Management scales

**Connecting with Others** is the extent and ease with which you are able to make significant connections with other people.

**Trust** is your tendency to trust others but to the right degree.  
(Mistrusting, Carefully Trusting, Over Trusting)

**\*Emotional Expression and Control** is how well you balance emotional expression with emotional control.  
(Under Controlled, Free and in Charge, Over Controlled)

**\*Conflict Handling** is how well you handle conflict or how assertive you are.  
(Passive, Assertive, Aggressive)

**\*Interdependence** is how well you manage to balance taking yourself and taking others into account.  
(Dependent, Independent, Over Independent)

\*These three scales have close conceptual relevance to both Self Management and Relationship Management.

### Appendix C: Internal consistency of EIP (N=1,502)

	SCALE	NUMBER OF ITEMS	MEAN	SD	r	SEm (STENS)	
<b>Attitude</b>	Self Regard	7	21.41	5.77	<b>.86</b>	0.76	
	Regard for Others	7	23.93	4.34	<b>.77</b>	0.97	
<b>Awareness</b>	Self Awareness	8	28.28	4.50	<b>.75</b>	1.00	
	Awareness of Others	7	25.79	4.45	<b>.80</b>	0.89	
	Reflective Learning	7	24.34	4.49	<b>.82</b>	0.84	
<b>Self Management</b>	Emotional Resilience	7	23.26	5.19	<b>.83</b>	0.82	
	Personal Power	7	24.13	4.70	<b>.80</b>	0.88	
	Goal Directedness	8	28.94	5.07	<b>.84</b>	0.80	
	Flexibility	7	22.51	4.91	<b>.84</b>	0.81	
	Authenticity	8	28.14	4.54	<b>.72</b>	1.06	
	Balanced Outlook		0.00	1.43	<b>.87</b>	0.72	
	Pessimistic	5	14.10	4.18	<b>.80</b>	0.90	
	Realistically Optimistic	5	18.84	3.31	<b>.85</b>	0.77	
	Over Optimistic	6	17.04	3.74	<b>.71</b>	1.08	
	<b>Relationship Management</b>	Connecting with Others	7	23.06	5.47	<b>.85</b>	0.76
		Trust		0.00	1.19	<b>.80</b>	0.89
	Mistrusting	5	15.52	4.09	<b>.83</b>	0.82	
	Carefully Trusting	5	17.56	3.41	<b>.83</b>	0.82	
	Over Trusting	6	18.37	3.91	<b>.71</b>	1.07	
	Emotional Expression and Control		0.00	1.55	<b>.87</b>	0.72	
	Under Controlled	5	13.54	4.06	<b>.80</b>	0.88	
	Free and in Charge	5	17.13	3.29	<b>.77</b>	0.95	
	Over Controlled	5	15.48	4.29	<b>.84</b>	0.80	
	Conflict Handling		0.00	1.30	<b>.80</b>	0.89	
	Passive	5	15.68	3.71	<b>.76</b>	0.98	
	Assertive	5	18.54	2.94	<b>.77</b>	0.96	
	Aggressive	5	12.46	4.18	<b>.82</b>	0.85	
	Interdependence		0.00	1.47	<b>.83</b>	0.83	
	Dependent	5	14.39	3.59	<b>.74</b>	1.03	
	Interdependent	6	22.11	3.24	<b>.72</b>	0.99	
	Over Independent	5	15.57	3.70	<b>.76</b>	0.99	
	Median (linear and composite-scales)				<b>.83</b>	0.84	

Median (linear and sub-scales)	<b>.80</b>	0.89
Minimum / Maximum (all scales/sub-scales)	<b>.71 /</b> <b>.87</b>	0.72 / 1.08

## Appendix D: Forced six-factor solution for linear scales

### Total variance explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
<b>1</b>	4.819	43.812	43.812	4.490	40.815	40.815	2.993
<b>2</b>	1.881	17.098	60.910	1.560	14.183	54.998	2.561
<b>3</b>	0.913	8.299	69.210	0.592	5.381	60.379	2.694
<b>4</b>	0.724	6.584	75.794	0.357	3.246	63.624	3.101
<b>5</b>	0.531	4.830	80.624	0.182	1.657	65.282	2.760
<b>6</b>	0.463	4.211	84.835	0.135	1.224	66.506	1.404

Extraction Method: Principal Axis Factoring.

### Pattern Matrix

	1	2	3	4	5	6
Authenticity	<b>.791</b>					
Self Regard	<b>.764</b>					
Emotional Resilience	<b>.540</b>				.506	
Personal Power	<b>.408</b>					
Regard for Others		<b>.836</b>				
Awareness of Others		<b>.680</b>				
Self Awareness			<b>.901</b>			
Reflective Learning			<b>.544</b>			
Goal Directedness				<b>.889</b>		
Flexibility	.307				<b>.640</b>	
Connecting with Others		.343				<b>.378</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 10 iterations.

## Appendix E: Forced six-factor solution for linear and sub-scales; factor contributions

### Total variance explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
<b>1</b>	9.300	35.771	35.771	8.937	34.372	34.372	7.476
<b>2</b>	3.478	13.376	49.146	3.113	11.974	46.346	6.371
<b>3</b>	2.136	8.216	57.363	1.810	6.961	53.306	5.835
<b>4</b>	1.627	6.256	63.619	1.277	4.912	58.218	2.500
<b>5</b>	1.288	4.953	68.572	0.944	3.630	61.849	1.777
<b>6</b>	0.835	3.211	71.783	0.464	1.783	63.632	1.107

Extraction Method: Principal Axis Factoring.

### Pattern Matrix

	1	2	3	4	5	6
Self Regard	<b>.936</b>					
Emotional Resilience	<b>.809</b>					
Dependent	<b>-.671</b>			-.334		
Pessimistic	<b>-.666</b>		-.316			
Authenticity	<b>.663</b>					
Under Controlled	<b>-.636</b>				.421	
Personal Power	<b>.595</b>					
Realistically Optimistic	<b>.545</b>	.345				
Goal Directedness	<b>.541</b>	.441				
Flexibility	<b>.317</b>					
Awareness of Others		<b>.821</b>			-.331	
Reflective Learning		<b>.805</b>				
Assertive		<b>.634</b>				
Interdependent		<b>.620</b>				
Self Awareness		<b>.604</b>				.586
Free and in Charge	.367	<b>.597</b>				
Connecting with Others		<b>.491</b>	.414			
Regard for Others		<b>.424</b>			-.412	

Mistrusting			<b>-0.819</b>			
Over Independent			<b>-0.732</b>			
Over Controlled			<b>-0.430</b>			-0.416
Over Trusting				<b>0.781</b>		
Overly Optimistic			.	<b>0.585</b>		
Carefully Trusting			0.415	<b>-0.551</b>		
Passive	-0.309		-0.346	<b>0.411</b>	-0.366	
Aggressive					<b>0.833</b>	

Rotation Method: Promax with Kaiser Normalization. Rotation converged in 11 iterations

## Appendix F: Forced six-factor solution for linear and composite scales

### Total variance explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
<b>1</b>	7.730	48.314	48.314	7.414	46.337	46.337	5.808
<b>2</b>	1.921	12.009	60.323	1.587	9.916	56.253	4.569
<b>3</b>	1.050	6.561	66.884	0.670	4.188	60.441	4.245
<b>4</b>	0.797	4.979	71.863	0.423	2.643	63.085	4.146
<b>5</b>	0.652	4.075	75.937	0.332	2.075	65.160	5.696
<b>6</b>	0.527	3.294	79.231	0.245	1.529	66.688	1.942

Extraction Method: Principal Axis Factoring.

### Pattern Matrix

	1	2	3	4	5	6
Authenticity	<b>.885</b>					
Self Regard	<b>.667</b>					
Balanced Outlook	<b>.591</b>					
Conflict Handling	<b>.432</b>				.353	
Emotional Expression & Control	<b>.430</b>					
Goal Directedness	<b>.387</b>	.368				.363
Reflective Learning		<b>.845</b>				
Awareness of Others		<b>.749</b>				
Self Awareness	.304	<b>.740</b>				
Trust			<b>.780</b>			
Regard for Others		.357	<b>.553</b>			
Emotional Resilience	.366			<b>.765</b>		
Flexibility				<b>.344</b>	.333	
Interdependence					<b>.886</b>	
Connecting with Others		.323			<b>.337</b>	
Personal Power	.447					<b>.473</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 13 iterations.

## Appendix G: Split opportunity sample A (N=487)

### Appendix G1: Two-factor solution for the linear scales (split opportunity sample A)

	Pattern Matrix	
	1 Intrapersonal	2 Interpersonal
Self Regard	<b>.942</b>	
Emotional Resilience	<b>.780</b>	
Personal Power	<b>.766</b>	
Authenticity	<b>.718</b>	
Goal Directedness	<b>.591</b>	
Flexibility	<b>.576</b>	
Awareness of Others		<b>.822</b>
Reflective Learning		<b>.795</b>
Connecting with Others		<b>.558</b>
Regard for Others		<b>.551</b>
Self Awareness		<b>.533</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 3 iterations.

### Appendix G2: Four-factor solution for the sub-scales (split opportunity sample A)

	Pattern Matrix			
	1 Optimal	2 Towards	3 Away	4 Against
Free and in Charge	<b>.846</b>			-
Assertive	<b>.813</b>			
Realistically Optimistic	<b>.782</b>			
Interdependent	<b>.772</b>			
Passive		<b>.835</b>		-.376
Dependent		<b>.740</b>		
Overly Optimistic		<b>.661</b>		
Over Trusting		<b>.654</b>	-.453	
Over Controlled		<b>.414</b>	.393	
Pessimistic		<b>.359</b>	.358	
Mistrusting			<b>.955</b>	
Carefully Trusting		.333	<b>-.669</b>	
Over Independent			<b>.494</b>	
Aggressive				<b>.711</b>
Under Controlled		.433		<b>.571</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 7 iterations.

**Appendix G3: Three-factor solution for the linear and composite  
EIP scales (split opportunity sample A)**

	Pattern Matrix		
	1 Intrapersonal	2 Awareness	3 Interpersonal
Self Regard	<b>.978</b>		
Balanced Outlook	<b>.809</b>		
Emotional Resilience	<b>.805</b>		
Personal Power	<b>.801</b>		
Authenticity	<b>.778</b>		
Emotional Expression & Control	<b>.677</b>		
Interdependence	<b>.658</b>		
Conflict Handling	<b>.639</b>		
Goal Directedness	<b>.598</b>	.398	
Flexibility	<b>.579</b>		
Trust	<b>.467</b>		.353
Reflective Learning		<b>.785</b>	
Self Awareness		<b>.700</b>	-
Awareness of Others		<b>.501</b>	.476
Connecting with Others		<b>.329</b>	.325
Regard for Others			<b>.737</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 7 iterations.

## Appendix H: Split opportunity sample B (N=490)

### Appendix H1: Forced two-factor solution for the linear scales (split opportunity sample B)

	Pattern Matrix	
	1 Intrapersonal	2 Interpersonal
Self Regard	<b>.961</b>	
Emotional Resilience	<b>.771</b>	
Personal Power	<b>.711</b>	
Authenticity	<b>.650</b>	
Flexibility	<b>.578</b>	
Goal Directedness	<b>.505</b>	
Awareness of Others		<b>.865</b>
Reflective Learning		<b>.808</b>
Self Awareness		<b>.674</b>
Connecting with Others		<b>.534</b>
Regard for Others		<b>.520</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 3 iterations

### Appendix H2: Four-factor solution for the sub-scales (split opportunity Sample B)

	Pattern Matrix			
	1 Towards	2 Optimal	3 Away	4 Against
Passive	<b>.880</b>			
Over Trusting	<b>.736</b>			
Dependent	<b>.688</b>			
Overly Optimistic	<b>.597</b>			
Under Controlled	<b>.486</b>			.478
Pessimistic	<b>.439</b>		.406	
Interdependent		<b>.819</b>		
Free and in Charge		<b>.779</b>		
Assertive		<b>.755</b>		
Realistically Optimistic		<b>.751</b>		
Mistrusting			<b>.914</b>	
Carefully Trusting	.419		<b>-.633</b>	
Over Independent			<b>.510</b>	
Over Controlled	.344		<b>.380</b>	
Aggressive				<b>.710</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 9 iterations

**Appendix H3: Three-factor solution for the linear and composite EIP scales (split opportunity Sample B)**

	Pattern Matrix		
	1	2	3
Self Regard	<b>.998</b>	-.334	.134
Emotional Resilience	<b>.778</b>		
Balanced Outlook	<b>.759</b>		
Personal Power	<b>.750</b>	.222	-.055
Authenticity	<b>.739</b>		
Emotional Expression & Control	<b>.668</b>		
Interdependence	<b>.661</b>		
Conflict Handling	<b>.594</b>		
Flexibility	<b>.573</b>		
Goal Directedness	<b>.510</b>	.500	-.311
Reflective Learning		<b>.889</b>	
Self Awareness		<b>.735</b>	
Awareness of Others		<b>.695</b>	.336
Connecting with Others		<b>.422</b>	
Regard for Others			<b>.827</b>
Trust	.383		<b>.415</b>

Rotation Method: Promax with Kaiser Normalization

Rotation converged in 5 iterations.

**Appendix I: Interpersonal regression analysis (all Interpersonal scales) with Regard for Others and Awareness for Others predicting Behaviour**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.551 <sup>a</sup>	.304	.303	.83476595	.304	654.028	1	1500	.000
2	.627 <sup>b</sup>	.394	.392	.77948965	.090	111.142	2	1498	.000

a. Predictors: Regard for Others

b. Predictors: Regard for Others Total + Reflective Learning + Awareness of Others

**Appendix J: Combined regression analysis for Attitude scales and Awareness scales predicting linear and composite Behaviour scales**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.798 <sup>a</sup>	.636	.636	.60361868	.636	1310.301	2	1499	.000
2	.856 <sup>b</sup>	.733	.732	.51797482	.096	179.894	3	1496	.000

a. Predictors: Regard for Others + Self Regard

b. Predictors: Regard for Others + Self Regard + Reflective Learning + Self Awareness + Awareness of Others

## Appendix K: Conceptual relationship between EIP and HDS

HDS Themes*	EIP sub-optimal scales
Excitable: Moody and hard to please; intense but short-lived enthusiasm for people, projects, or things.	Pessimistic, Over Optimistic (Rebound between both)
Skeptical: Cynical, distrustful, and doubting others' true intentions.	Mistrusting
Cautious: Reluctant to take risks for fear of being rejected or negatively evaluated.	Over Independent
Reserved: Aloof, detached, and uncommunicative; lacking interest in or awareness of the feelings of others.	Emotionally Over Controlled
Leisurely: Independent; ignoring people's requests and becoming irritated or argumentative if they persist.	Aggressive + Over Independent
Bold: Unusually self-confident; feelings of grandiosity and entitlement; over- evaluation of one's capabilities.	
Mischievous: Enjoying risk-taking and testing the limits; needing excitement; manipulative, deceitful, cunning, and exploitative.	
Colorful: Expressive, animated, and dramatic; wanting to be noticed and needing to be the center of attention.	Emotionally Under Controlled
Imaginative: Acting and thinking in creative and sometimes odd or unusual ways.	Over Optimistic
Diligent: Meticulous, precise, and perfectionistic; inflexible about rules and procedures; critical of others' performance.	
Dutiful: Eager to please and reliant on others for support and guidance; reluctant to take independent action or go against popular opinion.	Dependent

\*From Hogan & Hogan (2001).

**Appendix L: Intercorrelations between the 16 EIP linear and composite scales**

SCALE	SR	RFO	SA	AOO	ER	PP	GD	FL	CWO	AU	RL	TR	BO	EEC	CH	IN
<b>Self Regard (SR)</b>																
Regard for Others (RFO)	.23															
Self Awareness (SA)	.29	.39														
Awareness of Others (AOO)	.09	<b>.58</b>	.48													
Emotional Resilience (ER)	<b>.62</b>	.22	.12	.14												
Personal Power (PP)	<b>.53</b>	.16	.28	.13	.44											
Goal Directedness (GD)	<b>.52</b>	.24	.34	.25	.41	<b>.61</b>										
Flexibility (FL)	.37	.29	.20	.24	.49	.33	.31									
Connecting with Others (CWO)	.30	.42	.35	.45	.23	.29	.31	.35								
Authenticity (AU)	<b>.59</b>	.25	.32	.15	.47	.45	<b>.51</b>	.26	.22							
Reflective Learning (RL)	.08	.37	<b>.54</b>	.48	.11	.25	.37	.30	.30	.16						
Trust (TR)	.28	.46	.28	.28	.21	.33	.20	.28	.32	.28	.22					
Balanced Outlook (BO)	<b>.57</b>	.38	.37	.26	<b>.50</b>	<b>.56</b>	<b>.54</b>	.39	.28	<b>.52</b>	.29	.46				
Emotional Expr. & Cntrl. (EEC)	<b>.59</b>	.45	<b>.50</b>	.44	<b>.50</b>	.46	.47	.39	.41	.49	.38	.36	<b>.58</b>			
Conflict Handling (CH)	.43	.45	.40	.45	.41	.43	.48	.39	.38	.47	.38	.39	<b>.54</b>	<b>.63</b>		
Interdependence (IN)	<b>.51</b>	.42	.36	.37	.47	.48	.47	<b>.52</b>	<b>.51</b>	.45	.30	.42	<b>.54</b>	<b>.61</b>	<b>.63</b>	

## Appendix M: Ethical approval



UNIVERSITY OF  
**LEICESTER**

University Ethics Sub-Committee for Psychology

15/06/2016

**Ethics Reference:** 7158-jsm38-neuroscience,psychologyandbehaviour

TO:

Name of Researcher Applicant: Jolyon Maddocks

Department: Psychology

Research Project Title: Validation of the Emotional Intelligence Profile (EIP) 2.0

Dear Jolyon Maddocks,

**RE: Ethics review of Research Study application**

The University Ethics Sub-Committee for Psychology has reviewed and discussed the above application.

1. Ethical opinion

The Sub-Committee grants ethical approval to the above research project on the basis described in the application form and supporting documentation, subject to the conditions specified below.

2. Summary of ethics review discussion

The Committee noted the following issues:

We discussed at the ethics committee meeting on 15th June 2016. The only query concerned the researcher's dual role as company employee and postgraduate student. The latter is clear at the bottom of the consent letter. The other position should also be acknowledged in the same space, clarifying that they are separate roles.

3. General conditions of the ethical approval

The ethics approval is subject to the following general conditions being met prior to the start of the project:

As the Principal Investigator, you are expected to deliver the research project in accordance with the University's policies and procedures, which includes the University's Research Code of Conduct and the University's Research Ethics Policy.

If relevant, management permission or approval (gate keeper role) must be obtained from host organisation prior to the start of the study at the site concerned.

4. Reporting requirements after ethical approval

You are expected to notify the Sub-Committee about:

- Significant amendments to the project
- Serious breaches of the protocol
- Annual progress reports
- Notifying the end of the study

5. Use of application information

Details from your ethics application will be stored on the University Ethics Online System. With your permission, the Sub-Committee may wish to use parts of the application in an anonymised format for training or sharing best practice. Please let me know if you do not want the application details to be used in this manner.

Best wishes for the success of this research project.

Yours sincerely,

Prof. Panos Vostanis

Chair

## Appendix N: Participant consent form

# Validation of the EIP 2.0 questionnaire

### Participant consent statement

The information provided by you in this questionnaire will be used for research purposes. It will not be used in any manner which would allow identification of your individual responses, other than for the purpose of sending to you a copy of your emotional intelligence report

Anonymised research data will be archived at JCA Global, Chartered Occupational Psychologists. 17 Royal Crescent, Cheltenham. GL50 3DA and used for the purposes of normative data collection (comparison data).

If you wish to take part in this research study please tick here

Thank you very much for agreeing to participate in this survey.

### Line manager consent statement

The information provided by you in this questionnaire will be used for research purposes. It will not be used in any manner which would allow identification of your individual responses.

Anonymised research data will be archived at JCA Global, Chartered Occupational Psychologists. 17 Royal Crescent, Cheltenham. GL50 3DA and used for the purposes of normative data collection (comparison data).

If you wish to take part in this research study please tick here

Thank you very much for agreeing to participate in this survey.

Not included:

Anonymised research data will be archived at JCA Global, Chartered Occupational Psychologists. 17 Royal Crescent, Cheltenham. GL50 3DA in order to make them available to other researchers in line with current data sharing practices.

## **Appendix O: Participant information sheet**

### **Research project: Validation study on the EIP (2.0) questionnaire**

You are being invited to take part in a research project to validate a revised version of the Emotional Intelligence Profile questionnaire; EIP (2.0).

Before you decide on whether to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully before you decide whether or not you wish to take part. You are welcome to discuss this project with others if you wish before you make your decision.

Please ask us (Jo Maddocks. email; [j3m38@leicester.ac.uk](mailto:jm38@leicester.ac.uk)) if there is anything that is not clear or if you would like more information."

### **Purpose of the research**

The Emotional Intelligence Profile (EIP) was originally created in 1998 as a tool for measuring individual emotional intelligence to support personal development.

In 2015 a revised version of EIP was produced (EIP 2.0) with the aim of improving the validity (accuracy and relevance) of the instrument. In order to test the validity of EIP 2.0 we will be comparing it against other well established questionnaires, by asking you to complete both sets of questionnaires.

We will also be examining whether EIP 2.0 correlates with workplace behaviours by asking your line manager to rate you against a set of behaviour descriptors.

This research study is being conducted as part of a Doctoral dissertation at the University of Leicester.

### **If you choose to take part**

It is up to you to decide whether or not to take part. If you do decide to take part please tick the consent form at the start of the questionnaire. You can still withdraw at any time and do not have to give a reason. It will not be made known to your organisation or your line manager whether you do or do not complete the questionnaire.

### **What you are being invited to do**

If you decide to participate you will be asked to complete a single questionnaire that consists of the following parts

- The EIP 2.0 questions
- Personality questions
- Competency questions (These are about your behaviour at work. Your line manager will also be invited complete to these questions on you.)

The three parts are completed online as one questionnaire and take approximately 90 minutes to complete. The final date for completion of the questionnaire is .....

The questionnaire will be sent to you by email with the following subject title:  
FROM: Questionnaire

SUBJECT: JCA Questionnaire

## **What do you gain from participating?**

In return for your participation you will receive the following benefits:

1. A personalised report on your emotional intelligence that explains how to use your strengths and improve your development areas.
2. Access to a downloadable document on how to develop emotional intelligence.
3. A dedicated support line number should you need any help in completing the pilot questionnaire.
4. Self-reflection and self-development from the process of completing the online questions.

## **Confidentiality and how your responses will be used**

All data is kept confidential and used solely for the purposes of this research. Other than for the purpose of sending you a copy of your emotional intelligence report, responses and results will not be analysed on an individual basis.

The results of the research will be written up as part of a doctoral dissertation and incorporated within a technical manual for EIP 2.0. If a sufficient number of participants complete the questionnaire in your organisation then a summary of these results will be presented to your organisation. These documents will not show data or results from individual participants.

Thank you for reading this information document. If you would like to know more or discuss anything in confidence please contact me directly on...

Jo Maddocks.

University of Leicester. Postgraduate Research Student.

Email; [jsm38@leicester.ac.uk](mailto:jsm38@leicester.ac.uk)

Jo Maddocks also has the job role of Director of Research and Development at JCA Global

## Appendix P: Permission to contact JCA clients



I provide permission for Jolyon Maddocks of Leicester University to conduct the research outlined below (Validation of the EIP 2.0 questionnaire) with our organisational clients on behalf of JCA Global.

Signed: 

Name: DAN HUGHES

Date: 16 / 6 / 2016

Job Title: Director of JCA Global

## Appendix Part 3: Service Evaluation

### Appendix A: Participant consent form

## Validation of the EIP 2.0 questionnaire

### Participant consent statement

The information provided by you in this questionnaire will be used for research purposes. It will not be used in any manner which would allow identification of your individual responses, other than for the purpose of sending to you a copy of your emotional intelligence report

Anonymised research data will be archived at JCA Global, Chartered Occupational Psychologists. 17 Royal Crescent, Cheltenham. GL50 3DA and used for the purposes of normative data collection (comparison data).

If you wish to take part in this research study please tick here

Thank you very much for agreeing to participate in this survey.

### Line manager consent statement

The information provided by you in this questionnaire will be used for research purposes. It will not be used in any manner which would allow identification of your individual responses.

Anonymised research data will be archived at JCA Global, Chartered Occupational Psychologists. 17 Royal Crescent, Cheltenham. GL50 3DA and used for the purposes of normative data collection (comparison data).

If you wish to take part in this research study please tick here

Thank you very much for agreeing to participate in this survey.

Anonymised research data will be archived at JCA Global, Chartered Occupational Psychologists. 17 Royal Crescent, Cheltenham. GL50 3DA in order to make them available to other researchers in line with current data sharing practices.

## **Appendix B: Participant information sheet**

### **Research project: Validation study on the EIP (2.0) questionnaire**

You are being invited to take part in a research project to validate a revised version of the Emotional Intelligence Profile questionnaire; EIP (2.0).

Before you decide on whether to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully before you decide whether or not you wish to take part. You are welcome to discuss this project with others if you wish before you make your decision.

Please ask us (Jo Maddocks. email; [jsm38@leicester.ac.uk](mailto:jsm38@leicester.ac.uk)) if there is anything that is not clear or if you would like more information."

### **Purpose of the research**

The Emotional Intelligence Profile (EIP) was originally created in 1998 as a tool for measuring individual emotional intelligence to support personal development.

In 2015 a revised version of EIP was produced (EIP 2.0) with the aim of improving the validity (accuracy and relevance) of the instrument. In order to test the validity of EIP 2.0 we will be comparing it against other well established questionnaires, by asking you to complete both sets of questionnaires.

We will also be examining whether EIP 2.0 correlates with workplace behaviours by asking your line manager to rate you against a set of behaviour descriptors.

This research study is being conducted as part of a Doctoral dissertation at the University of Leicester.

### **If you choose to take part**

It is up to you to decide whether or not to take part. If you do decide to take part please tick the consent form at the start of the questionnaire. You can still withdraw at any time and do not have to give a reason. It will not be made known to your organisation or your line manager whether you do or do not complete the questionnaire.

### **What you are being invited to do**

If you decide to participate you will be asked to complete a single questionnaire that consists of the following parts

- The EIP 2.0 questions
- Personality questions
- Competency questions (These are about your behaviour at work. Your line manager will also be invited complete to these questions on you.)

The three parts are completed online as one questionnaire and take approximately 90 minutes to complete. The final date for completion of the questionnaire is .....

The questionnaire will be sent to you by email with the following subject title:

FROM: Questionnaire  
SUBJECT: JCA Questionnaire

## **What do you gain from participating?**

In return for your participation you will receive the following benefits:

5. A personalised report on your emotional intelligence that explains how to use your strengths and improve your development areas.
6. Access to a downloadable document on how to develop emotional intelligence.
7. A dedicated support line number should you need any help in completing the pilot questionnaire.
8. Self-reflection and self-development from the process of completing the online questions.

## **Confidentiality and how your responses will be used**

All data is kept confidential and used solely for the purposes of this research. Other than for the purpose of sending you a copy of your emotional intelligence report, responses and results will not be analysed on an individual basis.

The results of the research will be written up as part of a doctoral dissertation and incorporated within a technical manual for EIP 2.0. If a sufficient number of participants complete the questionnaire in your organisation then a summary of these results will be presented to your organisation. These documents will not show data or results from individual participants.

Thank you for reading this information document. If you would like to know more or discuss anything in confidence please contact me directly on...

Jo Maddocks.

University of Leicester. Postgraduate Research Student.

Email; [jsm38@leicester.ac.uk](mailto:jsm38@leicester.ac.uk)

Jo Maddocks also has the job role of Director of Research and Development at JCA Global

## Appendix C: EIP scale definitions

### Attitude Scales

**Self Regard** is the degree to which you accept and value yourself.

**Regard for Others** is the degree to which you accept and value others as people.

### Awareness scales

**Self Awareness** is the degree to which you are in touch with your body, feelings, and intuition.

**Awareness of Others** is the degree to which you are in touch with the feelings of others.

**Reflective Learning** is the extent to which you reflect on what you and others feel, think and do and alter your behaviour accordingly.

### Behaviour: Self Management scales

**Emotional Resilience** is the degree to which you are able to pick yourself up and bounce back when things go badly for you.

**Personal Power** is the degree to which you believe that you are in charge of and take responsibility for your outcomes.

**Goal Directedness** is the degree to which your behaviour is related to your own long-term goals.

**Flexibility** is the degree to which you feel free to adapt your thinking and your behaviour to match changing situations.

**Authenticity** is the degree to which you invite the trust of others by being principled, reliable, consistent and known.

**Balanced Outlook** is how well you manage to balance optimism and realism.  
(Pessimistic, Realistically Optimistic, Over Optimistic)

### Behaviour: Relationship Management scales

**Connecting with Others** is the extent and ease with which you are able to make significant connections with other people.

**Trust** is your tendency to place the right amount of trust in others.  
(Mistrusting, Carefully Trusting, Over Trusting)

**\*Emotional Expression and Control** is how well you balance emotional expression with emotional control.  
(Under Controlled, Free and in Charge, Over Controlled)

**\*Conflict Handling** is how well you handle conflict or how assertive you are.  
(Passive, Assertive, Aggressive)

**\*Interdependence** is how well you manage to balance taking yourself and taking others into account.  
(Dependent, Independent, Over Independent)

\*These three scales have close conceptual relevance to both Self Management and Relationship Management.

## Appendix D: A six-factor solution for 32 work related competencies

### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.928
Bartlett's Test of Sphericity	Approx. Chi-Square	4404.255
	df	496
	Sig.	.000

### Total Variance Explained: factor contributions, Eigenvalues > 1

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	12.861	40.191	40.191	12.439	38.873	38.873	10.249
2	2.381	7.44	47.631	1.964	6.137	45.01	9.389
3	1.739	5.433	53.064	1.314	4.105	49.115	7.363
4	1.418	4.431	57.496	1.003	3.133	52.248	8.269
5	1.212	3.787	61.283	0.792	2.476	54.724	3.989
6	1.117	3.491	64.774	0.678	2.118	56.842	0.779

Extraction Method: Principal Axis Factoring.

### Pattern Matrix<sup>a</sup>

	Factor					
	1	2	3	4	5	6
Showing resilience	.798					.405
Responding to change	.791					
Acting with initiative	.778					
Flexibility	.742					
Driving for success	.726					
Showing career ambition	.695					
Displaying commercial awareness	.556					
Creativity & innovation	.528					
Making decisions	.471					
Strategic & conceptual thinking	.452					
Delivering results	.418					
Analysing situations and making judgements		.936				
Researching and investigating		.821				
Following procedures and working with details		.772				
Solving problems		.696				
Organising and prioritising		.590				

Writing with impact		.405				
Learning agility		.394				
Valuing people			.893			
Behaving with integrity and authenticity			.734			
Connecting with people			.679		.343	
Team working			.675			
Upholding organisational values			.595			
Ensuring customer satisfaction			.402			
Directing and guiding				.775		
Coaching and developing others				.760		
Managing talent				.709		
Inspiring others				.500		
Building professional networks					.634	
Communicating and presenting					.393	
Influencing people					.317	
Managing conflict				.308		.461

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 17 iterations.

Highest factor loadings are shown in bold. Factor loadings below .3 are suppressed.

## Appendix E: A five-factor solution for 32 work related competencies

### Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	12.861	40.191	40.191	12.418	38.807	38.807	10.339
2	2.381	7.440	47.631	1.952	6.099	44.906	9.000
3	1.739	5.433	53.064	1.288	4.024	48.929	7.065
4	1.418	4.431	57.496	0.984	3.075	52.004	8.560
5	1.212	3.787	61.283	0.765	2.391	54.395	3.374

Extraction Method: Principal Axis Factoring.

### Pattern Matrix<sup>a</sup>

	Factor				
	1	2	3	4	5
Acting with initiative	.813				
Driving for success	.763				
Responding to change	.747				
Showing career ambition	.716				
Flexibility	.696				
Showing resilience	.635				
Creativity & innovation	.575				
Displaying commercial awareness	.556				
Strategic & conceptual thinking	.483				
Making decisions	.441			.330	
Delivering results	.432	.334			
Analysing situations and making judgements		.842			
Researching and investigating		.800			
Following procedures and working with details		.780			
Solving problems		.655			
Organising and prioritising		.619			
Learning agility		.415			
Writing with impact		.385			.301
Valuing people			.887		
Behaving with integrity and authenticity			.696		
Connecting with people			.675		.382
Team working			.635		
Upholding organisational values			.588		

Ensuring customer satisfaction			<b>.434</b>		
Directing and guiding				<b>.801</b>	
Coaching and developing others				<b>.708</b>	
Managing talent				<b>.687</b>	
Inspiring others				<b>.511</b>	
Managing conflict				<b>.404</b>	
Communicating and presenting					<b>.505</b>
Building professional networks					<b>.367</b>
Influencing people					<b>.312</b>

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Highest factor loadings are shown in bold. Factor loadings below .3 are suppressed.

## Appendix F: A four-factor solution for 32 work related competencies

### Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	12.861	40.191	40.191	12.389	38.717	38.717	10.312
2	2.381	7.440	47.631	1.938	6.055	44.772	9.079
3	1.739	5.433	53.064	1.260	3.938	48.710	7.370
4	1.418	4.431	57.496	0.959	2.997	51.707	8.811

Extraction Method: Principal Axis Factoring.

### Pattern Matrix<sup>a</sup>

	Factor			
	1	2	3	4
Acting with initiative	.785			
Responding to change	.742			
Showing career ambition	.739			
Flexibility	.711			
Driving for success	.626			
Displaying commercial awareness	.599			
Creativity & innovation	.599			
Showing resilience	.589			
Strategic & conceptual thinking	.538			
Building professional networks	.425			.337
Making decisions	.381			
Communicating and presenting	.319			
Following procedures and working with details		.845		
Analysing situations and making judgements		.728		
Organising and prioritising		.713		
Researching and investigating		.707		
Solving problems		.594		
Delivering results		.461		
Learning agility		.388		
Valuing people			.908	
Behaving with integrity and authenticity			.704	
Connecting with people			.650	
Team working			.645	

Upholding organisational values			<b>.598</b>	
Ensuring customer satisfaction			<b>.438</b>	
Directing and guiding				<b>.760</b>
Managing talent				<b>.703</b>
Coaching and developing others				<b>.675</b>
Inspiring others	<b>.304</b>			<b>.580</b>
Managing conflict				<b>.434</b>
Writing with impact		<b>.301</b>		<b>.392</b>
Influencing people	<b>.319</b>			<b>.329</b>

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Highest factor loadings are shown in bold. Factor loadings below .3 are suppressed.

## Appendix G: A three-factor solution for 32 work related competencies

### Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
<b>1</b>	12.861	40.191	40.191	12.356	38.611	38.611	10.848
<b>2</b>	2.381	7.440	47.631	1.911	5.973	44.584	8.611
<b>3</b>	1.739	5.433	53.064	1.248	3.899	48.483	9.398

Extraction Method: Principal Axis Factoring.

### Pattern Matrix<sup>a</sup>

	Factor		
	1	2	3
Acting with initiative	.806		
Showing career ambition	.756		
Responding to change	.734		
Displaying commercial awareness	.699		
Flexibility	.665		
Showing resilience	.636		
Strategic & conceptual thinking	.635		
Building professional networks	.597		
Inspiring others	.581		
Creativity & innovation	.533		
Making decisions	.532		
Driving for success	.522		
Influencing people	.462	.372	
Communicating and presenting	.399		
Writing with impact	.342		.321
Directing and guiding	.322		
Managing conflict	.305		
Valuing people		.948	
Team working		.777	
Behaving with integrity and authenticity		.712	
Upholding organisational values		.661	
Connecting with people		.660	
Coaching and developing others		.525	
Ensuring customer satisfaction		.425	
Managing talent	.366	.411	

Following procedures and working with details			<b>.873</b>
Analysing situations and making judgements			<b>.755</b>
Organising and prioritising			<b>.739</b>
Researching and investigating			<b>.736</b>
Solving problems			<b>.621</b>
Delivering results			<b>.471</b>
Learning agility			<b>.389</b>

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Highest factor loadings are shown in bold. Factor loadings below .3 are suppressed.

## Appendix H: EIP correlations with job performance factors (weighted n=229)

	F1 Striving & adapting	F2 analysing & executing	F3 collaborating & supporting	F4 leading & influencing
Self Regard	0.038	-0.074	0.009	0.016
Regard for Others	-0.045	-0.028	<b>.219**</b>	-0.016
Self Awareness	-0.068	-0.085	0.046	-0.083
Awareness of Others	-0.012	-0.059	<b>.227**</b>	0.044
Reflective Learning	-0.049	0.024	0.032	-0.068
Emotional Resilience	0.089	-0.051	-0.022	0.034
Personal Power	<b>.140*</b>	0.051	0.041	0.105
Goal Directedness	0.071	0.058	-0.024	0.046
Flexibility	0.128	-0.022	-0.037	0.025
Authenticity	0.030	0.054	0.058	<b>.141*</b>
Balanced Outlook	0.073	0.032	0.091	<b>.146*</b>
a- Pessimistic	-0.109	0.057	-0.085	-0.110
b- Realistically Optimistic	0.073	-0.009	0.075	<b>.130*</b>
c- Overly Optimistic	0.033	<b>-.147*</b>	-0.028	-0.053
Connecting with Others	-0.041	<b>-.202**</b>	0.053	-0.030
Trust_	-0.020	-0.047	0.051	0.052
a- Mistrusting	0.011	0.088	-0.064	0.030
b- Carefully Trusting	-0.013	-0.055	0.079	0.071
c- Over Trusting	0.006	-0.079	0.087	-0.012
Emotional Expression And Control	0.046	-0.009	0.088	0.063
a- Under Controlled	-0.041	-0.082	-0.059	-0.100
b- Free and in Charge	0.034	-0.022	0.064	0.027
c- Over Controlled	-0.029	0.056	-0.078	-0.039
Conflict Handling	0.049	0.016	0.099	<b>.155*</b>
a- Passive	<b>-.144*</b>	-0.030	0.055	<b>-.191**</b>
b- Assertive	-0.003	-0.066	0.031	0.073
c- Aggressive	0.040	-0.112	<b>-.232**</b>	-0.022

Interdependence	0.044	-0.059	-0.010	0.066
a- Dependent	0.065	0.073	0.103	-0.016
b- Interdependent	0.092	0.001	-0.005	0.092
c- Over Independent	-0.019	0.087	-0.074	-0.004

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Shaded cells indicate where significant correlations were found for the unit weighted results shown in Table 5

**Appendix I: EIP correlations with job performance factors (Listwise deletion n= 300)**

	F1 Striving & adapting	F2 analysing & executing	F3 collaborating & supporting	F4 leading & influencing
Self Regard	0.019	-0.085	-0.037	0.018
Regard for Others	-0.037	-0.040	<b>.168**</b>	0.010
Self Awareness	-0.031	-0.055	0.036	-0.039
Awareness of Others	0.009	-0.044	<b>.198**</b>	0.084
Reflective Learning	-0.029	-0.006	0.020	-0.021
Emotional Resilience	0.069	-0.054	-0.051	0.013
Personal Power	<b>.165**</b>	0.055	0.020	0.101
Goal Directedness	0.029	0.022	-0.075	-0.008
Flexibility	<b>.139*</b>	0.016	-0.030	0.027
Authenticity	0.012	0.017	0.006	0.093
Balanced Outlook	0.084	0.054	0.064	0.103
a- Pessimistic	<b>-.151**</b>	0.012	-0.095	<b>-.114*</b>
b- Realistically Optimistic	0.049	0.002	0.012	0.062
c- Overly Optimistic	0.004	<b>-.135*</b>	-0.055	-0.051
Connecting with Others	0.000	<b>-.179**</b>	0.026	-0.002
Trust	-0.004	-0.049	0.043	0.050
a- Mistrusting	-0.024	0.055	-0.079	-0.022
b- Carefully Trusting	-0.020	-0.070	0.022	0.025
c- Over Trusting	-0.003	-0.068	0.021	-0.038
Emotional Expression And Control_	0.074	0.004	0.097	0.100
a- Under Controlled	-0.073	-0.085	-0.093	-0.106
b- Free and in Charge	0.030	-0.030	0.058	0.038
c- Over Controlled	-0.090	0.006	-0.085	<b>-.120*</b>
Conflict Handling_	0.075	0.022	0.102	<b>.143*</b>
a- Passive	<b>-.154**</b>	-0.030	0.033	<b>-.174**</b>
b- Assertive	0.026	-0.042	0.029	0.062
c- Aggressive	0.035	-0.089	<b>-.229**</b>	-0.041

Interdependence	0.037	-0.063	-0.051	0.020
a- Dependent	0.056	0.056	0.107	0.011
b- Interdependent	0.072	-0.014	-0.053	0.027
c- Over Independent	-0.024	0.091	-0.055	-0.016

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Shaded cells indicate where significant correlations were found for the pairwise deletion results shown in Table 5

**Appendix J: EIP correlations with overall EI-related job performance (combining Factors 1,3,4 from Table 4)**

	Overall EI Performance		
Self Regard	0.007	Connecting with Others	0.012
Regard for Others	0.074	Trust	0.061
Self Awareness	-0.004	a- Mistrusting	-0.068
Awareness of Others	<b>.127*</b>	b- Carefully Trusting	-0.034
Reflective Learning	-0.007	c- Over Trusting	-0.005
Emotional Resilience	0.014	Emotional Expression And Control_	<b>.118*</b>
Personal Power	<b>.124*</b>	a- Under Controlled	<b>-.117*</b>
Goal Directedness	0.008	b- Free and in Charge	0.059
Flexibility	0.053	c- Over Controlled	<b>-.121*</b>
Authenticity	0.050	Conflict Handling_	<b>.138*</b>
Balanced Outlook	0.108	a- Passive	-0.103
a- Pessimistic	<b>-.145*</b>	b- Assertive	0.108
b- Realistically Optimistic	0.045	c- Aggressive	0.035
c- Overly Optimistic	-0.049	Interdependence	0.010
		a- Dependent	0.065
		b- Interdependent	0.021
		c- Over Independent	-0.051

**Appendix K: Regression analysis of the correlated EIP scales onto the four performance factors**

**Factor 1 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.315 <sup>a</sup>	0.099	0.073	0.52691

**Factor 2 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.202 <sup>a</sup>	0.041	0.036	0.61235

**Factor 3 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.287 <sup>a</sup>	0.082	0.053	0.56978

**Factor 4 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.190 <sup>a</sup>	0.036	0.011	0.59859

### Appendix L: Number of Important or Very Important ratings by experts\*

Predictor variables	Factor 1 (Striving & Adapting) 12 comp's	Factor 2 (Analysing & Executing) 7 comp's	Factor 3 (Collaborating & Supporting) 6 comp's	Factor 4 (Leading & Influencing) 7 comp's
<b>EIP scales</b>				
Self Regard				
Regard for Others			<b>6</b>	
Self Awareness				
Awareness of Others			<b>4</b>	
Reflective Learning				
Emotional Resilience	<b>6</b>			
Personal Power	<b>10</b>		0	3
Goal Directedness				
Flexibility	<b>7</b>			
Authenticity				
Balanced Outlook	<b>7</b>		0	3
Connecting with Others		0		
Trust	1		<b>4</b>	
Emotional Expression & Control	3		<b>4</b>	<b>6</b>
Conflict Handling	2	0	<b>3</b>	<b>5</b>
Interdependence	5		<b>3</b>	

\*The table shows the number of competencies rated as Important or Very Important for correlated EIP scales within each factor (based on a panel of ten experts with 50% or more agreement). For example, Emotional Resilience was rated by half or more experts as Important or Very Important for six competencies in Factor 1. Results are highlighted in bold where scales are rates as Important or Very Important for half or more than half of the competencies in that performance factor.