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# **Quiet Flourishing:**

## **Exploring Beliefs about Introversion-Extraversion, and Identifying Pathways to Optimal Well-Being in Trait Introverts**

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## ABSTRACT

Introversion-extraversion is a fundamental, socially consequential personality trait. Introverts are typically described as “quiet”, “reserved”, and “withdrawn”, and contemporary theories and models of personality traits regard introversion as merely a *lack* of extraversion. Introverts generally have lower levels of well-being than their extraverted counterparts and this has typically been attributed to direct effects of temperament, whereby extraverts are more dispositionally inclined to engage positively with the world. However, some recent evidence suggests that, in individualistic Western cultures that value personal agency and expressiveness, the positive relationship between trait extraversion and well-being might be due in part to extraverts experiencing better person–environment fit; a view that is also reflected in popular literature. However, it remains unclear how living in these cultures might specifically impact the well-being of introverts in terms of their identity, happiness, and psychosocial functioning. A narrative literature review revealed that there is scant research on the well-being implications for introverts of their apparent lack of person–environment fit in Western cultures, and whether there are possibilities for volitional change in their well-being. Consequently, this PhD thesis investigates this identified gap via two complementary studies; using a self-report survey among an Australian adult sample. Study One ( $N = 399$ ) explores lay beliefs about the character strengths and weaknesses of introverts and extraverts. In light of individualistic Western values, this novel descriptive-exploratory approach finds support for a cultural preference for extraversion. In this cultural context, Study Two ( $N = 349$ ) uses a moderated mediation model to test a hypothesised alternative, eudaimonic pathway to well-being for trait introverts—via authenticity as a mediator but moderated by participants’ beliefs about

their own “actual” versus “ideal” levels of introversion-extraversion. Overall, this thesis unearths new evaluative-based perspectives on how introverts are perceived and characterised in a cultural context where extraversion is the ideal, and in this context also finds evidence to suggest that beyond direct effects of personality traits there might be an indirect, conditional pathway to well-being for introverts who are comfortable with their own level of introversion. Aside from providing new insights into the identity and lived experience of introverts in contemporary Western culture, this thesis signposts some relevant, promising, and practical constructs for use in future investigation of relations between trait introversion and well-being, using models and measures that embrace contemporary approaches in personality and positive psychology. Moreover, it does so among a population where very little in this line of research has been conducted.

## DECLARATION

This thesis comprises only my own original work towards the degree of Doctor of Philosophy, except where indicated in the Preface.

Due acknowledgement has been made in the text of this thesis to all other material used.

This thesis is fewer than the maximum word limit in length, exclusive of tables and figures, References lists, and Appendices.

## PREFACE

The first drafts of Chapters One, Two, Four, and Six in this thesis were written by me. Subsequent edits, including those made in response to reviews of each of these chapters by my supervisors, were also performed by me.

Empirical Chapters Three and Five in this thesis (both presented in article format; refer publication status below) were carried out in collaboration with my principal supervisor Professor Dianne Vella-Brodrick and my co-supervisor Dr. Gavin Slemm. I am the primary author of these two empirical chapters, as follows:

- The first drafts of these chapters were written by me, and I contributed more than 50% of their content.
- I was primarily responsible for the planning, execution, and (in the case of Chapter Five) preparation of the work for publication.
- Subsequent editing of these chapters, in response to my supervisors' and (in the case of Chapter Five) journal editors' reviews, was performed by me.

My supervisors provided advice and guidance as required on the planning, execution, and preparation of these two empirical chapters, including reviewing the format and content of the draft manuscripts, assisting with some statistical analyses, and (in the case of Chapter Five) assisting with navigating the publication process.

Accordingly, for empirical Chapters Three and Five, the required "Declaration for a thesis with publication" and "Co-author authorisation form" documents have been signed and submitted separately along with this thesis.

The publication status of empirical Chapters Three and Five, both presented in article format in this thesis (i.e., as Studies One and Two respectively), is as follows:

- Chapter Three (Study One) is unpublished material not submitted for publication.
- Chapter Five (Study Two) is an author accepted manuscript. This is a post-peer-review, pre-copyedit version of an article published in *Journal of Happiness Studies*. The final publication is available at link.springer.com:  
<https://link.springer.com/article/10.1007/s10902-018-0037-5>

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No virtue in this world is so oft rewarded as perseverance.

— Bobby Jones

Writing a PhD thesis is an enormous undertaking, requiring the investment of much time and effort as well as providing a unique opportunity to develop both personally and professionally. In my case at least it would not have been possible without the support of several key people who have been with me along the way, and whom I wish to gratefully acknowledge here.

First, I sincerely thank my two supervisors. Their energy and enthusiasm is inspiring, and their experience invaluable. My principal supervisor Professor Dianne Vella-Brodrick has been a constant source of encouragement and expertise since I first approached her with the beginnings of my topic idea a few years ago. Dianne has since provided countless insights on the process of getting from there to here, and I have really appreciated her focused and compassionate approach to overseeing my PhD. Dianne has managed to bring out the best in me as a graduate student; she always seemed to know when I needed a nudge in the right direction and when to leave me to my own devices. My co-supervisor Dr. Gavin Slemm has likewise been a constant source of encouragement and expertise. I have very much appreciated his ongoing interest in my topic, and I have really enjoyed our many stimulating discussions about psychology along the way. I thank Dianne and Gavin both very much for welcoming me so warmly and readily as a student into the Centre for Positive Psychology, and for providing such a balance of support and challenge throughout; I have learnt a lot from both of them and I feel very fortunate to have had them as my guides.

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My thanks also go to the leaders, along with all the staff and fellow graduate students, at the Centre for Positive Psychology (both past and present), who have contributed positively to my PhD experience by creating such a stimulating and friendly learning environment.

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# **1.0 CHAPTER ONE**

## **INTRODUCTION:**

### **1.1 BACKGROUND**

### **1.2 RATIONALE AND PROBLEM STATEMENT**

### **1.3 PURPOSE, RESEARCH QUESTIONS, AND AIMS**

### **1.4 RESEARCH PARADIGM**

### **1.5 OVERVIEW OF THESIS STRUCTURE**

## Introduction

This introductory chapter, as a precursor to the Literature Review and two empirical studies, orients the reader to the remainder of this thesis. **Section 1.1**, as background, provides a brief overview of some key literature on the personality construct of introversion-extraversion. This will cover core concepts, theory, and findings regarding introversion-extraversion's prominence as a trait, its description and evaluation, as well as implications for the person–environment fit, identity, and well-being of trait introverts living in contemporary Western cultures. Arising from this background information **Section 1.2** sets out a rationale for the thesis, including the presentation of a *problem statement* that summarises the status quo in the literature and highlights the need for further research on this topic. In light of this, **Section 1.3** then describes the overarching *purpose and aims* of the thesis and presents two primary *research questions* that will address its central argument. (Note: gaps in the extant literature, introduced in the preceding sections, will be integrated with specific research objectives at the conclusion of the Literature Review). **Section 1.4** briefly explains the research paradigm used as a basis for new knowledge claims in the thesis. Finally, **Section 1.5** outlines the thesis structure, explaining the sequencing and focus of its chapters.

### 1.1 Background

*Introversion-Extraversion* (I-E) is a fundamental, highly prominent trait dimension in personality psychology, and also in lay or popular theories of personality (Cain, 2012a; John, Naumann, & Soto, 2008; Watson & Clark, 1997; Wilt & Revelle, 2009; Zelenski, Sobocko, & Whelan, 2014). The notion of I-E as a defining feature of

human nature and individual differences has a long tradition in philosophy and psychological science; commencing with the early Graeco-Roman typologies and continuing to the present, where extant models and measures of I-E reflect a *trait*-based conception of personality that emphasise different components of the broad construct (e.g., sociability, dominance, or positive emotionality: McCrae & Costa, 1991; McCrae & John, 1992; Saucier & Goldberg, 2003). However, notwithstanding this lingering ambiguity about I-E's core meaning (Lucas, Diener, Grob, Suh, & Shao, 2000; Watson & Clark, 1997), prototypical English language markers of extraversion and introversion have been developed (John 1989, 1990). Based on these markers and other common descriptors, the typical “extravert”<sup>1</sup> is considered to be, inter alia, “outgoing”, “bold”, “assertive”, “active”, and “cheerful” (e.g., John, 1989, 1990; Watson & Clark, 1997; Wilt & Revelle, 2009). In contrast, the typical “introvert”<sup>2</sup> is considered to be, inter alia, “quiet”, “reserved”, “passive”, and “withdrawn” (e.g., Goldberg, 1993; John, 1989, 1990). Extraverts and introverts are, thus, conceptual opposites (Krueger & Markon, 2014).

Contemporary Western cultures in particular tend to value and emphasise the phenotypic characteristics of extraversion over introversion. *Social desirability* has been defined as “[REDACTED]” (Backstrom, Bjorklund, & Larsson, 2009, p. 335), and the favourable view of extraversion (versus introversion) in the West is very well documented (e.g., Anderson, John, Keltner, & Krings, 2001; Cain, 2012a; Funder, 2001; Furnham & Henderson, 1982; Hills & Argyle, 2001; Hudson & Roberts, 2014; Pavot, Diener, & Fujita, 1990; Smillie, 2013b; Sneed, McCrae, & Funder, 1998; Winter, John, Stewart, Klohnen, & Duncan, 1998). For

<sup>1,2</sup> In this thesis the terms “**introvert**” and “**extravert**” are *not* used as type nouns, but are instead a linguistic convenience for describing those individuals who score relatively lower or higher, respectively, on a continuous measure of Big Five/FFM trait Extraversion (i.e., in accordance with contemporary personality science, introversion and extraversion are construed here as the low or negative pole and the high or positive pole, respectively, of a bipolar, normally distributed, dimensional—rather than categorical—construct). Refer, for example, McCrae and Costa (1989) or Zelenski, Sobocko, and Whelan (2014).

example, findings among British and Canadian samples have shown that people asked to “fake good” in studies of socially desirable responding tend to present themselves as more extraverted (Bagby & Marshall, 2003; Dunnett, Koun, & Barber, 1981; Furnham & Henderson, 1982). Furthermore, recent suggestions have been made in the personality and clinical psychology literatures that appear to pathologise introversion to an extent. For example, it has been suggested that a more suitable label for low levels of extraversion might be “detachment” on the basis that introverts display less engagement with their social and material world (DeYoung, 2015; Krueger & Markon, 2014). It has also been argued that introversion might be placed somewhere along the autism spectrum (Grimes, 2010). These contemporary views reflect observations in much earlier literature that introversion tended to be associated with poor adjustment (e.g., Carrigan, 1960).

Findings showing the social desirability of extraversion, and negative sentiments about introversion, have also been reflected in recent popular writings. In particular, Susan Cain’s (2012a) book *Quiet: The Power of Introverts in a World that Can’t Stop Talking* has apparently resonated with a great many people: Cain’s book appeared on the New York Times best-seller list, and was also the subject of a highly viewed TED Talk (Cain, 2012b) as well as a Time magazine cover article (Walsh, 2012). In the book, Cain (2012a) explores her assertion, supported by some existing evidence, that there is a preference for extraversion prevailing in contemporary Western cultures that has a deleterious impact on introverts living in these societies. Cain’s culture-based argument is that introverts are diminished and stigmatised by the prevailing norms and expectations of the modern West, in ways that impede their happiness and squander their potential. While some researchers have been sceptical of Cain’s broad view of “introversion” (e.g., Smillie, 2015), the popularity of her work clearly demonstrates the

public interest in this topic. Indeed, as noted by Cain, often heard colloquialisms in Western society, such as “*She needs to come out of her shell*”; “*The squeaky wheel gets the oil*”; or “*He needs to get a personality*” reflect a negative lay perspective of introverts that tends to support her argument.

The latter saying in particular also illustrates an important point in the context of this thesis: Laypeople appear to equate “personality” with extraversion (Fayard, Clay, Valdez, & Howard, 2019; Smillie, Wilt, Kabbani, Garratt, & Revelle, 2015; Sneed et al., 1998), demonstrating the inordinate weight ascribed to this trait in terms of its perceived social relevance and consequence. For example, evidence from a study in the United States (U.S.) suggests that people believe extraverted attributes also represent the high or positive pole of each of the other four Big Five personality trait domains (Sneed et al., 1998). The social prominence of I-E is also reflected in scientific measurement of the personality trait space (Zelenski et al., 2014): Based on lexical studies of trait descriptors carried out mainly in the English language and/or in Western cultures (John et al., 2008; Saucier & Goldberg, 2001, 2003, Saucier & Srivastava, 2015), I-E is typically the preeminent dimension or factor of the influential Big Five/five-factor model (FFM) of personality (Goldberg, 1990; John et al., 2008; McCrae & John, 1992; Winter et al., 1998). I-E’s high representation in common language descriptive trait terms, as reflected in the Big Five, demonstrates its status as a fundamental, socially relevant and consequential indicator of human nature and individual differences (Goldberg, 1981, 1993; John et al., 2008; Saucier & Goldberg, 1996).

As represented by predominant models of personality such as the Big Five/FFM, most of the extant personality literature reflects a Euro-American or Western-centric view of what it means to be a person (Markus & Kitayama, 1998; McAdams, 1996b;

Sampson, 1989; Triandis, 1996). It has been suggested that individualism/collectivism might be a relevant and useful dimension linking culture and personality (Benet-Martinez & Oishi, 2008; Church, 2001). Importantly, the West tends to be more *individualistic* than the East (Allik & McCrae, 2004; Hofstede & McCrae, 2004; Markus & Kitayama, 1998; Miller, 1984; Singelis, Triandis, Bhawuk, & Gelfand, 1995). Evidence suggests that, at the national level, trait I-E is strongly related to differences in Hofstede's (1980, 2001) cultural value dimension of individualism/collectivism, such that higher extraversion correlates positively with individualism (Hofstede & McCrae, 2004; McCrae, 2001; McCrae et al., 2005). This is consistent with aforementioned findings among Western samples that show the social desirability of extraversion (versus introversion), and as argued in popular writings (e.g., Cain (2012a; Laney, 2002) the culture-based diminishment or stigmatisation of introversion in the modern West is therefore perhaps not surprising. As a hallmark of Western society (Markus & Kitayama, 1998), individualism is characterised by an emphasis on the self over others and encourages personal uniqueness and independence (Baumeister, 1997; Hofstede & McCrae, 2004; Markus & Kitayama, 1991, 1998; McCrae, 2004). Furthermore, contemporary society tends to impose high relationship and role demands on people (Harter, 2002; Pavot et al., 1990). Such environments are suited to extraverts' "██████████" (Winter et al., 1998, p. 237); a style that facilitates the autonomous, agentic pursuit and attainment of rewards that are often social in nature (e.g., status or positive relations; DeYoung, 2015). It has, thus, been suggested that in a modern Western context extraverts might enjoy greater *person–environment fit* than introverts (Pavot et al., 1990).

Importantly, a likely consequence of better person–environment fit for extraverts living in the West is the experience of greater *well-being* (Fulmer et al., 2010; Pavot et



it seems feasible that instrumental and experiential factors might play a more substantial role in relations between trait I-E and well-being if cultural norms, person–environment fit, and lived experience are considered, and a broader conception of well-being is adopted (see Diener, Oishi, & Lucas, 2003). Under such an approach the “██████████ ██████████” (Lucas & Diener, 2008, p. 808) could become important considerations, above and beyond the direct effects of temperament. As a case in point, Fulmer et al.’s (2010) large-scale finding that positive relations between extraversion and happiness and self-esteem were amplified by culture provides an important example of the need to consider indirect and conditional pathways in addition to direct effects. Moreover, Fulmer et al. asserted that the moderating effect of such a “██████████” (p. 1563) has possible implications for people living in or migrating to those cultures. Given that their study specifically examined trait I-E as a predictor of well-being outcomes, this presumably might well include implications for introverts living in the West. However, there is a dearth of theory and research regarding the role of indirect and conditional effects on relations between trait I-E and well-being (Diener et al., 2003; Gale, Booth, Mottus, Kuh, & Deary, 2013; Kampfe & Mitte, 2010). Hence, this thesis will adopt a *nuanced* perspective on relations between trait I-E and well-being that goes beyond direct effects to consider indirect and conditional effects as an alternative pathway to well-being; specifically, by focussing on people embedded in culture.

When viewed through a cultural lens of social desirability and person–environment fit, the fact that introverts typically report being less happy than extraverts makes intuitive sense. People are generally motivated to belong (Baumeister & Leary, 1995), and people conform to cultural norms largely to enhance their fit with other members of their society (Cialdini & Trost, 1998). It therefore seems plausible that

introverts living in Western cultures might experience ongoing pressure to conform, or even stigma, due to a lack of consistency between such an important part of their personality and the prevailing norms and expectations of their sociocultural environment (see Cain, 2012a; Davidson, Gillies, & Pelletier, 2015; Zelenski et al., 2014). Over time this relative lack of person–environment fit could have adverse effects on introverts’ well-being—this is a critical point in the context of this thesis. Extraverts, on the other hand, are likely to be comfortable in terms of person–environment fit and experience higher well-being (see Fulmer et al., 2010; Wood, Gosling, & Potter, 2007).

As stated, much of the research on relations between I-E and well-being has only considered a hedonic conception of well-being that emphasises pleasure and satisfaction. This type of happiness is highly valued in Western cultures, and particularly in the U.S. (Joshanloo & Weijers, 2014). Beyond hedonic notions, however, many contemporary models and measures of well-being also include eudaimonic concepts such as fulfilment, actualisation of human potential, and expression of virtue (Norris & Vella-Brodrick, 2008; Ryan & Deci, 2001; Ryff & Keyes, 1995; Seligman, 2002, 2011; Waterman, 1993). Some researchers have suggested that hedonic and eudaimonic conceptions of well-being may overlap, and have more similarities than differences between them (Kashdan, Biswas-Diener, & King, 2008). However, while there is not yet a consensus on this issue, hedonia and eudaimonia do appear to form—across both Eastern and Western cultures—separate components of a higher-level well-being construct (e.g., Biaobin, Xue, & Lin, 2004; Linley, Maltby, Wood, Osborne, & Hurling, 2009), and both conceptions appear to be important for achieving optimal well-being or “flourishing” (Keyes, 2002, 2005; Vella-Brodrick, Park, & Peterson, 2009).

This distinction between hedonia and eudaimonia is relevant and important in the context of this thesis, for two related reasons. First, anecdotal evidence suggests that, from a layperson perspective, eudaimonic notions like meaning and personal growth may be of more importance to introverts than are hedonic feelings of pleasure and arousal (e.g., Zelenski et al., 2014). It must be noted, however, that while not yet as extensive as the findings on extraversion and hedonic well-being there is mounting (if perhaps mixed) evidence to suggest that extraverts do also report higher levels of eudaimonic well-being than introverts (e.g., psychological well-being: Anglim & Grant, 2016; Sun, Kaufman, & Smillie, 2018; and social well-being: Hill, Turiano, Mroczek, & Roberts, 2012). Moreover, even within the hedonic conception of well-being, it may be relevant to distinguish between high and low arousal positively valenced emotions (e.g., “enthusiasm” versus “contentment”), as introverts tend to endorse lower arousal emotions (Rusting & Larsen, 1995; Smillie, DeYoung, & Hall, 2015), but these are less frequently measured. These distinctions, therefore, suggest the need for using a broad conception of well-being when examining similarities and differences in flourishing among introverts and extraverts (see Seligman, 2011). Interestingly, in this vein a study in Great Britain of relations between I-E and happiness that used a broad measure of well-being (Oxford Happiness Inventory; Argyle, Martin, & Crossland, 1989) found a “██████████” (Hills & Argyle, 2001, p. 595) of introverted participants who self-reported as happy. Based on this finding Hills and Argyle (2001) asserted that “██████████” (p. 607). This is a critical point in the context of this thesis.

Second, using models and measures that embrace a broad conception of well-being might help to identify the aforementioned instrumental- and experiential-based effects as alternative pathways to flourishing for introverts, even if their basic

temperament does not necessarily lend itself readily to direct, hedonic experiences of pleasure and activated positive affect (see McCrae & Costa, 1991). The study by Hills and Argyle (2001) suggests that introverts living in Western cultures *can* be happy. In other words, even in individualistic cultures, beyond direct hedonic-based effects there might be indirect, conditional, eudaimonic-based pathways for introverts to achieve greater well-being (see Seligman, 2011). For these reasons, the models and measures of well-being to be examined in this thesis will reflect a broad conception that operationalises both hedonic and eudaimonic components.

The status quo in the extant literature regarding the positive evaluation of extraversion (versus introversion) in the West, and its possible link with the person–environment fit, identity, and well-being of introverts, is perhaps best expressed in the form of a ***problem statement***: *It remains unclear how living in individualistic Western cultures, that value and emphasise extraverted characteristics, might specifically impact the well-being of introverts in terms of their identity, happiness, and psychosocial functioning. There is scant research on the well-being implications for introverts of their apparent lack of person–environment fit in these cultures, and whether there are possibilities for volitional change.* (See also Lawn, Slemp, & Vella-Brodrick, 2019.)

This problem statement highlights a need for more research in a Western context that: 1) focuses on the identity and well-being of those people who are located toward the low, negative pole of the trait I-E continuum; 2) considers both hedonic and eudaimonic conceptions of well-being; and 3), accounts for indirect and conditional effects as alternative pathways to well-being (beyond direct effects). This represents an important *gap* in the personality, social, and positive psychology literature. I-E is a fundamental, normally distributed bipolar trait dimension whereby equal proportions of the general population are located toward either pole (e.g., McCrae & Costa, 1989;

Zelenski et al., 2014). Every person, thus, has an underlying tendency to be either more introverted or more extraverted to varying degrees. It seems untenable to suggest that a non-negligible portion of the Western population, based solely on their introverted tendencies, are destined to experience relatively low levels of well-being. Indeed, from an evolutionary perspective it has been suggested that *both* introversion and extraversion might serve some adaptive function and lead to positive outcomes (e.g., Nettle, 2005). Therefore, regardless of any cultural-level tendency for extraversion in Western nations (e.g., Allik & McCrae, 2004; McCrae, 2004; McCrae et al., 2005) there is merit in gaining a more nuanced understanding of pathways to greater well-being for *all* individuals living in these cultures, no matter where they are positioned along the trait I-E continuum.

The remainder of this section will, therefore, briefly introduce three constructs that will be used in this thesis to either: 1) examine hitherto unexplored lay perspectives on introverts and extraverts, in terms of how they are perceived and characterised; or 2) to empirically test some new, theoretically plausible outcomes regarding the identity and well-being of introverts living in the West.

First, *character* is an inherently evaluative notion (Fleeson, Furr, Jayawickreme, Meindl, & Helzer, 2014) that reflects cultural ideals (McGrath, 2015). Character strengths and weaknesses—based on the Values-In-Action Classification of Strengths and Virtues (VIA Classification; Peterson & Seligman, 2004) and their opposites or absence (e.g., Peterson & Seligman, 2004; Seligman, 2014)—will be explored in relation to how introverts and extraverts describe and evaluate themselves and each other. This is important because there is a relative dearth of research on the evaluative—versus descriptive—aspects of personality, but theory and findings in the personality literature suggest that an evaluative perspective can provide new insights on

the behavioural tendencies and layperson judgements and beliefs associated with different traits, and how they impact on people's self- and other-referent processes (Benet-Martinez & Waller, 2002).

Second, the advent of positive psychology in recent decades has revitalised theoretical interest in *authenticity*, and has encouraged an empirical focus regarding the makeup of the construct as well as its relations with personality and well-being (Wood, Linley, Maltby, Baliousis, & Joseph, 2008). Authenticity is a person-centred, eudaimonic construct that has long been theorised to encapsulate people's core identity and optimal functioning (Medlock, 2012; Smallenbroek, Zelenski, & Whelan, 2017): In the existential-humanistic tradition, authenticity—or being in touch with one's "true self" (Kernis & Goldman, 2006)—is considered to be the primary route to well-being (e.g., Maltby, Wood, Day, & Pinto, 2012; Medlock, 2012; Schlegel & Hicks, 2011; Wood et al., 2008). Moreover, a finding among a British sample showed that higher trait extraversion was associated with higher authenticity (Wood et al., 2008). These are both critical points in the context of this thesis.

Finally, a qualitative review of feedback from a U.S. sample of self-proclaimed introverted students about their experiences in extraverted learning environments captured several themes that reflected an adverse impact on their identity and functioning (Davidson et al., 2015). However, some of the introverts in Davidson et al.'s (2015) study reported that they felt relieved after viewing the popular TED Talks video by Susan Cain (2012b) that acknowledges the challenges, and endorses the virtues, of being introverted. This suggests the important possibility that *beliefs about the self*, specifically, beliefs about one's own relative level of trait I-E and the social desirability of introversion versus extraversion, might also be a determinant of experiencing and expressing authenticity, above and beyond one's actual dispositional

tendencies for either introversion or extraversion. This is a critical point in the context of this thesis, and it seems feasible given that personality traits play a substantial role in how people mentally represent themselves and others (Prentice, 1990), and the fact that I-E is such a fundamental, salient personality trait (Vazire, 2010; Winter et al., 1998) on which these beliefs could be formed. Indeed, evidence from a U.S. sample showed that most people want to be more extraverted (Hudson & Roberts, 2014). This thesis will argue that in a Western cultural context, introverts' desire to be more extraverted stems from their relative lack of person–environment fit in comparison to extraverts. Drawing on aspects of self-discrepancy theory (Higgins, 1987), it will be argued that in the West, trait I-E is a key personal attribute on which people might make inferences about their “actual” versus “ideal” selves. For introverts in particular, their ideal self is likely to be more extraverted due to their relative lack of person–environment fit; a discrepancy which this thesis will refer to as an *extraversion-deficit belief* (Lawn et al., 2019). Individual differences in these beliefs could have adverse or favourable consequences for people's authenticity, and hence their well-being (Lawn et al., 2019).

### **1.3 Purpose, Research Questions, and Aims**

In light of the issues introduced in the preceding sections, and as captured in particular by the problem statement presented in Section 1.2, it makes sense to extend the theory and sparse findings on the identity and well-being of introverts in the West. Indeed, in recent times some researchers in personality and positive psychology have advocated for a scientific investigation of this popular but largely unexplored topic. For example, the late Chris Peterson, in discussing Susan Cain's (2012a) book and the consequent need for scientific research that specifically considers an alternative, introverted perspective on living a good life, “[REDACTED]”



trait I-E and well-being. (The constructs chosen for this model, and the reasons for doing so, were briefly outlined in Section 1.2.) Prior to presenting and testing the model, character strengths and weaknesses will form the basis for an exploration of the descriptive and evaluative characterisation of introverts and extraverts. It is expected that this exploration will uncover new aspects of introverts' identity, and support the presumption of a cultural preference for extraversion in the West. Authenticity and extraversion-deficit beliefs will then form the basis for a subsequent model-based examination of direct and contingent, indirect relations between trait I-E and well-being; viewed through a lens of social desirability and person–environment fit (Lawn et al., 2019).

Second, in regard to the population of interest it was decided to conduct this research in a contemporary Western context other than the U.S. (where most of the existing research on personality and well-being has been done, and which was the focus of Susan Cain's (2012a) culture-based argument regarding the stigmatisation of introverts). *Australia* satisfies this criterion. Evidence suggests that, like the U.S., it is a relatively extraverted culture (McCrae et al., 2005), and a cross-cultural study of national character found that Australians perceive themselves to be an extraverted culture (Terracciano et al., 2005). Moreover, Australia also tends to value individualism (Church et al., 2006; Hofstede, 1980; Singelis et al., 1995; Triandis, 1995). However, it has also been suggested that Australia might differ from the U.S. in the specific type or pattern of individualism that prevails there (Singelis et al., 1995; Triandis, 1995). Very little research has been done in Australia on relations between I-E and well-being. Conducting this research using an Australian sample will add weight to the argument that it is individualistic Western cultures more generally, and not just the U.S., that value and emphasise extraversion over introversion. All these factors render Australia a

relevant and interesting, but also unique, population in which to conduct this investigation.

Third, it was decided to adopt an approach that reflects contemporary theories, models, and measures in the study of personality and well-being, and to extend these ideas to my research topic; trait introversion and its relations with character, identity, and well-being in the West. Modern personality science aims to combine both structural and process theories to gain a broad, integrative view of human nature and individual differences (McCrae, 2009). Accordingly, in this thesis, trait based (i.e., introversion-extraversion) as well as phenomenological-humanistic and social-cognitive based (i.e., authenticity and beliefs) individual difference constructs are combined in the examination of relations between I-E and well-being. Furthermore, as discussed, this thesis takes a modern view of well-being that encompasses both hedonic and eudaimonic components such as happiness, meaning, and growth (Vella-Brodrick et al., 2009). Adopting this contemporary approach to personality and well-being should help to uncover new relationships between introversion and well-being and also provide a generative basis for future research on this topic.

Finally, to ensure, for practical considerations, that the research in this thesis remains bounded it was decided that the chosen constructs, and proposed relations among them, must be able to be expressed and tested in the form of a succinct but meaningful model, and among a sample selected from a finitely defined but relevant population. Consequently, in this thesis a moderated mediation model will be specified and examined among an Australian sample. Moreover, given the nature and long-term developmental trajectory of many of the constructs being examined in this thesis (e.g., personality: Roberts & DelVecchio, 2000; character: Peterson & Park, 2009; authenticity: Davidson, Pollard, Sheldon, Peterson, & Seligman, 2004), it was decided

that participants would comprise an adult sample wherein these constructs are likely to be more fully developed.

Flowing directly from the stated purpose and decision criteria, this thesis will address two important, distinct but purportedly related issues regarding how introverts experience living in a contemporary Western cultural context, namely: 1) how they are perceived and characterised in terms of their personality and character; and 2) their levels of overall well-being (broadly construed). The *central argument* of this thesis is that in a Western context there is a relationship between the differential description and evaluation of people located toward either the low or high poles of trait I-E—as reflected in layperson judgements and beliefs—and their identity and well-being. This central argument will be pursued by presenting and investigating two primary *research questions*.

***Research question 1:*** *How do introverts and extraverts living in Australia describe and evaluate themselves and each other in regard to their personality and character, and in light of individualistic Western values does this reflect a cultural preference for extraversion (versus introversion)?* In terms of introverts' perceived and/or real lack of person–environment fit, and the implications for their identity and well-being, it is anticipated that answering this first research question will provide a justification for, and some useful context within which to interpret, the second research question. ***Research question 2:*** *If there is a cultural preference for extraversion in Australia what impact does this have on the well-being of introverts living there; and do authenticity, and beliefs about I-E, act as a mechanism and a boundary condition respectively that might help to explain or change this relationship?* (See also Lawn et al., 2019.)

By investigating these two primary research questions the overall *aims* of this thesis are to: 1) determine whether a cultural preference for extraversion exists in Australia; 2) explore how introverts (and extraverts) are perceived and characterised in this cultural context; and 3) identify indirect, conditional pathways between trait I-E and well-being in this cultural context, and whether these pathways might provide a means of volitional improvement in overall well-being for introverts. It is expected, therefore, that findings arising from this thesis will contribute to the literature by: 1) generating new insights into the identity and experience of introverts living in a contemporary Western culture; 2) providing researchers with a clear signpost to some relevant, promising, and practical constructs for use in future investigation of relations between trait I-E and well-being, using models and measures that embrace contemporary approaches in personality and positive psychology; and 3) doing so among a population where very little in this line of research has been conducted.

#### **1.4 Research Paradigm: My “Intellectual Lens” as a Basis for Knowledge Claims**

This section briefly outlines the philosophical position I take throughout this thesis. While it is difficult to do justice to this in just a few paragraphs, I consider it important to attempt to clarify upfront for the reader my stance on the nature of reality, truth, and knowledge; specifically as they apply to my investigation of the psychological phenomena of interest. Thus I will present my ontological and epistemological assumptions (i.e., my research paradigm) and explain how they guide my research approach. I will then expand upon and illustrate this via reference to the conceptualisation of personality traits that I adopt in this thesis; specifically regarding trait I-E, my primary construct of interest and the focal variable in my hypothesised

model. In doing so, I hope that the reader will gain an appreciation of the “intellectual lens” that I use as a basis for any new knowledge claims in this thesis.

I take a contemporary (*post*)*positivist* ontological and epistemological stance for my investigation of the psychological phenomena of interest in this thesis. The broad, flexible nature of the postpositivism paradigm has moved modern Western psychology beyond strict positivism over recent decades (“Postpositivism”, 2018). Thus, in regard to *ontology* I acknowledge the possibility of an objective reality or truth as it relates to the existence of psychological constructs and relations among them. However, I also take the view that reality or truth can be imbued with social and personal meaning via cultural norms, phenomenological experience, and social-cognitive processes.

Accordingly, my investigation will be conducted through this flexible ontological lens.

In regard to *epistemology* I acknowledge the scientific method as a useful, legitimate, and common way to investigate and understand reality, as a basis for making plausible knowledge claims. Hence, in addressing research question two I will rely on the conventional hypothetico-deductive method of inquiry, and quantitative analysis, to posit and test a path model of the proposed relations among my constructs of interest.

However, I also take the view that there are other ways apart from the hypothetico-deductive method to acquire knowledge about the world, and these alternative methods of inquiry can complement the more orthodox approach. Hence, to address research question one—as a precursor to positing and testing my model—I will employ an inductive method of inquiry to conduct a novel “descriptive-exploratory” study that is expected to provide a foundation for my second research question. (See, for example, the bottom-up and top-down “[REDACTED]” (Cattell, 1988, p. 17) of scientific inquiry. See also the importance of doing context-sensitive, non-hypothesis driven research in social psychology, and particularly social cognition,



where such alternative approaches to science have often been neglected; Rozin, 2001). Flowing from this research paradigm and methodology, the specific methods used to conduct these studies and investigate the two primary research questions are set out in detail in the appropriate empirical chapters (see Section 1.5 of this present chapter for an overview).

I adopt a “functionalist” perspective on personality traits in this thesis (see Saucier & Srivastava, 2015; Srivastava, 2010). A functionalist perspective is grounded in social perception and reflected in the “lexical hypothesis”, from which the Big Five emerged (John et al., 2008; Srivastava, 2010). According to Saucier and Srivastava (2015), a functionalist perspective represents a practical, productive middle ground between strong *realist* and strong *constructivist* positions as to what constitutes personality attributes and what they are for. A strong realist view of personality traits is reflected in five-factor theory (McCrae & Costa, 2008), whereby broad trait domains such as Extraversion are conceived as real entities; latent, endogenous, neurobiologically-based dispositions that exist within a person and ultimately account for behavioural tendencies and the self-concept (Saucier & Srivastava, 2015). In contrast, a strong constructivist view of personality traits, as reflected for example in socioanalytic theory (Hogan, 1983), would argue that realism just reifies lay perceivers’ judgements and stereotypes of a perceived target person. Thus, by a strong constructivist view, traits ought to be regarded as subjective, arbitrary constructs based on shared perceptions, with no objective essence (Saucier & Srivastava, 2015).

According to Saucier and Srivastava (2015), a (moderate) *functionalist* perspective takes the intermediate position that personality traits can correspond, at least in part, to intrinsic properties of a perceived target person *as well as* reflecting perceivers’ descriptive and evaluative conceptual representations of that target person in

context. In other words, in models of personality and person perception, along with any dispositional attributes within the target person, the *motives and beliefs* of the perceiver (where, importantly, the “perceiver” and the “perceived” can be *self or others*; Srivastava, 2010) and the *setting* in which perception occurs must also be taken into consideration (Beauvois & Dubois, 2000; Saucier & Srivastava, 2015). A functionalist perspective thereby implies that personality attributes, as reflected in language about human nature and individual differences, exist primarily for the purposes of perceivers (Saucier, 2010; Saucier & Srivastava, 2015; Srivastava, 2010). A particularly important purpose is to describe and evaluate people’s thoughts, feelings, and behaviour and make consequent judgements and decisions about their sociomoral worth or contribution (Beauvois & Dubois, 2000; Saucier & Srivastava, 2015) in a way that is reasonably grounded in dispositional individual differences (Srivastava, 2010) but is contingent upon sociocultural context (Mollaret, 2009).

A functionalist perspective on personality thus sits very well with the purpose and aims of this thesis, which investigates relations between trait I-E and well-being through a lens of the self and others embedded in a shared sociocultural context (e.g., Bronfenbrenner, 1977b). As mentioned, this will be achieved by integrating structural- (trait) and process-based (social-cognitive, phenomenological-humanistic) theories and research, thereby straddling the liminal space between personality psychology and social psychology (e.g., Pettigrew, 1997; Ryff, 1987; Srivastava, 2010; Swann & Seyle, 2005).

As stated succinctly by Little (1996): “ ” (p. 340).

Hence, by adopting a moderate functionalist perspective on trait I-E, it is expected that this thesis will capture and highlight elements of both *truth* (i.e., trait I-E as a *real*

neurobiological entity) as well as *meaning* (i.e., what people *believe*—shaped by their experience and sociocultural context—about trait I-E). Moreover, this perspective should provide a more nuanced view on the likely differential consequences for people’s identity and well-being of being located in different positions along the trait I-E continuum—specifically when living in a Western culture. It is anticipated that the new insights generated by this approach will, thus, provide a unique and worthwhile contribution to knowledge in personality, social, and positive psychology (see Revelle, 1995; Srivastava, 2010).

### **1.5 Overview of Thesis Structure**

As reflected in its title, this thesis will *explore beliefs* about introversion-extraversion and *identify pathways* to well-being in trait introverts. The structure of the thesis is as follows. Following on from this introductory chapter, *Chapter Two* reviews relevant literature in regard to each of the substantive constructs/variables that will be examined by this thesis, namely: trait I-E, hedonic and eudaimonic well-being, authenticity, and beliefs about the self and trait I-E. In addition, a section on character strengths (and weaknesses) is included as this will be particularly relevant to the exploration of how introverts are perceived and characterised, and their identity and person–environment fit. It is well beyond the nature and scope—as per the stated purpose and aims—of this thesis to review more than a fraction of the voluminous extant theory and findings on each of these constructs. Rather, in light of the discussion in earlier sections of the present chapter, the focus of Chapter Two is to review key literature that will provide the reader with an informed theoretical and empirical appreciation as to how each of these constructs, and the proposed relations among them, are relevant to the primary research questions. At the conclusion of the literature

review, to position this thesis within the field, a set of specific research objectives will be presented and integrated with gaps in the extant literature.

*Chapter Three*, presented in the form of an empirical paper for possible future publication, will address research question one. This first study sets out to determine how introverts and extraverts are perceived and characterised in Australia, and, in light of individualistic Western values, whether this reflects a cultural preference for extraversion (versus introversion). It will explore layperson beliefs about trait I-E's defining characteristics and social desirability, based on an analysis of differences between the ways in which introversion and extraversion are described and evaluated by our Australian sample. This will include an analysis of how laypeople attribute the VIA Classification character strengths, and their related weaknesses, to introverts and extraverts. While it examines beliefs about both introversion and extraversion, this descriptive-exploratory chapter will concentrate particularly on the personality and character of trait *introverts*. The expectation is that it will find evidence of a cultural preference for extraversion in Australia. Items from the researcher-designed questionnaire, upon which this first study was largely based, can be found in Appendix A.

*Chapter Four* links the first study with the second study. In light of the findings from Chapter Three, this bridging chapter provides the reader with an understanding of the proposed relationship between the description and evaluation of introverts and extraverts as reflected in layperson judgements and beliefs, and the implications of this for the person–environment fit, identity, and well-being (broadly construed) of trait introverts in Western cultures. It thus captures the central argument of this thesis, and in doing so establishes a conceptual bridge between the inductive, descriptive-exploratory focus of Chapter Three which addresses research question one (i.e.,

“exploring beliefs”), and the model-based, hypothetico-deductive inferential focus of Chapter Five which addresses research question two (i.e., “identifying pathways”) using the same sample.

*Chapter Five*, presented as a peer-reviewed, published empirical paper (Lawn et al., 2019), will address research question two. This second study will examine, among our Australian sample, a moderated mediation model of proposed relations between trait I-E and well-being. The model will be examined in two stages. First, it will investigate whether the relationship between trait I-E and authenticity is moderated by people’s beliefs about their own levels of I-E. It is expected that this will identify that extraversion-deficit beliefs act as a *boundary condition* on the positive relations between trait extraversion and authenticity. Second, the moderation model is extended to include flourishing as an outcome variable, whereby authenticity is proposed as an indirect *mechanism* via which trait extraversion might exert its positive effects on flourishing. Extraversion-deficit beliefs are again a proposed moderator; this time of the anticipated mediated relationship. It is expected that this will identify authenticity as a plausible enabling pathway to well-being—but conditional upon extraversion-deficit beliefs—for trait introverts living in a Western cultural context. All of the established measures for the substantive variables examined in this second study are described in detail in the Methods section of Chapter Five. Items from the researcher-designed questionnaire used in this second study can be found in Appendix B.

*Chapter Six*, the final chapter, comprises a general discussion and conclusion drawn from the overall thesis. Given that each of the empirical studies in substantive Chapters Three and Five include their own detailed discussion sections, this final chapter will focus on providing a summary and synthesis of the overall findings in

relation to the two primary research questions and the extant literature, and their broader implications in line with the stated purpose, aims, and expectations of this thesis.

Please note that this thesis is presented in accordance with the University of Melbourne guidelines for a “thesis with publication”: As such, empirical Chapters Three and Five take the form of either an unpublished paper in progress, or a published paper, respectively. This means that throughout the thesis there is some unavoidable duplication, because many of the key concepts, theories, findings, and core arguments presented in the Introduction, Literature Review, Bridging, and General Discussion and Conclusion chapters are also, by necessity, presented separately in each empirical paper. Moreover, any references cited in this Introduction chapter will appear in the overall Reference list for the thesis, along with all references cited in the Literature Review, Bridging, and General Discussion and Conclusion chapters. The two empirical chapters (Three and Five) are self-contained and thus have their own Reference lists.

## **2.0 CHAPTER TWO**

### **LITERATURE REVIEW:**

#### **2.1 INTROVERSION-EXTRAVERSION IN SCIENCE AND THE POPULAR MIND**

##### **2.1.1 Defining and Explaining Introversion-Extraversion: Historical to Contemporary Conceptions**

**in Philosophy and Science**

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**2.6 THE PRESENT RESEARCH PROJECT**

**2.6.1 Gaps in Current Knowledge, and Research Objectives**

## Literature Review

The following literature review establishes a theoretical and empirical justification, and a conceptual orientation, for this thesis. It elaborates, where necessary, on some core ideas and arguments that were introduced in Chapter One; straddling the domains of personality and social psychology, as well as positive psychology/well-being science. There is a plethora of extant literature on each of the personality and well-being constructs of interest and also, in some cases, the relations among them. Therefore, to ensure that the review is bounded and relevant to the stated purpose and aims of this thesis, my two primary research questions served as a guide to the structure and content of the review.

The present chapter consists of several distinct but interrelated sections and subsections. As it is my primary construct of interest in this thesis, and the focal variable in my hypothesised model, trait introversion-extraversion is reviewed first and in the most detail. Each of the other constructs, namely: hedonic and eudaimonic well-being, authenticity, beliefs about the self, and character strengths are then defined and reviewed in light of that first section and the introductory discussion in Chapter One. A central argument is thereby progressively built that summarises, synthesises, and critiques key extant literature and informs the reader as to how and why these constructs might be related to trait introversion-extraversion and to each other among the population of interest—and why this is important. At the conclusion of this review chapter—to situate this thesis within the field, provide a basis for the empirical research to be conducted, and elucidate its expected contribution to knowledge—gaps identified in the extant literature are integrated with a set of specific research objectives that flow

directly from my research questions. The concluding section of this review thereby encompasses the problem statement, purpose, and aims outlined in Chapter One.

## **2.1 Introversion-Extraversion in Science and the Popular Mind**

Introversion-Extraversion (I-E) is a basic feature of human nature and individual differences, important both in personality psychology and in lay conceptions or popular representations of personality (e.g., Cain, 2012a; John, Naumann, & Soto, 2008; Revelle, 1995; Watson & Clark, 1997; Wilt & Revelle, 2009; Zelenski, Sobocko, & Whelan, 2014). However, despite its 2,500-year history in the literature and its prominent place in almost every extant model and measure of personality traits (Watson & Clark, 1997; Winter, John, Stewart, Klohnen, & Duncan, 1998), I-E's real meaning remains equivocal (Block, 2010; McCrae & John, 1992). As various descriptive and explanatory conceptions and models have been proposed it has systematically evolved into a construct of substantial content breadth, leading to some lingering ambiguity regarding its core characteristics (Ashton, Lee, & Paunonen, 2002; Hills & Argyle, 2001; Lucas, Diener, Grob, Suh, & Shao, 2000; Lucas, Le, & Dyrenforth, 2008; McCrae & John, 1992; Saucier & Goldberg, 2003; Srivastava, 2010).

It is therefore important to briefly trace I-E's developmental trajectory in the literature as a foundation for understanding the nature of the construct, its current status in the social sciences and the popular mind, and, thus, its hypothesised relationships with well-being and the other key constructs to be investigated in this thesis.

### **2.1.1 Defining and Explaining Introversion-Extraversion: Historical to Contemporary Conceptions in Philosophy and Science**

The philosopher Theophrastus of Ancient Greece (ca. 371-287 BCE) proposed a very early typological model of personality “characters”, some of which (e.g., “chatty”, “boastful”) may be organised to resemble modern trait adjective groups used to describe I-E (Wilt & Revelle, 2009). The Greek physicians Hippocrates (ca. 460-370 BCE) and Galen (ca. 129-210 CE) developed another early typological model of “temperaments” based around the four “bodily humours”: *Melancholic* (anxious, reserved; depressive), *Phlegmatic* (passive, calm; stoic), *Sanguine* (carefree, sociable; cheerful), and *Choleric* (active, aggressive; volatile) (Eysenck, 1964; McAdams, 2000; Stelmack & Stalikas, 1991; Wilt & Revelle, 2009). In the 19th century these historic philosophical formulations were extended by the psychologist Wilhelm Wundt, who presented a bi-dimensional model of *Changeability* and *Excitability* (Wundt & Judd, 1897 as cited in Wilt & Revelle, 2009). Hans Eysenck reconceptualised these two basic orthogonal dimensions in the 20th century, such that Changeability became *Extraversion*, and Excitability become *Neuroticism* (Eysenck, 1964; Eysenck & Himmelweit, 1947 as cited in Wilt & Revelle, 2009). On the Extraversion axis of Eysenck’s two-factor model, melancholic and phlegmatic temperaments represent the *introverted* pole while sanguine and choleric temperaments represent the *extraverted* pole (Eysenck, 1964; McAdams, 2000; Stelmack & Stalikas, 1991).

Along with Eysenck, Carl Jung is the modern psychologist most often linked with the concept of I-E (McAdams, 2000; Wilt & Revelle, 2009). Jung (1921/1971) introduced the terms “introversion” and “extraversion” into popular use, conceptualising them as different psychological *types* (Jung as cited in Wilt & Revelle, 2009). Jung’s clinically-based perspective proposed that introverts and extraverts were distinguished by dominant tendencies or “attitudes” for an *inward* (subjective, private) versus *outward* (objective, public) orientation of “psychic energy”, respectively (Jung as cited

in McAdams, 2000 and Watson & Clark, 1997). (The literal meaning of the word “introvert” stems from the Latin *intro* (“inward”) and *vertere* (“to turn”). This psychodynamic conceptualisation of I-E remains prominent in the popular mind (McCrae & Costa, 1989; Zelenski et al., 2014), and is operationalised by the popularly used Myers-Briggs Type Indicator (MBTI; Myers, 1962) (Barenbaum & Winter, 2008; McCrae & Costa, 1989).

Eysenck, however, rejected Jung’s concept of psychic energy orientation, and his theoretical and empirical personality research led to the development of an influential psychophysiological conception of traits and behaviour focussed largely on the “Big Two” of Extraversion and Neuroticism (McAdams, 2000; Wilt & Revelle, 2009). In Eysenck’s explanatory theories of excitation and inhibition processes, and cortical arousal levels, introversion is due to chronic *over*-stimulation and extraversion is due to chronic *under*-stimulation, and compensatory behaviours occur accordingly—introverts thus tend to seek less external stimulation than do extraverts (Eysenck, 1957, 1967 as cited in Wilt & Revelle, 2009). Eysenck’s research informed Gray’s (1970) psychophysiological theory of I-E, involving systems of behavioural activation and behavioural inhibition, which ultimately evolved into the influential reinforcement sensitivity theory (RST) (Corr, 2004; Smillie, Pickering, & Jackson, 2006). In RST—actually a neuropsychological explanatory model of learning, motivation, and emotion, rather than of personality per se—behavioural activation is represented by an *Impulsivity* (sensitivity to reward) dimension, and behavioural inhibition is represented by an *Anxiety* (sensitivity to punishment) dimension (Corr, 2004; Smillie et al., 2006). While these orthogonal dimensions of Impulsivity and Anxiety are rotated at 30-degrees to Eysenck’s global Extraversion and Neuroticism axes of personality (Corr, 2004; Matthews & Gilliland, 1999), behavioural activation and extraversion have since been

shown to be highly related constructs linked to reward cues, approach motivation, appetitive and affiliative behaviour, and positive affect (Depue & Collins, 1999; DeYoung, 2010; Quilty, DeYoung, Oakman, & Bagby, 2014; Smits & Boeck, 2006; Wilt & Revelle, 2009).

Eysenck also developed a number of instruments to assess personality, including the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1968). EPI items measuring extraversion identify *impulsivity* and *sociability* as its two temperament-based core components. These core components also appeared in an earlier personality instrument, the Guilford Zimmerman Temperament Survey (Guilford & Zimmerman, 1949) which was drawn upon by Eysenck in developing his own scales (Watson & Clark, 1997; Wilt & Revelle, 2009). Interestingly, the true nature of trait I-E was the subject of a vigorous debate between Eysenck and Guilford in the 1970's. This debate centred on whether trait I-E should be conceptualised and operationalised more by *intellectual* or *interpersonal* tendencies, in addition to impulsivity (see Eysenck, 1977, and Guilford, 1975, 1977). More recently, researchers have begun to disentangle the intellectual versus interpersonal tendencies debated by Eysenck and Guilford; specifically in relation to introversion (Cheek, Brown, & Grimes, 2014; Grimes, Cheek, & Norem, 2011). Preliminary findings show that a "thinking" dimension is not associated with several other dimensions of introversion, including a "social" dimension (Cheek et al., 2014; Grimes et al., 2011).

The sociability component ultimately emphasised by Eysenck reflects the interpersonal or relational nature of I-E which remains an important marker of the construct in virtually all influential models of personality (Costa, McCrae, & Dye, 1991; McCrae & Costa, 1987, 1991; Hills & Argyle, 2001; Watson & Clark, 1997). Interestingly, Eysenck's sociability (but not impulsivity) has been shown to have

positive associations with positive affect and life satisfaction (Emmons & Diener, 1986). Some researchers have argued that a propensity for seeking and attracting *social attention*, gained via active engagement in friendship, leadership, and shared recreation/revelry activities, is the defining feature of I-E (Ashton et al., 2002). It has also been asserted that I-E is best defined as an *interactional orientation* (Saucier, 1994). Even extraverts' natural language use reflects such an orientation; in their self-narratives extraverts use more words about people and social processes than do introverts (Hirsh & Peterson, 2009). However, other researchers suggest that interpersonal interpretations based on sociability are not definitive enough for the construct of I-E (McCrae & John, 1992). Nonetheless, as well as featuring consistently in scientific conceptualisations of I-E, sociability—along with Jungian notions of introspection versus extrospection—also remains a central feature of I-E in the popular mind (Lucas et al., 2000; McCrae & Costa, 1987; Watson & Clark, 1997). This will be addressed in a later sub-section of this chapter regarding lay conceptions and popular representations of I-E.

Hogan's (1983) socioanalytic theory also emphasises the interpersonal nature of personality attributes, but from a constructivist perspective of social reputation, self-presentation, and actor-observer perceptions (John et al., 2008). Hogan proposed that I-E could ultimately be split into two attributes, labelled Surgency and Sociability. However, he considered these attributes to be socially constructed rather than intrinsic properties of the person; intended to meet the evolutionarily adaptive interpersonal needs of *status* and *popularity*, respectively (Hogan, 1983; John et al., 2008; McCrae & Costa, 2008; Watson & Clark, 1997). Surgency and sociability are, thus, conceptualised by Hogan as distinct *identity-related* constructs serving different *adaptive functions*: “getting ahead” and “getting along”, respectively (Wilt & Revelle, 2009). *Identity* and

*functioning* are two key concepts in the context of this thesis; hence they will be revisited throughout this review chapter.

Tellegen and colleagues (1985, 1988) proposed that the common element linking these two components of Surgency and Sociability to the higher-order construct of I-E is “positive emotionality”, going so far as to suggest that I-E be renamed accordingly (see Watson & Clark, 1997). Other researchers have also found that higher levels of I-E are characterised by experiences of positive affect; particularly pleasantly valenced and high arousal emotions (e.g., Smillie, DeYoung, & Hall, 2015), and Watson and Clark (1997) support the view of Tellegen and colleagues. The formulation of Tellegen and colleagues emphasises *well-being*, along with positive interpersonal functioning—defined as *ascendance* and *affiliation*—and *achievement*, as the core components of the I-E construct (Watson & Clark, 1997).

Perhaps the conceptualisation of I-E with the most currency in the contemporary personality literature is the “reward sensitivity” hypothesis (Depue & Collins, 1999; Lucas et al., 2000). This explanatory hypothesis, stemming largely from work on behavioural activation and inhibition in RST (e.g., Gray, 1970), offers a promising, if still somewhat preliminary, causal basis for introverts’ and extraverts’ differential levels of engagement with the social and material world (Smillie, 2013a). Along with its basis in RST, it also encompasses core elements of the work by Tellegen and colleagues (1985, 1988) on positive emotionality. The reward sensitivity hypothesis combines and extends this earlier work on motivation and emotion, and has some support based on modern neurobiological evidence concerning brain structure and function (e.g., Canli, 2004; Depue & Collins, 1999; DeYoung, 2010); proposing that a behavioural facilitation system based on *positive incentives* is a key mechanism for individual differences in I-E (Depue & Collins, 1999). Variation in sensitivities to reward or

positive stimuli between introverts and extraverts—based on dopaminergic processes originating in the ventral tegmentum area and reinforcement signalling activity in medial-frontal corticostriatal regions (Depue & Collins, 1999; Smillie, Cooper, & Pickering, 2011), and diffuse activity in various other brain regions such as the amygdala, the anterior cingulate, and the fusiform gyrus (Canli, 2004)—are posited as driving their differential responses to their environment (DeYoung, 2010; Lucas et al., 2000; McAdams, 2000; Quilty et al., 2014, Smillie, 2013a). Reward or positive stimuli can often involve social situations, interactions, or incentives (Ashton et al., 2002; Denissen & Penke, 2008; DeYoung, 2015; Lucas et al., 2000), and it has been suggested that sociability might be a by-product of seeking reward (Lucas et al., 2000). The differential responses to these reward stimuli between introverts and extraverts, driven by the positive incentive mechanism, manifest as differences in their approach motivation, appetitive and affiliative behaviour, and positive affect (Depue & Collins, 1999; Lucas et al., 2000).

As the product of much prior theory and research on personality, learning, motivation, and emotion, the reward sensitivity hypothesis, while by no means settled (e.g., Ashton et al., 2002; Lucas et al., 2000), provides an encouraging direction toward an integrative understanding of the broad construct of I-E (DeYoung, 2015; Smillie, 2013a). However, given I-E's substantial content breadth and the ongoing ambiguity regarding its core characteristics, it is also important to understand just where the construct of I-E fits into the most influential contemporary model of personality; the structural, trait-based "*Big Five*" or *Five-Factor Model (FFM)*.

### **2.1.2 Introversion-Extraversion as a "Big Five" Trait, and its Place in the Five-Factor Model of Personality**



Ostendorf, 1988; Johnson, 1997; McCrae & Costa, 2008). Nonetheless, there has been much debate about the meaning and structure of “traits” and their role in personality psychology (Block, 1995, 2010; John et al., 2008; Kreitler, 2018; McAdams, 1992; McCrae & Costa, 1995; Wiggins, 1997). Importantly, the common view of traits as basic units or as forming the definitive basis of personality has been contested (e.g., Bandura, 1999; Cantor, 1990; Cervone, 2005; Epstein, 1994; Lamiell, 1997; McAdams, 1994; Molden & Dweck, 2006; Pervin, 1994). Some researchers instead emphasise other within-person units as plausible alternatives or complements to the structural approach. For example, *process*-based accounts of personality have been offered that centre on social-cognitive mechanisms such as encodings, beliefs, values, and goals, along with the role of contextual factors (e.g., Mischel & Shoda, 1995, 2008).

*Narrative*-based accounts of personality that focus on identity, culture, and the storied arc of a person’s life have also been put forward (e.g., McAdams, 2001, 2008). Still other researchers have attempted to reconcile and unify structural-, process-, and even in some cases narrative-based accounts of personality (e.g., DeYoung, 2015; Dweck, 2017; Fleeson & Jayawickreme, 2015; Little, 1996; McAdams & Pals, 2006; McCrae & Costa, 2008; Wood, Gardner, & Harms, 2015). This trend toward an integrated, dynamic systems approach to personality is gaining momentum, as contemporary researchers seek unifying theories and models that consider the whole person or self in describing and explaining the full range of contextualised human experiences and actions across the lifespan (Barenbaum & Winter, 2008; Cervone, 2005; Funder, 2001; Hooker & McAdams, 2003; Jayawickreme, Zachry, & Fleeson, 2019; Matthews & Gilliland, 1999; McCrae, 2009; Revelle, 1995).

A major point of contention driving the ongoing debate among personality researchers on the merits of structural, trait-based models versus process- and narrative-

based approaches—along with any differences in their epistemological assumptions (e.g., McAdams et al., 2004)—is the question of whether structural models have explanatory value over and above their descriptive function (Cervone, 2005; Haslam, 2007; Johnson, 1997; Wiggins, 1997). Notwithstanding this ongoing debate, this thesis—consistent with the contemporary trend—adopts an *integrative* stance; taking the position that structural-, process-, and narrative-based accounts of personality *all* have an important role to play in our understanding of human nature and individual differences (see Harlow & Cantor, 1994; Little, 1996; McAdams, 1995). This integrative approach is particularly relevant given the complex nature of modern culture, where a unified self is emphasised (Markus & Kitayama, 1998) but can be difficult to maintain (Baumeister, 1997; McAdams, 1996b). Therefore, later sections of this chapter will discuss *social-cognitive* approaches to personality, and *phenomenological-humanistic* conceptions of personhood, as these are critical to the central argument of this thesis. For the remainder of this sub-section, however, I discuss I-E's place in the structural Big Five/FFM of personality traits, as this is crucial to understanding the nature and status of I-E and its proposed relations with the other constructs of interest in this thesis.

Traits can vary from general to specific in terms of how they characterise and differentiate people, and how they play out in people's daily life: some are relatively broad while others are relatively narrow (Haslam, 2007, McCrae & Costa, 2008). Thus, traits are best represented taxonomically as a hierarchical classification of ubiquitous, dispositionally-based, reasonably stable psychological attributes that define individual differences between people at various levels of abstraction (DeYoung, 2015; Haslam, 2007; John et al., 2008; Markon, 2009; Saucier & Goldberg, 2003). Indeed, researchers have emphasised the importance of distinguishing between higher and lower levels of a

trait hierarchy such as the Big Five/FFM, in terms of their predictive utility across various domains of life (e.g., Costa, McCrae, & Dye, 1991; McCrae & Costa, 1992; Mottus, 2016; Mottus, Kandler, Bleidorn, Riemann, & McCrae, 2017).

The currently predominant personality trait taxonomy—the Big Five/FFM—emerged progressively over the past century, based on two distinct, but ultimately convergent, empirically- and theoretically-driven research traditions (McCrae & John, 1992; John et al., 2008). The first of these research traditions, the “*lexical hypothesis*”, posits that *socially relevant and useful* phenotypic personality attributes will be encoded in the natural language, and the more important individual differences will likely be represented by specific terms in everyday speech and across more languages (Goldberg, 1981). Factor analysis based on the covariance of trait-descriptive terms extracted from the natural language has consistently yielded five basic dimensions of personality (i.e., the lexically-based Big Five; Digman, 1990; Goldberg, 1981). In Goldberg’s view these five basic descriptive dimensions enable a person to answer several adaptively important questions about other people whom they meet or interact with. (See also Buss (1991), and Buss (1995), regarding the critical importance of the human social environment and the Big Five as an “adaptive landscape”.) The lexical hypothesis, based on social construal and attribution, thus represents a *functionalist* view of personality traits (John et al., 2008; Revelle, 1995; Srivastava, 2010). Furthermore, prototype descriptions of each trait dimension based on factor analysis of expert ratings of trait adjectives have been developed (John, 1989, 1990). For the introverted pole of I-E, the higher-loading adjectives include “quiet”, “reserved”, and “withdrawn”. For the extraverted pole of I-E, the higher-loading adjectives include “assertive”, “active”, and “outgoing”. These prototypes have been operationalised in a widely used

personality measure known as the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991).

An important point in regard to the lexically-based development of the Big Five is that the original set of trait adjectives, from which the basic dimensions of personality ultimately emerged, deliberately excluded *affective* and *evaluative* terms (Tellegen, 1993). Both are important to the notion of social desirability (Beauvois & Dubois, 2000). This consequential decision was made a priori by early prominent researchers in personality (e.g., Allport & Odbert, 1936 and Cattell, 1943 as cited in John et al., 1988), and has been carried through by later researchers (e.g., Norman, 1967 as cited in John et al., 1988). Even though traits likely include descriptive, affective, and evaluative components (Beauvois & Dubois, 2000), this exclusion was done in an attempt to ensure that the study of personality traits be limited, as far as possible, to state-neutral and morally-neutral *descriptive* terms only (Benet-Martinez & Waller, 2002; Cawley, Martin, & Johnson, 2000; John et al., 1988; Tellegen, 1993). The description and evaluation of people in everyday life is critical to the central argument of this thesis—this point will be elaborated in a later sub-section, and other sections of this chapter, particularly in regard to lay conceptions of I-E, beliefs about the self, and character strengths.

The second research tradition, the *questionnaire* approach, is based on factor analysis of existing self-report inventories, many of them based in theory (McCrae & John, 1992), containing phrase-or-sentence-based scales and items. The development of many of these instruments pre-dated the discovery and acceptance of the Big Five, thus they were not designed to measure it (DeYoung, 2015; Quilty et al., 2014). Nevertheless, factor analysis has consistently derived from them a set of five basic dimensions which are markedly similar to those obtained from the natural language

(McCrae & John, 1992; Saucier & Goldberg, 1998, 2003). Costa and McCrae (1985, 1992) developed an instrument—the Revised NEO Personality Inventory (NEO-PI-R)—specifically designed to measure personality across these five basic dimensions (John et al., 2008; McCrae & John, 1992). The NEO-PI-R, which captures the Big Five/FFM at general and specific levels (Costa & McCrae, 1995), is the most widely used inventory in personality trait research examining the Big Five (DeYoung, Quilty, & Peterson, 2007; Marsh et al., 2010; Soto & John, 2009). Costa and McCrae also used the NEO-PI-R scales to recover the presence of the Big Five in many of the earlier instruments (McCrae & John, 1992; John et al., 2008). Furthermore, the lexically-based prototype markers of the Big Five appear to match up well with most of the facet scales from the NEO-PI-R, including those for I-E (John et al., 2008; McCrae, 1990).

This convergence of two research traditions has led to a preliminary consensus among personality researchers in recent decades regarding the general *structure* of trait-based individual differences (John et al., 2008; Marsh et al., 2010; Revelle, 1995; Wiggins & Trapnell, 1997); known as the FFM (Funder, 2001; John et al., 2008; McCrae & Costa, 2008; McCrae & John, 1992). The bipolar Big Five dimensions or “domains” in the hierarchical FFM are labelled “*Extraversion*”—or *I-E* in this thesis—“Agreeableness”, “Conscientiousness”, “Neuroticism”, and “Openness to Experience” (John et al., 2008; McCrae & John, 1992). While they do not encompass everything that might be considered personality (DeYoung, 2015; Funder, 2001; McCrae & John, 1992), the Big Five domains do account for most of the shared variance in personality traits (Costa & McCrae, 1995; DeYoung, 2015; McCrae, 2010). Extraversion typically captures large portions of shared variance in the FFM (John et al., 2008; Winter et al., 1998), demonstrating its breadth and adaptive importance. Notably, however, it has been suggested by some that there is, perhaps, more agreement about the *number* of

basic personality dimensions than there is about their *meaning* or their role in human functioning (e.g., Bandura, 1999; Block, 2010; Digman, 1990; Saucier & Goldberg, 2003). This view is consistent with the ongoing ambiguity regarding the core characteristics of I-E, discussed earlier in this chapter.

As mentioned in Chapter One, influential models of personality—such as the Big Five/FFM—tend to reflect an individualistic, Western view of personhood that presumes an agentic, expressive self (Markus & Kitayama, 1998). In the FFM and the closely related explanatory model of personality known as five-factor theory (FFT; McCrae & Costa, 2008), traits are regarded as latent, neuropsychic- or biophysical-based basic tendencies that powerfully influence people’s daily experiences and actions as well as their self-concept (McCrae & Costa, 2008; Mottus, 2016; Saucier & Srivastava, 2015). Indeed, the Big Five, including Extraversion, predict a range of consequential outcomes across various domains of life; individual, interpersonal, and institutional (Ozer & Benet-Martinez, 2006).

Each of the Big Five domains are unidimensional, normally distributed (e.g., McCrae & Costa, 1989; Meehl, 1992; Watson & Clark, 1997), and somewhat orthogonal (Biesanz & West, 2004; John et al., 2008; Marsh et al., 2010). A complete conceptualisation of the FFM taxonomy typically contains several levels (see Costa & McCrae, 1995; DeYoung, 2006, 2015; DeYoung et al., 2007; McCrae, 2015; Mottus et al., 2017), in which the Big Five are broad, mid-level domains capturing the covariance of many lower-level traits. There are two higher-order factors or “meta-traits” labelled “Plasticity” and “Stability” (DeYoung, 2006; Digman, 1997) situated *above* the domains. Directly *below* each of the domains are two “aspects” (DeYoung et al., 2007), and below the aspects of each domain are six “facets” (Costa & McCrae, 1995; Costa et al., 1991). At the lowest level is a plethora of primary traits or “nuances” (e.g., Digman,

1990; Goldberg, 1993; McCrae, 2015; Mottus et al., 2017). Traits at each level may be associated with particular dispositionally-based affective, cognitive, motivational, and behavioural characteristics in response to environmental cues (e.g., DeYoung, 2015; Revelle & Condon, 2015).

Thus, in the FFM hierarchy (there are other plausible taxonomies; e.g., Watson & Clark, 1997) the Extraversion domain is subsumed by the metatrait of Plasticity. Plasticity reflects a basic tendency toward exploration, novelty, and flexibility, suggesting some shared variance of Extraversion with Openness to Experience, and perhaps based in part on individual differences in dopaminergic function (DeYoung, 2006; Peterson, Smith, & Carson, 2002). Extraversion's two immediately subordinate aspects are labelled "Assertiveness" and "Enthusiasm", and some evidence suggests that these are partially genetically based, each with its own distinct neurobiological substrate (DeYoung et al., 2007; Jang, Livesley, Angleitner, Reimann, & Vernon, 2002). It has also been suggested that these aspects might reflect appetitive and hedonic tendencies of "wanting" and "liking", respectively (e.g., DeYoung, 2015; Smillie, 2013a; Smillie, DeYoung, & Hall, 2015). Extraversion's six facets are labelled "Warmth", "Gregariousness", "Assertiveness", "Activity", "Excitement Seeking", and "Positive Emotions" (Costa & McCrae, 1995), demonstrating the vast content breadth of the domain. These diverse facets are operationalised in the NEO-PI-R (John et al., 2008). Finally, Extraversion's nuances include an indeterminate number of specific traits such as, for example, "talkativeness", "bossiness", "busyness", "adventurousness", and "cheerfulness". Thus, in regard to Extraversion, each level of the FFM hierarchy clearly involves notions of socially oriented, agentic, and positively valenced engagement with the world (see Ashton et al., 2002; Denissen & Penke, 2008; DeYoung, 2015; Lucas et

al., 2000); this is consistent with the reward sensitivity hypothesis discussed earlier in this chapter.

Falling along a single bipolar trait dimension as they do in the FFM and FFT (McCrae & Costa, 2008), introversion and extraversion are conceptual opposites in contemporary personality science (Krueger & Markon, 2014; Watson & Clark, 1997). Thus, by definition approximately 50 percent of the general population falls on the more *introverted* side of the normally distributed I-E continuum. However, I-E's domain label of "Extraversion" in the FFM emphasises the implicitly accepted notion among personality researchers that *extraversion*—rather than introversion—is the *high* or *positive pole* of the continuum (DeYoung et al., 2007; Haslam, Bain, & Neal, 2004). The extraverted pole and its associated traits and characteristics are, thus, considered to be positively valenced and more *socially desirable* (e.g., Anderson, John, Keltner, & Krueger, 2001; DeYoung et al., 2007; Funder, 2001; Furnham & Henderson, 1982; Haslam, Bain, & Neal, 2004; Hills & Argyle, 2001; Hudson & Roberts, 2014; Pavot, Diener, & Fujita, 1990; Roberts, Wood, & Smith, 2005; Smillie, 2013b). This is a critical point in the context of this thesis: An important implication that might readily be drawn here is that, from a social science perspective, introversion—as the inverse or lack of extraversion—is not a particularly useful or valued disposition in terms of positive, goal-directed functioning (see DeYoung, 2015). This perspective is consistent with Susan Cain's (2012a) culture-based popular argument (introduced in Chapter One) regarding the stigmatisation of introversion in the modern West. This point will be addressed in several forthcoming sub-sections and sections of this chapter, as it has potentially adverse consequences for the identity and well-being of the 50 percent of people in the West who are more introverted.

Having examined various descriptive and explanatory scientific conceptualisations of I-E, and its place in the contemporary Big Five/FFM, it is also important to understand how the construct of I-E is conceptualised by the layperson (see Tellegen, 1993) and represented in popular culture (e.g., Cain, 2012a). This is especially so given that the lexical tradition, as reflected in the Big Five, drew on studies of the natural language to obtain its trait adjectives and derive the resultant factors or basic domains of personality (Digman, 1990; Goldberg, 1981). Lexically-based scientific models of phenotypic personality that capture the most socially consequential personality attributes are, thus, inextricably linked with the ways in which laypeople conceptualise and communicate about personality in their everyday lives (Borkenau, 1992; John et al., 2008; McCrae & Costa, 2008; McCrae, Costa, & Piedmont, 1993; Semin, Rosch, & Chassein, 1981; Tellegen, 1993).

### **2.1.3 Lay Conceptions and Popular Representations of Introversion-Extraversion**

It makes sense that laypeople would need to communicate about personality: People are inherently social beings (Baumeister, Vohs, Aaker, & Garbinsky, 2013; DeYoung, 2015; Erickson, 1995; Ryff, 1987; Wood et al., 2008) who spend large parts of their daily life observing, contemplating, and interacting with other people, and it has been argued that people have a quite advanced understanding of human nature (McCrae & Costa, 1996). Indeed, personality scales (including the interpersonally-relevant traits of “dominance” and “sociability”, along with “achievement”) developed intuitively by laypeople or non-experts have been shown to have reasonable validity compared to scientific scales measuring those same traits (Ashton & Goldberg, 1973).

Moreover—and critically in the context of this thesis—processes of person perception and impression formation based on traits enable people to get to know each

other quickly and to make adaptively important decisions about the social or moral worth of the self and others (Buss, 1997; Goldberg, 1981; Hogan, 1983; McAdams, 1994, 1995, 1996a, 1996b; Srivastava, 2010; Tooby & Cosmides, 1990). Indeed, laypeople tend to view traits as causal (Kressel & Uleman, 2010), and many traits—in particular those that are more socially desirable and prevalent—are believed to be essential to the person and central to their identity (Haslam, Bastian, & Bissett, 2004). These inferential processes occur situated in context; performed through a lens of shared, normative sociocultural influences (Mollaret, 2009; Ryff, 1987) and relevant adaptive needs (Tellegen, 1993)—recall the notion of the Big Five as an adaptive landscape (Buss, 1991).

As mentioned earlier in this chapter, it is for these reasons that the lexical hypothesis based on processes of social perception represents a functionalist view of personality traits (John et al., 2008; Srivastava, 2010). A functionalist view of personality is useful for understanding the person and their behaviour and social value situated in context (Saucier & Srivastava, 2015); importantly, such a view can involve construal of the self or others (Revelle, 1995; Srivastava, 2010) and encompasses both the “having” and the “doing” of personality (Cantor, 1990; Harlow & Cantor, 1994). Person-centred approaches to personality represent a similar view of the whole person in context, and are reflected in lay conceptions (Asendorpf, 2015).

Lay conceptions of personality could, therefore, be particularly relevant for two reasons in the context of this thesis. First, they might help to delineate and clarify the *nature* or *defining characteristics* of introversion and extraversion. Second, they might shed more light on the *adaptive value* and *social desirability* of introversion versus extraversion (see Tellegen, 1993). These issues are particularly important in terms of the preference for extraversion, and the purported *ambiguity* and *stigma* surrounding the

identity and functioning of introverts in the West (e.g., Cain, 2012a; Laney, 2002); hence they are the focus of the remainder of this section.

Similarly to scientific models of personality, lay conceptions and popular representations of I-E view it as being a defining feature of people's experiences and actions (e.g., Cain, 2012a; Watson & Clark, 1997). Probably due in large part to the interactional nature of its phenotypic expression (Saucier, 1994) I-E has been described as a very familiar and highly visible trait to the layperson (Vazire, 2010; Watson & Clark, 1997); it is easily identified (Mehl, Gosling, & Pennebaker, 2006) and has an intuitive meaning (Lippa, 1976). One study showed that the typical behavioural style of extraverts can operate as a type of positive social feedback process; whereby extraverts' actions have a favourable effect on others' perceptions of them as well as modifying their own experiences and actions even further in a positive direction (Eaton & Funder, 2003).

It is therefore not surprising that I-E appears prominently in both scientific models and lay conceptions of personality. There is some empirical evidence from a study among a British sample that scientific and lay conceptions of I-E display reasonable overlap (Semin et al., 1981). This research by Semin et al. found that according to laypeople, introversion was most typically characterised by a tendency for introspection about the self, whereas extraversion was most typically characterised by a tendency to seek and enjoy communication with others. However, Semin et al.'s research was done using Eysenck and Eysenck's (1968) EPI (i.e., not a measure of the contemporary Big Five/FFM) as its scientific operationalisation of I-E. The EPI identifies extraversion's core components as impulsivity and sociability, whereas the FFM emphasises sociability as the central characteristic of extraversion (Wilt & Revelle, 2009).

A recent set of studies among a U.S. sample used more contemporary measures of personality, including the NEO-PI-R (Costa & McCrae, 1985, 1992) and the BFI (John et al., 1991), to compare with lay conceptions of the Big Five as they relate to people's daily life. This research also found evidence of a reasonable, but by no means perfect, overlap between scientific models and lay conceptions of I-E (Hall, Schlegel, Castro, & Back, 2019). Moreover, participants were able to apply a reasonably nuanced definition in regard to each trait dimension (Hall et al., 2019). This research asked specifically about extraversion (but not introversion) and found that, according to laypeople, categories such as "outgoing", "talkative", "friendly/kind", "happy/funny", "energetic", "attention-getting", and "assertive" were most characteristic of an extraverted person (Hall et al., 2019). The outgoing, energetic, and assertive categories were the most highly represented across the various scientific operationalisations of I-E used for comparison in this research. These layperson characterisations of extraverts clearly involve notions of socially oriented, agentic, and positively valenced engagement with the world; similar to the scientifically-derived high pole of trait I-E as it is conceptualised in the FFM and operationalised in the domain and facet scales of the NEO-PI-R. Moreover, in this research by Hall et al. lay conceptions of Extraversion correlated most highly with lay conceptions of Openness to Experience (see findings regarding Plasticity as a meta-trait in the FFM (DeYoung, 2006; Digman, 1997) as discussed earlier in this chapter). Interestingly, as noted by Hall et al., the fact that "kind" featured in one of the more typical lay categories of an extraverted person even though it is not part of scientific models of Extraversion (where it is instead a core part of Agreeableness; e.g. John, 1989, 1990) further suggests that laypeople view extraversion very favourably in interpersonal, affiliative terms.

While it is acknowledged that lay conceptions do provide a reasonable and necessary foundation for building a taxonomy of traits (e.g., John et al., 2008; McCrae & Costa, 2008; McCrae & John, 1992; Tellegen, 1993), it is also argued that they are not sufficient to do so (Saucier & Goldberg, 1996) and that differences do exist between scientific and common-sense notions of personality (McCrae & John, 1992; Tellegen, 1993). As mentioned earlier in this chapter, it has been suggested that lay conceptions of I-E tend to revolve around Jungian notions of inward versus outward energy orientation (Zelenski et al., 2014), along with sociability (Watson & Clark, 1997). In the layperson's view then, introverts will tend to direct their focus to the abstract inner, subjective world (see Guilford, 1975, 1977 regarding "thinking introversion") and avoid interpersonal interaction, while extraverts will tend to direct their focus to the concrete outer, objective world and approach interpersonal interaction (cf. findings of Hall et al., 2019, and Semin et al., 1981). Thus, according to the layperson, introverts and extraverts are characterological opposites (Watson & Clark, 1997). In a scientific sense this notion of opposites is reflected in the bipolar nature of the Big Five trait I-E continuum (Krueger & Markon, 2014), and also in John's (1989, 1990) contrasting prototype definitions of introverts (e.g., quiet, reserved, withdrawn) versus extraverts (e.g., assertive, active, outgoing).

Importantly, it has also been argued that the lexically-based Big Five domains represent, in some sense, a truncated version of how laypeople really conceptualise and communicate about personality in daily life (e.g., Benet-Martinez & Waller, 2002; Tellegen, 1993). According to this view, the Big Five domains do not encompass all that is salient or consequential about human nature and individual differences. Tellegen (1993) suggested that this deficiency is due largely to the a priori decision by influential researchers to exclude affective and evaluative terms from the scientific lexicon of

personality in their attempt to keep temporary emotional states and sociocultural norms and values out of consideration (as mentioned earlier in this chapter). By Tellegen's account the omission of affective terms has precluded emotional temperament from being properly acknowledged by researchers as a core dimension of I-E. In other words, extraversion is naturally recognised by laypeople as involving a predisposition to be happy in the hedonic sense (see Watson & Clark, 1997). It has also been suggested that, to the extent evaluative terms are excluded from the language of personality, this might limit the ability of researchers to properly understand how people form impressions of others (Goodwin, Piazza, & Rozin, 2014) and also to understand cultural differences in natural person perception (Benet-Martinez & Waller, 2002).

Notwithstanding this somewhat delimiting view of the Big Five as merely descriptive, attempts by personality trait researchers to keep sociocultural norms and values out of the lexicon of personality science were only partially successful. That is, many of the common trait terms used to derive the Big Five tend to confound descriptive and evaluative components (Benet-Martinez & Waller, 2002; Cawley et al., 2000; Nofle, Schnitker, & Robins, 2011; Peabody, 1967; Saucier, 1994; Saucier & Srivastava, 2015)—hence each of the Big Five domains *do* have a negative pole (e.g., introversion) and a positive pole (e.g., extraversion). Indeed, some evidence suggests that the very terms “introversion” and “extraversion” are themselves valenced; introversion negatively and extraversion positively (Saucier, 1994). Nevertheless, due to its circumscribed origins and evolution the Big Five is generally considered to be a descriptive model of the structure of personality (Benet-Martinez & Waller, 2002; John et al., 2008; Revelle, 1995; Saucier & Goldberg, 1996) that largely excludes purely evaluative, morally-laden notions such as virtue (Cawley et al., 2000).

Moreover, while extraversion *is* socially desirable, some evidence suggests that I-E is the least evaluative of the Big Five domains (e.g., John & Robins, 1993; Nofhle et al., 2011; Saucier & Goldberg, 1996; Vazire, 2010). That is, extraversion is more socially desirable than introversion, but smaller evaluative differences exist between I-E's opposing poles than between the opposing poles of the other four Big Five domains (John & Robins, 1993). This requires further investigation given other evidence that shows, for example, that people asked to "fake good" in studies of socially desirable responding tend to present themselves as more extraverted (Bagby & Marshall, 2003; Dunnett, Koun, & Barber, 1981; Furnham & Henderson, 1982). It also seems to be somewhat at odds with popular representations of introversion (versus extraversion) as a misunderstood and stigmatised way of being in contemporary Western society (e.g., Cain, 2012a; Laney, 2002).

Over the last decade or so, a number of popular psychology books about introversion have been published extolling the latent strengths and virtues of introverts and describing the difficulties they confront in contemporary Western society (e.g., Cain, 2012a; Dembling, 2012; Helgoe, 2013; Kahnweiler, 2013; Laney, 2002). These popular representations of introversion and extraversion mirror scientific models and lay conceptions of I-E to some extent, in the sense that they tend to reflect the ongoing ambiguity regarding the true nature of I-E and highlight the fact that introversion is less socially desirable than extraversion. In particular, as discussed in Chapter One, Susan Cain's (2012a) best-selling book *Quiet: The Power of Introverts in a World that Can't Stop Talking* has had a marked impact on the general public. For example, Cain's compelling exploration and critique of the diminished status of introverts in modern individualistic Western society (particularly the U.S.) has spawned an organisation called Quiet Revolution, which aims to identify, enable, and promote the talents and

virtues of introverts for individual and societal advantage (<https://www.quietrev.com>). Importantly however, Cain explicitly acknowledges that her broad conception of “introversion” reflects a cultural—rather than a personality science—perspective, and embraces Jungian notions of an introspective personality type. Cain deliberately diverges somewhat from the Big Five/FFM conception in that she conflates introversion with some other Big Five traits (e.g., “conscience” (Conscientiousness); “calm” (Neuroticism); & “cerebral” (Openness to Experience)); see Blatchford (2017), Kaufman (2014a, 2014b), and Smillie (2015). According to this popular view, in a world where the “ideal” self is an agentic, expressive being (see Markus & Kitayama, 1998; Ryff, 1987) and extraversion promotes goal attainment (see DeYoung, 2015), being labelled an “introvert” might therefore present a unique set of *challenges* but, interestingly, perhaps also *opportunities* (Cain, 2012a; Dembling, 2012; Helgoe, 2013; Kahnweiler, 2013; Laney, 2002). The level of public interest in Cain’s work demonstrates that this view might be shared or acknowledged by large portions of the lay population.

Having reviewed I-E’s broad, somewhat ambiguous nature and its highly prominent status in personality science and the popular mind it is evident that, whatever I-E really is, it represents *something* fundamental about human nature and individual differences (see McCrae & Costa, 1995). Furthermore, it is clear that I-E is of social consequence and is likely to have a substantial influence on the ways in which people construe themselves or others, and engage positively or otherwise with their environment. This could have important but differential implications for people in their daily life in terms of their identity and functioning, depending on whether they are introverted or extraverted. Therefore, the next and final sub-section of this section examines trait I-E’s role in adaptive functioning and adjustment to the environment, as

this bears directly on forthcoming sections regarding trait I-E's proposed relations with well-being and the other constructs of interest in this thesis.

#### **2.1.4 Introversion-Extraversion, Adaptive Functioning, and Adjustment to the Environment: Evolutionary Perspectives on Personality**

Personality matters because it has a real impact on people's lives (Ozer & Benet-Martinez, 2006; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007), and theories of personality go hand-in-hand with theories of adaptive functioning (Revelle, 1995). According to Buss (1997), "adaptation" and "adjustment" are fundamental concepts in personality science where, from a *proximal* perspective, they refer generally to coping well with the diverse challenges of everyday life. From the *distal* perspective of evolutionary biology, adaptations are evolved mechanisms and strategies that enable organisms to survive and reproduce, and adjustment can refer to how well the problems of survival and reproduction are solved to meet the demands of a given environment or domain (Buss, 1991, 1997). As discussed next, both the proximal- and distal-based interpretations of these two concepts are relevant in the context of this thesis (see Hogan, 1983 regarding personality traits as social constructs that meet the evolutionarily adaptive interpersonal needs for status and popularity; and Hogan, 1998 regarding the importance of a functionalist framework for personality psychology).

Regarding adaptive functioning and adjustment to the environment in a distal sense, evolutionary psychology offers explanations for the origins and purpose of biopsychological mechanisms such as personality traits, framed in terms of survival and reproductive fitness (Buss, 1984; Confer et al., 2010; Haslam, 2007; Sedikides & Skowronski, 1997). In other words, evolutionary psychology can provide functional accounts of where personality comes from and what it is for (Haslam, 2007). These



functional accounts incorporate the heritable structures (i.e., genes) and the resultant processes (i.e., neurobiological systems) underlying personality variation, situated in a context of environmental demands (Haslam, 2007; Sedikides & Skowronski, 1997). Thus, evolutionary psychology acknowledges the role of both genes and environment in explaining the development and manifestation of traits—such as I-E—that can vary in their phenotypic expression (Confer et al., 2010). For example, individual differences in trait I-E are moderately heritable (e.g., typically in the range of 49 percent to 57 percent at the domain level according to findings across a range of twin studies, although adoption and family studies have yielded lower estimates; Bouchard & Loehlin, 2001). The remaining variance must therefore be due to shared or unique environmental influences, the interaction of genes and environment, or the cumulative but adaptively neutral effects of “by-products” and “noise” factors (Bouchard & Loehlin, 2001; Haslam, 2007; Penke, Denissen, & Miller, 2007).

Some researchers have argued that evolution by natural selection pushes toward universal, species-typical traits (e.g., Tooby & Cosmides, 1990). By this account, therefore, evolutionary psychology does not regard systematic *variations* in personality traits (e.g., introversion versus extraversion) as adaptive, but instead treats such individual differences as largely chance-based, adaptively neutral by-products or noise (Haslam, 2007; Revelle, 1995; Tooby & Cosmides, 1990; Wilt & Revelle, 2009). However, according to Penke et al. (2007) this account does not make sense given that normally distributed personality traits predict consequential life outcomes (e.g., Ozer & Benet-Martinez, 2006), and therefore cannot be adaptively neutral (see also MacDonald, 1995, 1998; Wilson, 1994). Indeed, even Jung’s psychodynamic theory of introverted and extraverted types and their respective orientations toward the private, subjective versus public, objective world was based in ideas about styles of adjustment.

Several alternative accounts of the origins and purpose of personality traits, from the perspective of evolutionary psychology, have been presented that *can* incorporate both human nature *and* individual differences (Buss, 1984). That is, these accounts offer explanations for the adaptive value of personality traits as well as the *variation* in those traits (King & Trent, 2013). Three such accounts, all forms of “balancing selection”, are known as antagonistic pleiotropy, environmental heterogeneity, and frequency-dependent selection (Penke et al., 2007).

Antagonistic pleiotropy refers to the concept of “fitness trade-offs” between different ends of a trait dimension, involving opposing strategies for dealing with environmental pressures (Penke et al., 2007). For example, Nettle (2005) examined this specifically in regard to trait I-E, proposing that various fitness costs and benefits accrue—in an equalising way—to different strategies employed along the trait I-E continuum, such that introversion and extraversion are *both* maintained as adaptive traits. Moreover, Nettle suggests that evolutionary pressures can change over brief spatiotemporal spans, alternately tipping the balance in favour of introversion or extraversion in different places and at different times, thus contributing to ongoing variation in trait I-E. Optimal balance probably occurs more toward the middle of the trait continuum (MacDonald, 1995; Nettle, 2005).

Environmental heterogeneity and frequency-dependent selection are related concepts that refer to “niches” in the *physical* environment (e.g., Camperio Ciani, Capiluppi, Veronese, & Sartori, 2007) or the *social* environment (e.g., Maynard Smith, 1982), respectively. Thus, varied physical and social environmental conditions favour—in an equalising way across all environments—certain roles and specialised strategies in different places and at different times; thus maintaining personality trait variation (MacDonald, 1998; Penke et al., 2007; Wilson, 1994).

These evolutionary arguments based on balancing selection thus suggest that variance in bipolar, normally distributed personality traits such as I-E is at least partially explained by biopsychological mechanisms and strategies that evolved due to evolutionary pressures in the environment. Moreover, Buss (1997) suggests that it is the *success* of a strategy, rather than its content, that determines the level of adjustment to the demands of a particular environment. In this view, therefore, there might be *many* viable ways to pursue goals and achieve optimum functioning. For example, it has been suggested that “  
” (Olson & Weber, 2004, p. 795).

Some researchers have suggested that introversion ought to be relabelled as “detachment” to reflect a relative lack of reward sensitivity and positive engagement with the world (DeYoung, 2015; Krueger & Markon, 2014). Indeed, Olson and Weber (2004) examined relationships between Big Five traits and fundamental motives among a U.S. sample, and found that a higher level of extraversion was the best predictor of the “power”, “status”, and “social contact” motives. McCabe and Fleeson (2012) found, in a U.S. sample, that state extraversion mediated relations between approach goals and positive affect, whereby manifesting extraverted behaviour facilitated the accomplishment of people’s goals to convey information, connect with others, and have fun. These findings also appear consistent with Hogan’s (1983) socioanalytic theory and its conception of I-E as a construct comprising surgency and sociability components that meet evolutionarily adaptive needs of status and popularity. Scientific perspectives such as these lend support to popular arguments regarding the stigmatisation of introversion in contemporary Western society (e.g., Cain, 2012a; Laney, 2002): Perhaps, in light of balancing selection accounts of personality traits, negative views of introversion might stem from contemporary Western society being a “spatiotemporal

niche” that tends to favour extraverts over introverts. This key point will be elaborated in a later section of this chapter, regarding authenticity and person–environment fit.

Critically however, the fact that natural selection has *not* eliminated variation along the I-E trait continuum suggests that both introversion and extraversion involve fitness trade-offs, and both have served some adaptive function over human history (Nettle, 2005). This distal perspective on trait I-E therefore supports the possibility that there is nothing *intrinsically* maladaptive, negative, undesirable, or “wrong” about introversion; rather its adaptive value might depend on the constraints and opportunities presented by particular environmental niches, and introverts’ capacity to adjust to or exploit them.

This important possibility seems encouraging from an introvert’s perspective. However, regarding adaptive functioning and adjustment to the environment in a proximal sense, the strategies naturally employed by introverts to pursue their goals may not in general be as viable, or as socially desirable, in contemporary Western society as those employed by their extraverted counterparts (see Buss, 1997). Evolutionary perspectives on personality acknowledge individual differences as well as processes of person perception (John et al., 2008). In the individualistic West, therefore, introverts might lack, and/or be perceived as lacking, appropriate psychosocial resources needed to cope and thrive, and so might not adjust as well to the challenges of daily life (see Hobfoll, 2002; King & Trent, 2013)—many of which are interpersonal (Leary, 2003). This could have adverse effects on their well-being, given that notions of well-being typically encompass how well one is, in a psychosocial sense, functioning and feeling in one’s life (e.g., Keyes (2002, 2005, 2007). Moreover, it seems intuitive and highly likely that most people care deeply about their own well-being (Ozer & Benet-Martinez, 2006). It is therefore important to understand how well-

being, and its relations with trait I-E, is conceptualised and operationalised in the literature.

## **2.2 Relations between Introversion-Extraversion and Well-Being**

Personality, adaptability, and functioning are intertwined (Revelle, 1995). Trait I-E predicts various well-being outcomes at the individual level relevant to happiness, meaning, virtue, coping, and identity (Ozer & Benet-Martinez, 2006). Indeed, as mentioned earlier in this chapter, the FFM and FFT (McCrae & Costa, 2008) consider personality traits—including I-E—as neuropsychic- or biophysical-based dispositions that directly impact on people’s everyday experiences and actions as well as their self-concept (McCrae & Costa, 2008; Mottus, 2016; Saucier & Srivastava, 2015). Chapter One briefly introduced different conceptions of well-being and how they are related to trait I-E. This section expands upon that discussion as it is relevant to the direct and indirect pathways in my hypothesised model, and the way that well-being is operationalised, in Chapter Five of this thesis.

### **2.2.1 Subjective (Hedonic) Well-Being and Introversion-Extraversion**

Subjective well-being (SWB) is the scientific term for the more colloquial “happiness” (Kesebir & Diener, 2008). Philosophers and psychologists have for centuries debated the real meaning of happiness (Kesebir & Diener, 2008), and while in contemporary usage it typically includes *hedonic* notions of maximising pleasure and positive experiences (Vella-Brodrick, Park, & Peterson, 2009; Waterman, 1993) there remains substantial ambiguity in the literature regarding its definition (Kampfe & Mitte, 2010; Norrish & Vella-Brodrick, 2008). Most often however, SWB is operationalised via evaluations of mood and quality of life (Diener, Suh, Lucas, & Smith, 1999). SWB

therefore encompasses distinct but related affective experiences and cognitive judgements of one's life, such as positive and negative emotions, satisfaction with important life domains, and overall life satisfaction (Diener et al., 1999; Kesebir & Diener, 2008).

Happiness is highly valued and actively pursued in the West (Joshanloo & Weijers, 2014; King & Trent, 2013; Lyubomirsky, Sheldon, & Schkade, 2005), and individualistic countries such as the U.S. emphasise pleasure and positive experiences (Ozer & Benet-Martinez, 2006). Some research suggests that beyond its obvious hedonic benefits in terms of pleasure and positive experiences (e.g., Vella-Brodrick et al., 2009), SWB is a predictor of consequential outcomes across diverse domains of life (Diener, Kesebir, & Lucas, 2008; Lyubomirsky, King, & Diener, 2005) such as achievement (e.g., Diener, Nickerson, Lucas, & Sandvik, 2002), health (e.g., Pressman & Cohen, 2005), and prosocial behaviour (e.g., Thoits & Hewitt, 2001). Lucas and Diener (2008) assert that SWB can be considered functional in that it facilitates the achievement of goals. This aligns closely with broaden-and-build theory, which suggests that positive emotions provide the catalyst and foundation for an upward spiral of functional thought-action repertoires (Fredrickson, 2001).

According to Diener et al. (1999), early research on the antecedents of SWB commonly examined it from a bottom-up perspective (i.e., external circumstances such as demographics, situations, and events; e.g., Wilson, 1967). However, these bottom-up factors tended to show small effect sizes, and contemporary research therefore tends to take a top-down perspective (i.e., internal characteristics such as personality traits and goals) (Diener et al., 1999). This research has consistently shown that personality is a strong predictor of SWB (Diener et al., 1999; Lucas & Diener, 2008). Furthermore, of the Big Five traits, Extraversion (along perhaps with Neuroticism) is typically the most

substantial predictor of SWB, and in particular of positive affect (PA) (e.g., Costa & McCrae, 1980; Hills & Argyle, 2001; Kampfe & Mitte, 2010; Watson & Clark, 1997). This is a robust finding (Lucas et al., 2008; Lucas & Fujita, 2000; Pavot et al., 1990; and see Steel, Schmidt, & Shultz, 2008 for a review) although there is some ambiguity about what comprises PA (e.g., Smillie, DeYoung, & Hall, 2015). For example, Smillie, DeYoung, and Hall (2015) distinguish between PA as conceptualised in a factor model of affect (e.g., Watson & Tellegen, 1985; PA as *positive activation*) and PA as conceptualised in a circumplex model of affect (e.g., Russell, 1980; PA as *pleasant valence*). Furthermore, Smillie et al. found some evidence for differential associations between extraversion as measured at the aspect level (i.e., assertiveness and enthusiasm) and PA conceptualised as positive activation. Another finding showed that while both extraverts and introverts desire *pleasant* affect, extraverts (but not introverts) also desire *activated* affect (Rusting & Larsen, 1995).

As discussed earlier in this chapter, some researchers consider that PA might lie at the very core of extraversion (e.g., Tellegen and colleagues, 1985, 1988; Watson & Clark, 1997). Aside from empirical findings, the hedonic focus of SWB (and particularly PA) in terms of maximising pleasure and positive experiences provides a conceptual link to motivational and behavioural theories of reward sensitivity (Ryan & Deci, 2001), and thus also to trait I-E (DeNeve & Cooper, 1998; Lucas & Fujita, 2000). Consistent with this, as mentioned in Chapter One, McCrae and Costa (1991) suggested that the robust positive relations between extraversion and hedonic well-being are likely due to direct, temperamental effects. This view was supported by findings showing that sociability does not account for extraverts being happier than introverts (Lucas et al., 2008).

However, while they are clearly important for happiness, these direct, temperamental effects may not represent the *sole* pathway between I-E and well-being. SWB is just one component of a broader construal of well-being. This might have important ramifications for the well-being of introverts, who are not as dispositionally inclined to cheerfulness as their extraverted counterparts (see Seligman, 2011).

## 2.2.2 “Flourishing” as Optimal Well-Being: A “Functioning and Feeling”

### Approach

As discussed in Chapter One, beyond hedonic notions of pleasure and positive experiences some influential contemporary models of well-being also consider the *eudaimonic* notions of fulfilment, actualisation of human potential, and expression of virtue (e.g., Norrish & Vella-Brodrick, 2008; Ryan & Deci, 2001; Ryff & Keyes, 1995; Seligman, 2002, 2011; Waterman, 1993). Hedonic and eudaimonic conceptions both appear to be important for achieving optimal well-being or “flourishing” (Keyes, 2002, 2005; Vella-Brodrick et al., 2009), and both appear to contribute to a higher-level well-being construct (Biaobin, Xue, & Lin, 2004; Linley, Maltby, Wood, Osborne, & Hurling, 2009).

Eudaimonic conceptions of well-being stem from historic notions of the “good life” postulated by Ancient Greek philosophers such as Aristotle (ca. 384-322 BCE) (Kesebir & Diener, 2008), who rejected the purely hedonic conceptions of happiness asserted by other classical scholars such as Aristippus (ca. 435-356 BCE) (Ryan & Deci, 2001; Takebe & Murata, 2016; Waterman, 1993). Importantly in the context of this thesis, such Aristotlean “  
[REDACTED]”  
[REDACTED]” (Hills & Argyle, 2001, p. 596). This philosophical position clearly implies a voluntary

and purposeful disengagement from the social world, emphasising the importance of accounting for *choice* and *phenomenological experience* when considering the nature of well-being. Furthermore, eudaimonism posits that the good life entails living in alignment with one's "*daimon*" (spirit) or true self (e.g., Ryan & Deci, 2001; Waterman, 1993), thus invoking notions of *personal expressiveness*. A eudaimonic perspective on well-being clearly reflects a view that living well is not a "one-size-fits-all" phenomenon (see Guignon, 2002).

Findings have supported the importance of incorporating eudaimonic as well as hedonic perspectives in the study of happiness and optimal well-being (e.g., Vella-Brodick et al., 2009). This is particularly important when considering the well-being of introverts (Seligman, 2011). Indeed, some modern researchers have included both the hedonic and eudaimonic perspectives in their conceptualisation and operationalisation of happiness and well-being. For example, Keyes (2002, 2005, 2007) developed a measure of positive mental health and optimal well-being (Mental Health Continuum - Short Form) based on a "functioning and feeling" continuum approach. Individuals at the high end of the mental health continuum (presence of well-being) are considered to be "*flourishing*", while individuals at the low end of the mental health continuum (absence of well-being) are considered to be "languishing". In this model, optimal well-being comprises clusters of experienced emotional, psychological, and social symptoms, emphasising adaptive characteristics and thriving across various psychosocial domains. Importantly, Keyes (1998) asserts that conceptualisations of optimal well-being, and the self, need to encompass both *private, intrapersonal* and *public, interpersonal* processes (cf. Jungian notions about the respective inclinations of introverts versus extraverts), and this is reflected in his operationalisations of emotional, psychological, and social well-being.

As mentioned in Chapter One, relations between trait I-E and eudaimonic well-being have not been as extensively researched, and are not so unequivocal, as the robust relations between trait I-E and SWB, although some recent findings among Western samples show that extraverts tend to report higher levels of eudaimonic well-being than introverts (e.g., psychological well-being: Anglim & Grant, 2016; Sun, Kaufman, & Smillie, 2018; and social well-being: Hill, Turiano, Mroczek, & Roberts, 2012). The findings by Anglim and Grant and Sun et al. showed general support for positive associations between extraversion and psychological well-being in Australia and the U.S. respectively, but this depended on the level at which these constructs were examined. The findings by Hill et al. showed that extraversion had longitudinal associations with social well-being in the U.S. Interestingly however, another study in Iran, a non-Western country, found no significant correlations for extraversion and social well-being (Joshanloo, Rastegar, & Bakhshi, 2012): The authors speculated that this may have been due to extraverted attributes being useful for improving relations at the individual level but not for enhancing societal-level fit in this more collectivist culture.

However, eudaimonic notions like meaning and personal growth may be of more relevance and significance to introverts than are hedonic feelings of pleasure and arousal (Hills & Argyle, 2001; Seligman, 2011; Zelenski et al., 2014)—interestingly, meaning and personal growth, the two existential components of eudaimonic well-being, are also the most clearly empirically distinct from hedonic happiness or SWB (Keyes, Shmotkin, & Ryff, 2002). Perhaps introverts who can find ways to pursue their goals using strategies that are meaningful and viable for them can achieve optimal well-being. Broader conceptions of well-being such as Keyes' (2002, 2005) model do appear to suggest possible alternative ways for trait introverts to be “happy” given that their

basic disposition does not necessarily lend itself as readily to hedonic experiences of pleasure and activated PA (see Hills & Argyle, 2001; Seligman, 2011). In other words, as suggested in Chapter One, there might be both *direct and indirect pathways* to achieving optimal well-being or flourishing that involve hedonic as well as eudaimonic routes (Vella-Brodrick et al., 2009), whereby introverts are not constrained by their temperament in reaching higher levels of psychosocial functioning and living the good life. This important possibility is examined in the forthcoming sections of this chapter.

### **2.3 Authenticity and the “True Self”**

Chapter One introduced the eudaimonic construct of *authenticity* and briefly discussed its relations with identity, well-being, and trait I-E. This section expands upon that discussion by examining authenticity as a plausible pathway or mechanism whereby trait I-E might exert its effects on well-being in a Western context.

An important point to be made here concerns the definition of authenticity. The extant literature on authenticity has conceptualised and operationalised the construct as either a momentary state or a stable disposition (Slabu, Lenton, Sedikides, & Bruder, 2014; Smallenbroek, Zelenski, & Whelan, 2017). In this thesis authenticity is conceptualised and operationalised as a *dispositional* construct. This does not imply that authenticity is a rigid or completely stable trait; rather, it is a general tendency to naturally— and perhaps somewhat flexibly—experience and express one’s true self coherently across time and situations (e.g., Kernis & Goldman, 2006; Smallenbroek et al., 2017; Wood et al., 2008).

Dispositional authenticity is the focus in this thesis, as I investigate the ongoing or longer-term impact of trait I-E on the identity and functioning of people who live their day-to-day lives in an individualistic culture that is likely to favour extraversion.

This implies *systematic, chronic effects* of trait I-E on people's authenticity accumulating over an extended duration, rather than being based on momentary experiences (cf. Fleeson & Wilt, 2010; and see Jacques-Hamilton, Sun, & Smillie, 2019).

### **2.3.1 Authenticity as a Phenomenological-Humanistic Conception of Personhood and Well-Being**

Being authentic is often construed, in the humanistic tradition, as meaning that a person genuinely and freely *experiences and expresses* their innermost trait tendencies, values, and beliefs, and is able to *resist sociocultural influences* that do not align with these inner attributes (Maltby, Wood, Day, & Pinto, 2012; Wood et al., 2008).

Authenticity is thus considered to be synonymous with the agentic, true self (Kernis & Goldman, 2006; Vannini & Franzese, 2008; Wood et al., 2008) and also critical to well-being (Maltby et al., 2012; Medlock, 2012; Wood et al., 2008). The true self has been notoriously difficult for philosophers and psychologists to define, and it remains an elusive, somewhat controversial construct (Leary, 2003). However, the true self—perhaps a useful but idiosyncratic cognitive fiction that guides and enhances identity and functioning—is often conceptualised by the layperson as a positive, moral entity (Peterson & Seligman, 2004; Strohinger, Knobe, & Newman, 2017). Moreover, laypeople tend to regard self-knowledge and the search for the true self as the fundamental topic of psychology (Wilson, 2009).

Authenticity's historical origins as a construct can be linked back to the philosophers of Ancient Greece (Harter, 2002; Kernis & Goldman, 2006); as represented, for example, in exhortations to “know thyself” (Harter, 2002; Schlegel, Hicks, Arndt, & King, 2009). Indeed, it has been suggested that while authenticity is

both self- and other-referential in its nature (Vannini & Franzese, 2008) unbiased self-knowledge represents the core of authenticity. This private aspect of authenticity is crucial to its more public behavioural and relational components (Kernis & Goldman, 2006). Authenticity has long been of theoretical interest to existential-humanistic philosophers and psychologists in terms of people's identity and functioning (Maltby et al., 2012; Medlock, 2012), and is also a prominent and socially desirable concept in the popular mind (Knobe, 2005; Lenton, Bruder, Slabu, and Sedikides, 2013; Schlegel et al., 2009; Strohming et al., 2017). However, while it is considered to be psychosocially adaptive (Leary, 2003), empirical research on authenticity and its relations with personality and well-being has only recently gained momentum with the advent of positive psychology (Wood et al., 2008). Thus, relative to the extensive theoretical formulations and popular views there has been, until recently, only limited extant evidence on these relations (e.g., Goldman & Kernis, 2002; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997).

To redress the relative lack of empirical research on relations between dispositional authenticity, personality, and well-being, Wood et al. (2008) developed an integrative measure of dispositional authenticity as a quantifiable individual difference variable (the Authenticity Scale). Drawing on humanistic, person-centred conceptualisations, their tripartite measure reflects notions of experiencing and expressing the true self; incorporating scales for "Self-alienation", "Authentic Living", and "Accepting External Influence". Some parallels can be drawn between these three scales and the multiple components of dispositional authenticity proposed by Goldman and Kernis (2002) and Kernis and Goldman (2006) in their Authenticity Inventory (i.e., a person's unbiased self-knowledge operating in conjunction with their behavioural and relational tendencies; Slabu et al., 2014). Moreover, Kernis and Goldman (2006)

acknowledge a conceptual alignment between their Authenticity Inventory and the motivational dimensions of autonomy, competence, and relatedness described by self-determination theory (SDT; Deci & Ryan, 2000). These dimensions represent intrinsic psychological needs, and SDT emphasises personal choice as crucial to the positive goal pursuit and optimal functioning of the person situated in social contexts.

The scales developed by Wood et al. (2008) examine consistency between one's private and public selves. In line with perspectives from counseling and humanistic psychology that view authenticity as essential to well-being, Wood et al. conceptualised authenticity as being distinct from, but integrally related to, well-being, and their findings supported this expectation. Consistent with theory and some previous findings (e.g., Goldman & Kernis, 2002), their measure of dispositional authenticity showed, among a British sample, convergent validity with both subjective and psychological well-being as well as self-esteem. The authors thus concluded that authenticity is a strong predictor of well-being in both the hedonic and eudaimonic sense, although they acknowledged that more research needs to be done to confirm the causal order between authenticity and well-being (Wood et al., 2008). A subsequent study using Wood et al.'s measure in a cross-cultural sample also found that dispositional authenticity is a significant predictor of hedonic and eudaimonic well-being (Robinson, Lopez, Ramos, & Nartova-Bochaver, 2013).

Authenticity, whether conceived as a sociomoral ideal to strive for or a personal search for one's core being (Vannini & Franzese, 2008), has been linked with individualism as being a product of modern society (Taylor, 1991). Slabu et al. (2014) suggest that authenticity—as it is captured by Wood et al.'s (2008) tripartite measure or Goldman and Kernis' (2002) multicomponent measure—reflects sociocultural values consistent with an independent self and thus might be most applicable to people living

in the West, which is more individualistic and tends to promote independence (Markus & Kitayama, 1991, 1998). Indeed, people's dispositional authenticity has been found to be higher in individualistic cultures that value personal autonomy and expressiveness (Robinson et al., 2013; Slabu et al., 2014). It has been suggested that the concept of the independent self is a phenomenon of contemporary Western life (Baumeister, 1997; Markus & Kitayama, 1991, 1998; McAdams, 1995, 1996b; Nicholson, 1998) stemming largely from the advance of mass society and popular culture across the 19th and 20th centuries, with a gradual erosion of widespread, structural sources of meaning (Baumeister, 1997; Erickson, 1995). This brought a consequent focus on the person as a unique, agentic entity responsible for negotiating their own happiness and identity (Baumeister, 1997; Erickson, 1995; Lomas, Hefferon, & Iftzan, 2015). That is, with a shift toward individualism in modern Western society (Triandis, 1989) people have been encouraged to search inward in their quest for identity, happiness, and meaning, and to develop a sense of individuality based on their internal attributes (Baumeister, 1997; Markus & Kitayama, 1991; McAdams, 1995). For example, Schlegel et al. (2009) found that being in touch with one's true self predicted meaning in life among U.S. samples. Thus, a *lack* of authenticity might have especially adverse consequences for people living in the West (Lawn, Slemp, & Vella-Brodrick, 2019).

### **2.3.2 Relations between Introversion-Extraversion and Authenticity: People Embedded in Sociocultural Contexts, and Person–Environment Fit**

Aside from finding positive relations with well-being, Wood et al. (2008) also examined relations between their measure of authenticity and Big Five personality traits among a British sample. As noted in Chapter One, they found that higher levels of trait extraversion were associated with higher authenticity and suggested that this association

might be due to both constructs being necessary for positive psychosocial functioning. If correct, this assertion has potentially important implications for the well-being of introverted people living their daily lives within individualistic cultures.

Findings have shown that dispositional authenticity is moderated by sociocultural factors (Robinson et al., 2013; Slabu et al., 2014). That is, authenticity emerges from the interaction of people's internal attributes with their sociocultural environment (Leary, 2003; Robinson et al., 2013; Vannini & Franzese, 2008). Consistent with this, it has been asserted that a healthy identity and well-being—construed existentially as meaning and personal growth—depends substantially on people's sociocultural context (Ryff & Singer, 2008; Stevens & Constantinescu, 2014). Importantly, Ryff and Singer (2008) suggest that the interaction of person and environment leads to an uneven distribution of opportunities for achieving well-being. It is likely that such an uneven distribution of opportunities might apply to introverts versus extraverts in the modern Western world.

People live their everyday lives embedded in a shared sociocultural context (e.g., Bronfenbrenner, 1977b), and this shared reality can be important in terms of people's well-being (Fulmer et al., 2010). Chapter One introduced *person–environment fit* as it might apply to introverts and extraverts in contemporary Western society (e.g., Fulmer et al., 2010; Pavot et al., 1990). Person–environment fit refers to the goodness of fit or match between the attributes of a person—including their personality traits (Rauthmann, 2013) and “self-identity” (Caplan & Van Harrison, 1993)—and the attributes of their environment, either *momentary* or *enduring* (Caplan, 1987; Rauthmann, 2013; Roberts & Robins, 2004). Importantly, person–environment fit can be subjective or objective in nature. That is, it can relate to *perceived and/or actual* characteristics of people and their environments (Caplan, 1987; Edwards, Cable, Williamson, Lambert, & Shipp,

2006; Pervin, 1968). Moreover, person–environment fit has a long history in philosophy and is a pervasive issue in psychology (Schneider, 2001). It has been specifically linked with coping, adaptation, and adjustment (French, Rodgers, & Cobb, 1974). According to Roberts and Robins (2004) it might have implications for a broad range of psychological phenomena, including those related to authenticity (e.g., “personality consistency”) and well-being (e.g. “satisfaction”). Investigating a hypothesised link between person–environment fit and authenticity, Rauthmann (2013) found that self-reported quality of person–environment fit was associated with higher experienced authenticity. Given extraverts’ positively engaged, socially-oriented disposition, this suggests the possibility of a natural advantage for extraverts versus introverts in the modern, individualistic West in terms of experiencing authenticity.

The trait consistency hypothesis posits that people will be most authentic when their actions align with their core personality traits (e.g., Fleeson & Wilt, 2010; McGregor, McAdams, & Little, 2006; Sheldon et al., 1997). However, people are frequently called upon to act out of character (e.g., Little, 2008, 2014) to meet changing demands and exploit affordances across different situations and social roles (Sheldon et al., 1997). In other words, people are often required to act in a manner that is inconsistent with their mean-level traits (Fleeson, 2001, 2007). This behaviour varies systematically and meaningfully based on the situation and social roles (Sheldon et al., 1997). The requirement to act out of character might be particularly the case in the modern West where there are multiple, diverse, and complex social roles to fulfil (Harter, 2002; Pavot et al., 1990) and many of life’s challenges are by nature relational (Leary, 2003). Authenticity can therefore be difficult to achieve in daily life, particularly in individualistic contexts (Vannini & Franzese, 2008). Moreover, this could be especially so for introverts in the modern West to the extent that their quiet,

reserved, withdrawn disposition does not “match up” as well with the prevailing cultural norm of individualism (see Cain, 2012a; Laney, 2002).

If one accepts the proposition that the modern West is indeed a spatiotemporal niche that encourages agentic, expressive behaviour and an independent self, and therefore tends to favour extraversion, then it seems likely that introverts will be perceived as experiencing, and will actually experience, lower levels of person–environment fit than their extraverted counterparts. This could have adverse implications for introverts’ authenticity and well-being (see Cain, 2012a; Fulmer et al., 2010; Pavot et al., 1990). Intuitively, it makes sense that introverts acting out of character in order to fit with their environment could experience lower authenticity and well-being (Fleeson & Wilt, 2010; Little, 2008, 2014). Indeed, Fleeson and Wilt found that laypeople believe that introverts will feel more authentic when acting introverted (i.e., when they are being true to their traits; see Sheldon et al., 1997). However, when they subsequently tested this intuitive trait consistency hypothesis among U.S. samples, Fleeson and Wilt found that it was behavioural content in the moment, rather than trait consistency, that predicted people’s experience of authenticity. Thus, for example, being more extraverted over short intervals led to higher experienced authenticity regardless of whether one was trait introverted or trait extraverted. In these studies, however, Fleeson and Wilt used a limited set of items to assess *state* authenticity (i.e., subjective, *momentary* experiences of authenticity), rather than longer-term dispositional authenticity. In a follow-up study among a U.S. sample using retrospective self-reports of authenticity instead, Fleeson and Wilt found a strong correlation between actual introversion/(extraversion) and true self introversion/(extraversion); thus lending some support to the trait consistency hypothesis.

Jacques-Hamilton et al. (2019) investigated the costs and benefits, for people's authenticity and PA, of behaving extraverted on a more *sustained* basis in their daily life. Across the overall Australian sample, people in the "act-extraverted" group did report higher authenticity and PA than those in the control group. However, contrary to previous studies (e.g., Fleeson & Wilt, 2010), these effects were moderated by people's levels of trait I-E. For example, trait introverts in the "act-extraverted" group reported *lower* levels of retrospective authenticity than did trait introverts in the control group, suggesting that behaving extraverted even for just a week had a deleterious effect on introverts' authenticity. Consistent with assertions that acting out of character for protracted periods might extract a cost on people's well-being (Little, 2008; Zelenski et al., 2014) this novel finding, if robust, provides important support for the trait consistency hypothesis, particularly in relation to introverts trying to sustain behaviours against their natural inclinations or tendencies (Jacques-Hamilton et al., 2019).

As mentioned in Chapter One, a qualitative review of the experiences of introverts in U.S. medical schools highlighted the challenges of being an introvert in interactive learning environments that promote and reward extraverted behaviour (Davidson, Gillies, & Pelletier, 2015). The introverts in this review reported various concerns regarding challenges to their identity and functioning, including central themes of being misunderstood, appearing to be weird, and feeling like they needed to change in order to achieve their goals. This feedback is consistent with findings showing that extraverts consider themselves to be more normal, and experience better fit with their peers, than do introverts (Wood, Gosling, & Potter, 2007). Given that people have a basic need to belong (Baumeister & Leary, 1995), and people tend to conform to cultural norms to enhance their fit with their peers (Cialdini & Trost, 1998), introverts in the West are more likely to act out of character on a sustained basis in an attempt to

experience greater person–environment fit in their daily lives. In line with the trait consistency hypothesis, this might have deleterious effects on their authenticity and well-being. However, some of the introverts in Davidson et al.’s (2015) study who viewed Susan Cain’s (2012b) TED Talks video were comforted and validated in regard to their own introversion. Importantly, this suggests that *beliefs about the self*, specifically, beliefs about one’s place on the trait I-E continuum and the social desirability of introversion versus extraversion, might impact upon people’s identity and functioning.

Beliefs about the self will be addressed in the forthcoming section on social-cognitive approaches to personality. Next, however, I briefly discuss *character strengths*, as they are directly relevant to personality, well-being, and authenticity.

## **2.4 Character Strengths**

As briefly introduced in Chapter One, character strengths form a key part of the empirical study in Chapter Three. Moreover, Chapter Three is expected to provide justification and context for the hypothesised model of relations between trait I-E and well-being tested in Chapter Five. Thus, character strengths are important to the central argument of this thesis outlined in Chapter One. This section examines how character strengths are conceptualised and operationalised in the literature, as well as their links with the other constructs of interest in this thesis.

### **2.4.1 Character Strengths as Positive, “Moral Traits”: Relations with Personality, Well-Being, Authenticity, and Beliefs about the Self**

The notion of character is fundamental to understanding human nature and individual differences and has a long history (Banicki, 2017; Sandage & Hill, 2001),

and over time it has been defined in various ways by philosophers and psychologists (Fleeson, Furr, Jayawickreme, Meindl, & Helzer, 2014). Character is inextricably linked with personality, and particularly in some early definitions they were regarded as virtually synonymous constructs (Fleeson et al., 2014). However, contemporary perspectives on the similarities and differences between personality and character suggest that, while alike in many ways, they are not identical (e.g., Banicki, 2017). Similarly, more recent empirical studies also demonstrate that there is overlap, but not redundancy, between established taxonomies and measures of personality and character (Cawley et al., 2000; Haslam, Bain, & Neal, 2004; McGrath, Hall-Simmonds, & Goldberg, 2017; Park, Peterson, & Seligman, 2004b).

During the 20th century, however, the scientific study of personality took priority over that of character (Banicki, 2017; Baumeister & Exline, 1999; McCullough & Snyder, 2000; Nofle et al., 2011; Sandage & Hill, 2001). Only since the emergence of positive psychology around the turn of this current century has character been revived as a domain of substantial interest to researchers in the behavioural and well-being sciences (Avia, 2013; Haslam, Bain, & Neal, 2004; Fleeson et al., 2014; McGrath et al., 2017; Sandage & Hill, 2001). Interestingly, Susan Cain (2012a) built her popular argument about the stigma surrounding introversion in contemporary Western culture specifically around the idea that a societal emphasis on character was supplanted by a focus on personality early in the 20th century, in parallel with the rise of modern society and a new conception of the self as individualistic (see McAdams, 1996b; Nicholson, 1998).

Character is an *inherently evaluative* construct (Fleeson et al., 2014; Goodwin et al., 2014), intrinsically linked with notions of morality and virtuous, volitional conduct (Peterson & Seligman, 2004; Saucier & Srivastava, 2015). Character is often held in

contrast to temperament as being two distinct, complementary aspects of a more broadly-construed “personality” (e.g., Haslam, 2007; Hofstee & Ten Berge, 2004; Ozer & Benet-Martinez, 2006; Saucier & Srivastava, 2015). Character refers to uniquely human personal attributes and associated complex behaviours relevant to goals, values, the self-concept, and self-other relations, that develop over the lifespan in a process of maturation and as a result of experiential learning and normative sociocultural cues, whereas temperament refers to biologically-based, stable personal tendencies and associated simple behaviours relevant to automatic emotional and motor responses that are present from very early in life (Cloninger, Svrakic, & Przybeck, 1993; Haslam, 2007; Saucier & Srivastava, 2015; Strelau, 1987).

Character strengths are *desirable personal attributes* (Smith, Smith, & Christopher, 2007) that facilitate adjustment to the environment (King & Trent, 2013) and provide a potential pathway to living the good life (Peterson & Seligman, 2004). To promote the systematic study of the virtuous side of human nature and establish a foundation for positive psychology, Peterson and Seligman (2004) developed an influential model of character strengths conceptualised as positively valenced, morally relevant individual differences. This framework is known as the Values-In-Action Classification of Strengths and Virtues (VIA Classification; Peterson & Seligman, 2004). This conceptual, hierarchical classification includes 24 strengths at the intermediate level, organised under six broad, abstract *virtue* categories derived from an extensive review of philosophical and religious traditions across time and both Eastern and Western cultures (Peterson & Seligman, 2004). Below the strengths are indeterminate *situational themes*—the lower level refers to the habits and settings via which strengths manifest in daily life. Its inclusion in the hierarchy specifically

acknowledges the role of context in how effectively strengths are uniquely used by a given person (Peterson & Seligman, 2004).

In order to be included in the VIA Classification, each strength met a number of a priori criteria (Peterson & Seligman, 2004). Among other things, a strength must be: a positive characteristic that contributes to the fulfilment of the self and others in terms of living the good life (including the promotion of a sense of authenticity in its use); intrinsically morally valued; trait-like in nature (i.e., reasonably stable over time and situations, but also context-sensitive and amenable to change); and cultivated and sustained by the norms and institutions of wider society (Peterson & Seligman, 2004). Given that they encompass notions of evaluation, identity, and functioning situated in cultural context, these criteria in particular demonstrate the relevance of character strengths to the central argument of this thesis.

It has been suggested that trade-offs are made in the cultivation and use of one's character strengths (Peterson, 2006; Schwartz & Sharpe, 2006), and patterns in these trade-offs often emerge (Peterson, 2006). Moreover, Peterson and Seligman (2004) assert that people possess a set of "signature strengths". These are the character strengths that most promote a sense of authenticity for a given person—indeed, character strengths are an important part of people's notion of their true self (Banicki, 2017; Park et al., 2004b; Peterson & Seligman, 2004). Moreover, unbiased self-knowledge includes acknowledging one's strengths and weaknesses (Kernis & Goldman, 2006). A person will, therefore, pursue the use of their signature strengths by choice and with volition, and structure their core projects around them (Peterson & Seligman, 2004). Thus the signature strengths are those that enable the meaningful achievement of personal goals and promote a sense of identity and well-being (Govindji

& Linley, 2007; Linley, Nielsen, Gillett, & Biswas-Diener, 2010; Peterson & Seligman, 2004).

Importantly, this suggests that while introversion and extraversion are not themselves intrinsically morally valenced dispositions (McCullough & Snyder, 2000), both introverts and extraverts will possess, and can cultivate, character strengths that might enable them to contribute agentically in different ways to the fulfilment and growth of themselves and their society (McCullough & Snyder, 2000) and to better know themselves and others (Banicki, 2017). For example, Peterson and Seligman (2004) suggested, on conceptual grounds, that Big Five extraversion would correspond well with the strengths of “vitality” and “humour” in their VIA Classification. They also speculated about positive relations between extraversion and the strength of “leadership”. In the modern West in particular, this evolutionarily adaptive, aspirational strength could be considered a reasonable proxy for many desirable attributes and indicators of personal agency as well as social influence and contribution (see Anderson et al., 2001; Hogan, Curphy, & Hogan, 1994; Lukaszewski & von Rueden, 2015; Peterson & Seligman, 2004; Zaccaro, Peterson, & Seligman, 2004). Extraversion has often been positively associated with leadership, both empirically and conceptually (e.g., Bono & Judge, 2004; Hogan et al., 1994; Joshanloo et al., 2012; Peterson & Seligman, 2004)—this could have adverse implications for the identity and functioning of introverts.

Given that character strengths are explicitly evaluative, desirable personal attributes (King & Trent, 2013; Smith et al., 2007), it makes intuitive sense that, beyond any functional benefits in terms of meaningful goal achievement and consequent need fulfilment (Linley et al., 2010), strengths would be important to a person’s sense of self and their identity (Peterson & Seligman, 2004). Notions of character reflect cultural

ideals (McGrath, 2015)— as positive moral traits, strengths thus represent an embodiment of people’s virtues in sociocultural context (McCullough & Snyder, 2000; Peterson & Seligman, 2004). Moreover, people are concerned about their morally-construed self, and character is a fundamental, necessary aspect of social cognition (Fleeson et al., 2014). Thus, character strengths might provide a unique evaluative basis for self- and other-based person perception and impression formation; perhaps based on functionalist and identity-related concerns (Goodwin et al., 2014). Indeed, for example, it has been suggested that notions of character enable comparisons between one’s “actual” and “ideal” selves (Banicki, 2017).

## **2.5 Social-Cognitive Approaches to Personality**

Different views about human nature are consequential for the study of personality, identity, and adaptive functioning (Bandura, 1999). As mentioned earlier in this chapter, *social-cognitive* approaches to personality complement structural, trait-based models such as the Big Five/FFM; suggesting that trait theories are not the only way to describe or explain personality and investigate its outcomes. Social cognition involves active social information processing about the self and others—including contextualised person perception, impression formation, and attribution—at the cognitive level of analysis (Higgins, 2000; Kihlstrom & Hastie, 1997). Social-cognitive approaches to personality examine within-person processes (e.g., beliefs, values, and goals) of the person situated in sociocultural context, in an attempt to explain stable individual differences in affect, motivation, and behaviour, and their consequent life outcomes (e.g., DeYoung, 2015; McAdams & Pals, 2006; Mischel & Shoda, 2008).

FFT includes a distinct component that involves social-cognitive phenomena (i.e., “characteristic adaptations”) as part of its conceptual representation of an overall

personality system (McCrae, 2004; McCrae, 2009; McCrae & Costa, 2008). FFT treats characteristic adaptations (including the self-concept) as being directly caused by biologically-based Big Five traits—and environmental influences—(McCrae, 2004; McCrae & Costa, 2008), rather than considering them as independent phenomena (DeYoung, 2015; McAdams, 1995).

However, other theories and models of personality treat social-cognitive phenomena differently to FFT. For example, social-cognitive variables and processes have been posited as forming a coherent personality system based on interacting mediating units and people's unique, stable patterns of “if-then” responses to situations (cognitive-affective processing system theory; Mischel & Shoda, 1995). They have also been proposed as the causal component of an integrative descriptive-and-explanatory conception of traits as probabilistic tendencies in people's experiences and actions (whole trait theory; Fleeson & Jayawickreme, 2015), or as “goals”, “interpretations”, and “strategies”—i.e., characteristic adaptations—that are distinct from traits and can have reciprocal influences with them in facilitating people's adaptive goal pursuit and achievement (cybernetic big five theory; DeYoung, 2015). They have even been put forward as a key component of an intermediate level—i.e., “personal concerns”—in a stratified, whole-person-in-context view of personhood and individual differences that also includes lower-level traits and higher-level life narratives (McAdams, 1995).

As shown by these diverse conceptualisations, social-cognitive approaches to personality are not yet as well organised or widely accepted as structural, trait-based approaches exemplified by the Big Five/FFM (DeYoung, 2015; McAdams, 1996a, 1996b; McCrae, 2009). However both approaches are generally acknowledged by contemporary researchers as being necessary for a unified understanding of human nature and individual differences in context across the lifespan (McAdams & Pals,

2006; McCrae, 2009). Indeed, it has been suggested that social-cognitive approaches might ultimately offer more refined and generalisable explanations of personality than those offered by neurobiological-based models (Matthews & Gilliland, 1999). As discussed, theories and models that incorporate social-cognitive approaches differ, to varying degrees, in their conceptualisations of the exact nature and function of process-based phenomena—and their labels—in an overall system of personality. However, most of them do share several elements in common. While I do not adopt any specific overarching social-cognitive theory or model in this thesis, I do incorporate three common elements from the aforementioned personality systems that are directly relevant to my central argument. These common elements are: the inclusion of *beliefs* as a distinct variable; the notion of a *self-concept* or *identity*; and the important role of *sociocultural context* in influencing people's experiences and actions (e.g., DeYoung, 2015; Fleeson & Jayawickreme, 2015; McAdams, 1995; Mischel & Shoda, 1995).

Beliefs and the self-concept are considered to be characteristic adaptations, in FFT (McCrae, 2009; McCrae & Costa, 2008) as well as in cybernetic big five theory (DeYoung, 2015). Importantly, DeYoung suggests that over and above any trait-based effects, characteristic adaptations are important to well-being, in that they can facilitate an integrated sense of self and the accomplishment of goals (i.e., they are critical to identity and functioning). Characteristic adaptations are influenced by prevailing circumstances or events in the environment, including cultural norms (McCrae, 2004; McCrae & Costa, 2008). Thus, for example, a culture of individualism typically calls upon a *different* set of characteristic adaptations than does a culture of collectivism (McAdams & Pals, 2006). However, according to social cognitive theory people are not merely passive receivers and processors of environmental stimuli (Bandura, 1999, 2001; Higgins, 2000). Social cognition involves learning about the important aspects of

one's social environment, and person perception and impression formation—involving construal of the self and/or others—are a part of social cognition (Higgins, 2000).

Learning happens interactively by people acting as well as observing in social contexts (Higgins, 2000). Thus, social cognition is an active, adaptive learning process that takes place in a *shared reality* (Higgins, 2000). In this shared reality the self is considered to be an agentic being that not only meaningfully experiences their social environment but intentionally shapes it via their own independent actions as well as in conjunction with others (Bandura, 1999, 2001). Moreover, in so doing, the self is regarded as being at the centre of causal processes in people's lives and inevitably their self-beliefs become a core part of their functioning (Bandura, 1999, 2001). This self-focus is particularly the case in individualistic Western cultures (Markus & Kitayama, 1998).

### **2.5.1 Beliefs as “Meaning Systems” for and about the Self**

*Beliefs* have been defined as probabilistic, subjective judgements made by a person in relation to themselves and/or some element of their physical or social environment (Fishbein & Ajzen, 1975). These mental representations involve meaningful information that people come to regard as true (Gilbert, 1991). In a personal or social sense, beliefs can relate specifically to unobservable psychological attributes such as personality traits, in which case they involve a process of reasonably systematic inferences about the self or others based on prior learning or logic (Fishbein & Ajzen, 1975). Indeed, social cognitive theory regards self-beliefs as dynamic dispositional constructs that are unique to the individual but can vary across situations in regulating behaviour (Bandura, 1999).

It has been suggested that personal beliefs, as probabilistic mental representations of environmental stimuli, are an important neurophysiological-based

process involving complementary processes of *perception and valuation* (Gilbert, 1991; Seitz, Paloutzian, & Angel, 2017, 2018). As they involve *evaluative judgement* of sensory perceptions, beliefs are posited to be personal (and shared) “meaning systems” that ultimately guide people’s actions (Seitz et al., 2017, 2018). Moreover, these value-based representations and interpretations can be implicit or explicit depending on the emotional intensity of, and the frequency of exposure to, the stimulus (Seitz et al., 2017). Regarding social cognition, this is consistent with research showing that the temporary or chronic accessibility of a cognitively available trait construct can depend on contextual factors such as prior exposure to a relevant stimulus (Higgins, 1987).

In the domains of personality psychology and social psychology, it has likewise been suggested that people’s beliefs about the self and the physical and social environment form a system of personal meaning that impacts upon their experiences and actions and therefore has particular relevance for their identity and functioning (Dweck, 2000, 2008). Meaning is culturally mediated (Baumeister et al., 2013; Benet-Martinez & Oishi, 2008), and this applies in the realm of social construal and attribution (Miller, 1984). Normative culture thus impacts upon people’s beliefs (Ryff, 1987), and as social beings the meanings that people attribute to the self in terms of a broader identity derive largely from society (Baumeister, 1997; Erickson, 1995). Moreover, importantly, subjective person–environment fit specifically concerns the beliefs people hold about themselves and their alignment or otherwise with the environment in which their experiences and actions occur (Edwards et al., 2006).

McCrae and Costa (1995) posit that personality traits manifest as characteristic adaptations in the context of shared, cultural-level meaning systems, whereby human experience and action is interpreted through a normative lens. In their view, beliefs are one such meaning-laden manifestation of traits. Some influential social-cognitive

models treat beliefs as a mediating variable in the personality system, playing an *interpretative* role between situational circumstances or events and people's consequent states and outcomes (e.g., Fleeson & Jayawickreme, 2015; Mischel & Shoda, 1995). In these models, situational phenomena can be external and/or internal factors—including one's *self-concept* (Fleeson & Jayawickreme, 2015; Mischel & Shoda, 1995).

Moreover, in these models, beliefs can interact with other variables in the system (including other beliefs), and the whole system is a self-sustaining feedback loop such that the states and outcomes generated by the mediating units in response to situations become inputs to subsequent situations encountered by the person (Fleeson & Jayawickreme, 2015; Mischel & Shoda, 1995). This is consistent with the assertion by Dweck (2008) that beliefs about the self and the environment play a crucial role in organising and shaping people's experiences and actions.

McDonald (1995) asserts that it is adaptive in an interpersonal sense for people to develop beliefs about their own location on personality trait dimensions relative to the location of others on those same dimensions. Indeed, beliefs about one's personality traits (in conjunction with inferences about interpersonal factors) are a core element of a person's self-concept (Baumeister, 1997; Markus & Kitayama, 1998; McAdams, 1996b; McCrae & Costa, 1988, 1994; Prentice, 1990). In regard to trait I-E, Little (1996) stated that: “

\_\_\_\_\_” (p. 340).

It is therefore likely that introverts living in the West might, over time, construct and sustain certain beliefs about themselves based on the discrepancy between their quiet, reserved, withdrawn disposition and the individualistic culture in which they reside, where extraversion is interpreted as more socially desirable. These beliefs could, in turn, have implications for their identity and functioning (Lawn et al., 2019).

Indeed, this proposition appears to be consistent with some recent findings and some speculation in the literature regarding relations between trait I-E, culture, beliefs, identity, and well-being. For example, Chapter One discussed the findings of Fulmer et al. (2010) that showed a positive interaction effect of individual- and aggregate-level extraversion on people's happiness and self-esteem; a result that Fulmer et al. attributed to a match between person and culture. Chapter One and this chapter also discussed the qualitative findings of Davidson et al. (2015) regarding the challenges experienced by introverted students in learning environments that encourage extraversion, and the beneficial impact that positive beliefs about the self as an introvert apparently had on them. Moreover, Smillie (2013b) speculated on the shared awareness among introverts and extraverts of the social desirability of extraversion, versus their differential enactment of extraversion, in a Western context. Smillie suggested that introverts and extraverts might share equivalent beliefs on the value of extraversion in these cultures even though they differ in the extent to which they behave extraverted, and that this might impact differentially upon their happiness.

Thus, in the next and final sub-section of this section I will discuss beliefs about the self and the social desirability of introversion versus extraversion; specifically regarding how such beliefs might impact upon introverts and extraverts in a Western cultural context. In particular I draw on key aspects of self-discrepancy theory (Higgins, 1987) as a basis for the discussion, along with some related research on "possible selves" (Markus & Nurius, 1986) and some research on personality change goals (Hudson & Roberts, 2014).

### **2.5.2 Self-Discrepancy Theory: "Actual" versus "Ideal" Selves as (In)compatible Belief Systems about Introversion-Extraversion**

Self-discrepancy theory (Higgins, 1987) posits, among other things, that people have an “actual” self (or *self-concept*) and can also have an “ideal” self (or *self-guide*); both “selves” being viewed from one’s own standpoint. These different domains of the self are one’s mental representations or beliefs about, respectively, *the way one currently is* and *the way one would like to be* in regard to some attribute(s) of personal importance and/or contextual salience (Higgins, 1987). People make inferential comparisons between their actual versus ideal selves, and are motivated to achieve their ideal self-state. Chronic actual–ideal discrepancies represent incompatible beliefs and the absence of positive outcomes (i.e., the person’s ideals remain unfulfilled), and can result in adverse emotional consequences (Higgins, 1987). The nature and intensity of these emotional consequences depends on the accessibility and magnitude of the particular type of discrepancies cognitively available. When available and activated, *actual–ideal mismatches* tend to result in dejection-related emotions such as dissatisfaction, sadness, and frustration, and have also been associated with low self-esteem (Higgins, 1987; Markus & Nurius, 1986).

The notion of an ideal self—incorporating a person’s hopes, wishes, desires, and goals—is not unique to self-discrepancy theory however, and it can be useful for different purposes in psychological research (Higgins, 1987). For example Markus and Nurius (1986) introduced the conceptually similar notion of possible selves, and their analysis focused primarily on establishing an organising framework for people’s self-regulatory functions. However, self-discrepancy theory focuses specifically on processes of *self-evaluation* rather than self-regulation (Higgins, 1987). Hence it is particularly relevant to the central argument of this thesis, which asserts that the differential description and evaluation of introverts versus extraverts in the West impacts on introverts’ identity and well-being.

People have preferred ways of being that are informed by culture (Christopher, 1999; Markus & Kitayama, 1998). Indeed, according to Markus and Nurius (1986), the realm of possible selves available to a person is inextricably bound with the person's sociocultural context. In the modern, individualistic West the ideal self is an agentic, expressive being who is expected to shape their own social reality (Baumeister, 1997; Christopher, 1999; Markus & Kitayama, 1998; Ryff, 1987). As mentioned earlier, beliefs about one's personality traits are central to a person's self-concept (Baumeister, 1997; Markus & Kitayama, 1998; McAdams, 1996b; McCrae & Costa, 1988, 1994; Prentice, 1990). Moreover, evidence suggests that in Western societies in particular traits are an important part of person perception and impression formation, including self judgements (Church et al., 2006; Haslam, 2007; Markus & Kitayama, 1998; Miller, 1984). It is therefore very plausible that an introvert's self-concept consisting of prototypical traits such as quiet, reserved, and withdrawn might be incompatible with a self-guide that reflects culturally-influenced ideals of an agentic, expressive being (exemplified by prototypical extraverted traits such as assertive, active, and outgoing; John, 1989, 1990). But how *likely* is it that an introvert living in the West might have this particular type of self-guide? Self-discrepancy theory, and research on possible selves and personality change goals provide some basis for quantifying this likelihood.

Some recent research in the U.S. on personality change goals found that most people (87%) expressly wanted to move toward the high or positive pole of trait I-E and become more extraverted (Hudson & Roberts, 2014). This finding was interpreted to mean that traits such as extraversion have intrinsic value, and may serve to relieve dissatisfaction with life in certain domains (Hudson & Roberts, 2014). Furthermore, people's desire to change tended to be expressed at the broad domain level of trait I-E, rather than being based on more narrow traits such as quiet or outgoing (Hudson &

Roberts, 2014). A study by Markus and Nurius (1986) in the U.S. regarding possible selves found that when people were asked about 150 specific elements of the self covering six different domains of life, and which of these elements had ever featured in their conceptions of their possible selves, 100 percent of participants (the highest reported response rate across all the elements) endorsed the positively-valenced personality trait descriptors “happy” and “confident”—these are both hallmarks of an extraverted person.

These findings suggest that people in general are inherently motivated to move toward the socially desirable, extraverted pole of trait I-E. Moreover, given the discussion earlier in this chapter (e.g., Cain, 2012a; Davidson et al., 2015; Fulmer et al., 2010; Wood et al., 2007) it seems likely that in the West introverts would be *more* motivated than extraverts to want to move “up” the trait I-E continuum—i.e., toward a culturally-influenced ideal self—due to their relative lack of person–environment fit and a consequent larger gap between their actual and ideal selves. Self-discrepancy theory can help to elaborate on this proposition. As outlined in the opening paragraph of this sub-section, self-discrepancy theory makes predictions about actual–ideal discrepancies in terms of their availability to the person, the conditions under which they are activated, and the associated emotional consequences (Higgins, 1987). I-E is an easily recognisable trait to the layperson (Vazire, 2010; Watson & Clark, 1997), with important consequences in Western cultures in terms of person–environment fit (Cain, 2012a; Davidson et al., 2015; Fulmer et al., 2010; Wood et al., 2007). Given I-E’s prominence and social implications, an actual–ideal discrepancy centred on trait I-E as the focal attribute is likely to be a cognitively available and accessible belief system to people in these cultures—present in memory and frequently activated due to its personal relevance and its contextual salience and meaning. That is, people in the individualistic

West will often encounter situations offering socially relevant rewards that require agentic, expressive interpersonal behaviour to attain. Particularly for introverts, these situations are more likely to regularly trigger incompatible beliefs regarding their actual versus ideal selves. Moreover, introverts holding these incompatible beliefs are therefore more likely to experience dejection-related emotions, including low self-esteem. Self-esteem has been theoretically and empirically linked with authenticity (Kernis, 2003; Koole & Kuhl, 2003; Wood et al., 2008). Indeed, it has been suggested that actual and ideal selves might both form part of one's true self (e.g. Medlock, 2012; Schlegel & Hicks, 2011; Slabu et al., 2014), and therefore these actual–ideal beliefs have conceptual links with authenticity. Thus it is feasible that introverts who believe they have a deficit in their level of extraversion could also experience lower authenticity (Lawn et al., 2019).

It therefore appears that introverts in the West are faced with a dilemma. If they *do* act on their desire to be more extraverted in order to achieve better person–environment fit and fulfil their ideal self then, according to the trait-consistency hypothesis (Fleeson & Wilt, 2010), over time they risk compromising their true self (see Jacques-Hamilton et al., 2019; Little, 2008). However, if they *do not* act upon their desire to be more extraverted then, based on self-discrepancy theory (Higgins, 1987), over time they could experience a chronic actual–ideal mismatch along with its associated risks of dejection, low self-esteem, and perhaps even a lack of authenticity. Extraverts in the West, conversely, can simultaneously achieve person–environment fit *and* authenticity merely by behaving naturally in accordance with their trait-based tendencies, and therefore they seem much less likely to be vulnerable to an actual–ideal discrepancy based on trait I-E.

But is it reasonable to assume that *all* introverts in Western cultures will experience relatively low levels of authenticity—and hence, perhaps, lower well-being—compared to their extraverted counterparts? As mentioned in Chapter One, a seminal study by Hills and Argyle (2001) showed that introverts in the West *can* achieve happiness. Moreover, as noted, the study by Davidson et al. (2015) raised the important possibility that introverts in the West who hold positive beliefs about their own level of trait I-E might experience benefits for their identity and functioning. Character strengths, for example, are *one* plausible way in which such positive beliefs might arise. Character strengths, defined as positive moral traits, can promote authenticity and enhance well-being (Govindji & Linley, 2007; Peterson & Seligman, 2004), and enable people to know their true self and to compare their actual and ideal selves (Banicki, 2017). The ideal self incorporates concepts of character and virtue (Sandage & Hill, 2001). Perhaps, in line with popular views (e.g., Cain, 2012a; Dembling, 2012; Helgoe, 2013; Kahnweiler, 2013; Laney, 2002), those introverts living in the West who are able to identify and use their signature strengths in personally meaningful and viable ways will be more comfortable with themselves. This would likely be reflected in their compatible beliefs, in the form of an actual–ideal match based on trait I-E. Given the importance of trait I-E to people’s identity and functioning, these compatible beliefs could manifest as a sense of personal agency in effectively fulfilling one’s ideals, the experience of higher authenticity, and, perhaps, the achievement of greater well-being (Lawn et al., 2019).

## **2.6 The Present Research Project**

This thesis will build upon, but also depart from, the extant theory and findings reviewed in this chapter in order to make new knowledge claims about relations

between trait I-E and well-being in Australia, an individualistic Western country. Therefore, in the final section of this chapter I integrate *gaps* identified in the extant literature with a set of specific *research objectives* for this thesis. These research objectives are subsidiary to, and consistent with, my two primary research questions. In light of the problem statement, purpose, and aims outlined in Chapter One, the final section thereby situates this thesis within the field, provides a basis for the empirical research to be conducted, and elucidates its expected contribution to knowledge.

### **2.6.1 Gaps in Current Knowledge, and Research Objectives**

The vast majority of extant research on relations between trait I-E and well-being has focused on the extraverted pole of the I-E continuum and hedonic happiness. The problem statement outlined in introductory Chapter One highlighted a need for research that specifically examines the identity and well-being of *introverts* living in individualistic Western cultures, based on their apparent lack of person–environment fit in these cultures. As mentioned, this need has also been identified previously by other researchers in the field (e.g., Peterson, 2012; Zelenski et al., 2014). In particular, as elaborated by the central argument built progressively throughout this review chapter, such research should address this important gap in the personality, social, and positive psychology literature by taking into account personality traits as well as social-cognitive processes and phenomenological-humanistic conceptions of personhood, and their potential joint consequences for hedonic as well as eudaimonic well-being. Therefore, the chapters to follow will investigate relations between trait I-E and well-being using an *integrative* conceptual framework that considers all these issues. Moreover, the measures used to operationalise the constructs of interest in the descriptive-exploratory

study in Chapter Three and the model-based study in Chapter Five will reflect the discussion in the introductory chapter and this review chapter.

In Chapter One I provided an overview of the thesis structure, including the sequencing and focus of its chapters. The structure is designed to coherently and cohesively address the central argument and investigate the two primary research questions posed by this thesis. Flowing from these questions, specific research objectives are set out below. These objectives address the gaps in the literature highlighted by the introductory chapter and this review chapter, and also outline how the purpose and aims of this thesis will be achieved.

The first set of research objectives relate directly to my first research question and will be addressed by the empirical study in Chapter Three. Chapter Three takes an inductive approach to “exploring beliefs” about introversion and extraversion, and the following objectives are intended to map new terrain regarding how introverts (and extraverts) in Australia are perceived and characterised based on lay beliefs about their personality and character. These objectives are to:

- Delineate and clarify the *nature* or *defining characteristics* of introversion and extraversion;
- Shed more light on the *adaptive value* and *social desirability* of introversion versus extraversion;
- Gain a better understanding of the purported *ambiguity and stigma* surrounding the notion of introversion; and
- Identify some possible *challenges* and *opportunities* for introverts posed by these beliefs; regarding their person–environment fit, identity, and well-being.

In mapping this new terrain, the novel “descriptive-exploratory” design adopted in Chapter Three is expected to uncover new aspects of introverts’ identity and to highlight

a cultural preference for extraversion in Australia; thereby providing some justification and context for the hypothesised model tested in Chapter Five.

In light of Chapter Three, the empirical study in Chapter Five takes a more conventional, hypothetico-deductive approach to quantitatively “identify pathways” to flourishing for trait introverts living in Australia. The second set of research objectives below relate directly to my second research question, and are intended to test a new model of relations between trait I-E and well-being; conceptualised through a cultural lens of social desirability and person–environment fit (see Lawn et al., 2019). These objectives are to:

- Measure the *moderating* effect of extraversion-deficit beliefs (i.e., as a boundary condition; testing *when* introverts might flourish);
- Measure the *mediating* effect of authenticity (i.e., as a mechanism; testing *how* introverts might flourish); and
- Combine and measure these effects as a *moderated mediation* model (i.e., identify a conditional, indirect pathway to flourishing for introverts—over and above any direct effects).

It is expected that testing this hypothesised model will unearth new insights and provide signposts into the identity and functioning of trait introverts living in the West (Lawn et al., 2019).

The specific methods used to conduct these studies and thereby investigate the two primary research questions are set out in detail in their respective empirical chapters. Hypotheses and predictions for the model-based Study Two are presented in Chapter Five.

### **3.0 CHAPTER THREE**

#### **STUDY ONE:**

##### **LAY BELIEFS ABOUT INTROVERSION-EXTRAVERSION REFLECT WESTERN INDIVIDUALISM: DESCRIPTIVE AND EVALUATIVE EVIDENCE IN AUSTRALIA**

The study commencing on the following page is unpublished material not submitted for publication (see Preface).

Some findings arising from this study were the subject of a poster presentation at the International Positive Psychology Association (IPPA) 6<sup>th</sup> World Congress on Positive Psychology, held in Melbourne, Australia in July 2019:

<http://wcpp-2019.p.asnevents.com.au/days/2019-07-19/abstract/58118>

## **Lay Beliefs about Introversion-Extraversion Reflect Western Individualism: Descriptive and Evaluative Evidence in Australia**

Introversion-extraversion is a fundamental, bipolar personality trait (John, Naumann, & Soto, 2008) that is prominent in scientific and lay conceptions of personality (Cain, 2012a; Watson & Clark, 1997; Wilt & Revelle, 2009). In the widely accepted Big Five personality taxonomy the introversion-extraversion dimension primarily captures traits of an interpersonal nature (John et al., 2008; Winter, John, Stewart, Klohnen, & Duncan, 1998). Introverts and extraverts are conceptual opposites (Krueger & Markon, 2014), whereby prototypical “introverts” are described as “quiet”, “reserved”, and “withdrawn” whereas prototypical “extraverts” are described as “outgoing”, “active”, and “assertive” (John, 1990). In individualistic Western cultures extraversion tends to be socially desirable (Bagby & Marshall, 2003; Furnham & Henderson, 1982; Hills & Argyle, 2001; John & Robins, 1993; Sneed, McCrae, & Funder, 1998). Indeed, it has been suggested that in a Western context extraversion might enhance person–environment fit (Pavot, Diener, & Fujita, 1990).

People have a basic need to belong, and deficits in fulfilling this need can have adverse effects on well-being (Baumeister & Leary, 1995). Moreover, people tend to conform to cultural norms to fit into society (Cialdini & Trost, 1998). Thus, a likely and important outcome for people who possess personality traits that align with prevailing cultural norms is the experience of greater well-being (Fulmer et al., 2010). For example, recent evidence from a large-scale study across several cultures showed that the alignment of individual- and national-level extraversion amplified the positive relationship between extraversion and happiness and self-esteem (Fulmer et al., 2010). Fulmer et al. (2010) argued that this positive amplifying effect for extraverted

individuals was due to the beneficial, self-validating impact of living in a shared cultural reality where one's personality matches the personality of most others in that society. Along these lines, other research has shown that extraverts tend to feel more normal, and feel that they have a better fit with their peers, than introverts (Wood, Gosling, & Potter, 2007).

Conversely, for introverts living in the West where extraversion is favoured, their relative lack of person–environment fit could have adverse implications for their identity, happiness, and psychosocial functioning (Cain, 2012a; Davidson, Gillies, & Pelletier, 2015; Zelenski, Sobocko, & Whelan, 2014). This notion was popularised particularly by Susan Cain's book *Quiet: The Power of Introverts in a World that Can't Stop Talking* (Cain, 2012a). Cain's best-seller was accompanied by a TED Talk (Cain, 2012b) that has attracted over 19 million views. People inevitably make judgements about preferred ways of being, and these judgments are informed by culture (Christopher, 1999; Markus & Kitayama, 1998). In the West the “ideal” self is an agentic, expressive being who actively influences their own social reality (Markus & Kitayama, 1998; Ryff, 1987). Cain (2012a) argued that individualistic Western cultures thus tend to diminish and stigmatise introverts, to the extent that their personality does not fit with, and is not rewarded by, the prevailing norms, expectations, and institutions in their society.

Over and above personality traits, character-related notions reflect cultural ideals (McGrath, 2015) and provide a unique evaluative basis for social and moral judgements of people (Avia, 2013; Banicki, 2017; Baumeister & Exline, 1999). Moreover, people's perceptions of themselves, their perceptions of others, and their perceptions of how they are perceived by others are of psychological (Tellegen, 1993) and social (Funder, 2012) importance. The aim of the present study is, therefore, to

address the first research question presented in Chapter One, namely: *How do introverts and extraverts living in Australia describe and evaluate themselves and each other in regard to their personality and character, and in light of individualistic Western values does this reflect a cultural preference for extraversion?* This is an important question. Australia is a relatively individualistic, extraverted Western culture (e.g., Hofstede, 1980; McCrae et al., 2005). Moreover, introversion-extraversion is a normally distributed dimension of personality (e.g., McCrae & Costa, 1989; Zelenski et al., 2014), such that a non-negligible proportion (i.e., typically one third to one half, depending on the measurement definition adopted) of people in a given population tend to be introverted.

Gaining new knowledge about the way introverts are viewed in Australia based on their character could point to some of the challenges this substantial demographic purportedly confronts in regard to their identity and well-being in a context where their disposition likely does not fit naturally with the prevailing cultural norm. Perhaps it could also point to some opportunities for introverts to thrive (i.e., “*quiet flourishing*”; Lawn, Slemp, & Vella-Brodrick, 2019).

### **Lay and Scientific Views of Introversion-Extraversion**

In their day-to-day lives people make judgements and form beliefs about their own and others’ behaviour and social and moral characteristics (Benet-Martinez & Waller, 2002; Funder, 2012). These lay inferences about the self and others are typically based on words (Kaplan, 1975) that comprise both *descriptive* and *evaluative* components (Benet-Martinez & Waller, 2002; Peabody, 1967; Saucier, 1994). That is, ordinary people in everyday life do not merely describe people (e.g., as “quiet” or “outgoing”), they also evaluate them (e.g., as “good” or “bad”) (Haslam, 2007). These lay inferences have been shown to capture meaningful and consequential information

about human nature and individual differences (Benet-Martinez & Waller, 2002).

Moreover, these judgements and beliefs enable people to conceptualise and communicate reasonably accurately about their own as well as others' personality and character (Borkenau, 1992; Funder, 2012; Helzer et al., 2014).

The “lexical hypothesis” asserts that the most salient individual differences ultimately become encoded in the natural language as single-word descriptors, thus capturing those attributes of personality and character that people have found to be most socially consequential in their day-to-day lives (Goldberg, 1981; John, Angelitner, & Ostendorf, 1988; John et al., 2008). Given that it is the most prototypical and easily recognised personality trait (John & Robins, 1993; Mehl, Gosling, & Pennebaker, 2006; Vazire, 2010; Winter et al., 1998), introversion-extraversion provides a likely basis for people to make consequential inferences about the self and others in navigating their day-to-day lives. The Big Five personality taxonomy was empirically derived using factor analyses of ratings of trait-descriptive terms in the natural language (Hofstee, 1994; John et al., 2008; Wiggins & Trapnell, 1997). Of the Big Five dimensions, introversion-extraversion typically explains the largest proportion of shared variance in people's personality (John et al., 2008; Zelenski et al., 2014) and is, thus, a socially consequential and broad personality construct (John et al., 2008; Watson & Clark, 1997).

However, the Big Five dimensions, including introversion-extraversion, were derived based on a putatively descriptive—rather than evaluative—conception of personality (Benet-Martinez & Waller, 2002). Influential early researchers (e.g., Allport & Odbert, 1936 and Cattell, 1943 as cited in John et al., 1988) deliberately excluded purely evaluative terms from the pool of personality trait descriptors, from which the modern Big Five emerged (Benet-Martinez & Waller, 2002; John et al., 1988;

Saucier & Srivastava, 2015; Tellegen, 1993). In doing so, their goal was to avoid conflating the objective study of what they regarded as neuropsychic- or biophysical-based “personality” (Saucier & Srivastava, 2015) with the more morally-laden notion of “character” which reflects prevailing sociocultural values (John et al., 1988; Nofle, Schnitker, & Robins, 2011; Saucier & Srivastava, 2015).

Two important issues in relation to how introverts and extraverts are viewed in Western contexts arise from the preceding analysis. First, despite its primacy in the Big Five taxonomy (John et al., 2008; Zelenski et al., 2014) and the extant prototype definitions of each pole (John, 1990) the core meaning or true nature of introversion-extraversion remains ambiguous (Lucas, Diener, Grob, Suh, & Shao, 2000; Watson & Clark, 1997). Different models or measures emphasise different components of the broader dimension (e.g., sociability, dominance, or positive emotionality: McCrae & Costa, 1991; McCrae & John, 1992; Saucier & Goldberg, 2003). Of particular relevance to the present study, there is ongoing confusion and debate—among laypeople as well as among personality psychologists—about whether intellectual or low interpersonal tendencies properly describe the introverted pole of the continuum (see Blatchford, 2017; Kaufman, 2014a, 2014b; Smillie, 2015). This ambiguity could have implications for people’s overall judgements of introverts.

Second, the fact that the Big Five was derived from a pool of trait descriptors that excluded purely evaluative terms means that some of the more positively- or negatively-valenced, morally relevant features of personality—or character—are not well represented in the taxonomy (Benet-Martinez & Waller, 2002). This is an important omission in regard to person perception and the conceptual structure of personality (Benet-Martinez & Waller, 2002; Haslam, Bain, & Neal, 2004; Tellegen, 1993). It has been suggested that evaluative information (e.g., character-based

considerations about whether someone is “good” or “bad”; Hofstee, 1990; Rosenberg, Nelson, & Vivekananthan, 1968) plays a substantial and meaningful role in the language of individual differences (Hofstee, 1990), and impression formation (Goodwin, Piazza, & Rozin, 2014; Rosenberg et al., 1968); including people’s self- and other-esteem processes (Benet-Martinez & Waller, 2002; Tellegen, 1993). Furthermore, evaluative personality terms may be important in understanding cultural differences in person perception (Benet-Martinez & Waller, 2002).

Given the importance of evaluation for person perception and impression formation (Benet-Martinez & Waller, 2002; Haslam, 2007) and its relative neglect in the personality literature (Benet-Martinez & Waller, 2002) the primary focus of the present study will be to gain a unique, *evaluative*-based perspective of introverts and extraverts based on their perceived character attributes. A secondary focus of the present study involves a *descriptive*-based perspective on introversion-extraversion. It is expected that these complementary descriptive and evaluative perspectives will shed new light on how introverts (and extraverts) are characterised—by themselves as well as by others—based on their relative standing along the introversion-extraversion continuum, in a culture where extraversion is likely to be favoured.

### **A Descriptive-based Perspective: “Thinking” versus “Social” Introversion**

A distinction between “thinking” and “social” orientations is emphasised in some conceptions of introversion-extraversion; both in science and the popular mind. Three examples illustrate the distinction. First, a seminal study in a British sample comparing lay and scientific conceptions of trait introversion-extraversion found that laypeople characterised introverts primarily in terms of a tendency for introspection and cautious, persistent deliberation over a preference for solitude (Semin, Rosch, & Chassein, 1981). Second, a prominent debate among influential personality

psychologists regarding the nature of trait introversion-extraversion was based on the relative merits of including intellectual versus interpersonal traits in its definition and measurement (see Eysenck, 1977; Guilford, 1975, 1977). In the Big Five, intellectual tendencies for introspection and deliberation belong to the high poles of the Openness and Conscientiousness dimensions, respectively, rather than being part of the low pole of the Extraversion dimension (DeYoung, 2015; McCrae & John, 1992). Third, popular conceptions of introversion (e.g., Cain, 2012a) have been criticised on the basis that they also conflate Big Five introversion with more intellectually-oriented tendencies located at the positive pole of other Big Five dimensions such as Openness and Conscientiousness (see Blatchford, 2017; Kaufman, 2014a, 2014b; Smillie, 2015).

In an attempt to address this ongoing ambiguity some recent research has made progress in distinguishing different conceptions of introversion, including the thinking and social dimensions (Cheek, Brown, & Grimes, 2014; Grimes, Cheek, & Norem, 2011). Preliminary findings indicate that the thinking dimension is not correlated with other dimensions of introversion (Cheek et al., 2014; Grimes et al., 2011). Thus, there is lingering confusion and debate among laypeople and personality psychologists about the true nature of introversion. Interestingly, evidence suggests that when making trait inferences people distinguish between the intellectual and social desirability of the target person (Rosenberg et al., 1968). It seems plausible, therefore, that ambiguity about whether thinking or social traits best describe introverts could have implications in regard to people's judgements of introverts.

There is merit in directly examining, in an Australian context, lay beliefs about thinking versus social introversion. Beyond prototype definitions such as quiet, reserved, and withdrawn (John, 1990), this might provide further insight into how laypeople in the West describe and evaluate those individuals who are located toward

the low pole of the introversion-extraversion continuum and the criteria they use when making those judgements.

### **An Evaluative-based Perspective: Character Strengths as Positive Moral Traits, and Their Attribution to Introverts and Extraverts**

How might one go about investigating evaluative-based lay beliefs about introverts and extraverts? Character strengths are desirable personal attributes (Smith, Smith, & Christopher, 2007) and, unlike personality traits, character strengths are explicitly evaluative (King & Trent, 2013). Moreover, moral character is a predominant dimension of person perception and impression formation (Goodwin et al., 2014). One method of investigation, therefore, would be to examine people's beliefs about the associations between introversion-extraversion and character, using an established model of the positive, moral domain of human nature and individual differences. The Values-In-Action Classification of Strengths and Virtues (VIA Classification; Peterson & Seligman, 2004) provides such a model.

A primary tenet of positive psychology is that the development and nurturing of individuals' core or "signature" character strengths provides them with an authentic, volitional means of improving hedonic and eudaimonic well-being (Govindji & Linley, 2007; Park, Peterson, & Seligman, 2004b; Peterson & Seligman, 2004; Seligman, 2011). Moreover, character strengths—as positive moral traits—represent an embodiment of people's particular personal and social virtues (McCullough & Snyder, 2000), and they are an important part of people's notion of their "true self" (Banicki, 2017; Park et al., 2004b; Peterson & Seligman, 2004). Character strengths can, thus, also have important implications for people's sense of identity and how they fit into and contribute to the world.

It has been claimed that *all* of the 24 character strengths in the VIA Classification are intrinsically “good”, desirable traits that apply universally across cultures (Park, Peterson, & Seligman, 2006; Peterson & Seligman, 2004). However, morality and virtue have an interpersonal, social function (Baumeister & Exline, 1999)—it therefore seems plausible that different cultures could encourage or privilege particular strengths and virtues over others based on prevailing norms (Christopher & Hickinbottom, 2008; King & Trent, 2013; McGrath, Greenberg, & Hall-Simmonds, 2018). Perhaps, for example, individualistic Western cultures that value uniqueness and independence (Baumeister, 1997; Markus & Kitayama, 1998) might favour particular strengths that facilitate personal agency, expressiveness, and autonomy. Moreover, lay beliefs about the conceptual relations among traits—including personality and character traits—will likely reflect these sociocultural influences (Haslam, Bain, & Neal, 2004). The implications of character strengths for self- and other-knowledge, and well-being, suggests that how introverts and extraverts evaluate themselves and each other in terms of those strengths might provide important new insights as to their identity, happiness, and psychosocial functioning. More specifically, if introverts in the West are believed (by the self and/or by others) to possess a particular set of signature strengths that are not as well-suited to thriving in individualistic cultures—and therefore perhaps not as highly regarded in comparison to the signature strengths extraverts are believed to possess—then this perceived misalignment with their sociocultural surroundings might have an adverse impact on the identity and well-being of introverts.

There have been a surprisingly limited number of studies examining empirical relations between personality traits and character strengths. The few studies that have been conducted—in Western cultures—have shown some correspondence between extraversion (or personality traits closely resembling extraversion, such as social

potency; Steger, Hicks, Kashdan, Krueger, & Bouchard, 2007) and various character strengths. For example, Macdonald, Bore, and Munro (2008) found, in an Australian sample, that extraversion was most strongly correlated with a “positivity” factor—reflecting positive engagement with life—that included strengths of citizenship, love, hope, humour, vitality, and leadership. Macdonald et al. also found that extraversion had a strong positive correlation with an overarching factor upon which almost all of the character strengths loaded strongly; they suggested that this single factor could represent an overall “goodness” dimension.

The aforementioned studies examined explicit relations (i.e., based on self-report measures) between personality and character. To our knowledge only one set of studies—Haslam, Bain, and Neal (2004)—has examined *implicit* relations between personality and character based on laypeople’s conceptual representations. In regard to extraversion and character, Haslam et al. found, using sorting and rating tasks in an Australian sample of 190 participants, that extraversion (defined as “assertiveness” and “enthusiasm”) shared mental coordinates with agentically-oriented values and strengths that represented “vivacity”, “power”, and “drive”. Importantly, however, Haslam et al. did not sample trait terms from the negative pole of the introversion-extraversion dimension; thus, they did not examine conceptual relations between *introversion* and character strengths.

Moreover, these studies did not examine character *weaknesses*. Positive psychology acknowledges that weaknesses, as well as strengths, are a valid part of the human condition (Peterson & Seligman, 2004), and it has been suggested that to properly understand human nature it is necessary to study strengths and weaknesses simultaneously (Schimmel, 2000). Indeed, most evaluative judgements of people tend to be negatively—rather than positively—oriented (Benet-Martinez & Waller, 2002). In

addition to character strengths, therefore, character weaknesses are likely to be important in investigating an evaluative-based lay perspective of introverts and extraverts. A preliminary classification of such deficiencies of character was developed by Chris Peterson, and subsequently elaborated by Martin Seligman (2014). For the purposes of the present research, terms from Peterson's and Seligman's preliminary classification are considered "undesirable attributes" in a social or moral sense, without any pathological connotations of specific dysfunction or distress.

It would be interesting to examine, in an Australian context, how laypeople attribute the VIA character strengths (and their related weaknesses) to introverts and extraverts. It is plausible that, in light of individualistic Western values, these character attributions will provide a unique perspective on the implications—particularly for introverts—of living in a culture where extraversion is likely to be favoured over introversion.

### **The Present Study**

The present study will use a complementary, "descriptive-and-evaluative" framework to identify lay beliefs about the personality and character of introverts and extraverts in the West. The distinction between descriptive and evaluative person perception and impression formation—while somewhat artificial as personality description and evaluation exist on a continuum—can be useful and is commonly made in the personality literature (Beauvois & Dubois, 2000; Benet-Martinez & Waller, 2002). Moreover, due to the inductive nature of the present research specific hypotheses and predictions are not presented or formally tested via inferential statistics in this study. Rather, we take a "descriptive-exploratory" approach to map this new terrain regarding lay beliefs about introversion-extraversion in the West (see Funder (2009a, 2009b), Rozin (2001), and Ryff (1987) on the merits of doing such bottom-up

research in the domains of personality, social psychology, and the self in sociocultural contexts, respectively). Findings from this approach might therefore provide a fruitful basis for future research into relations between trait introversion-extraversion and well-being (see Dulock, 1993).

## **Method**

### **Participants**

The present research received approval from the University of Melbourne Human Research Ethics Committee in 2016. Data were collected in Australia on the basis of it being quite an individualistic, extraverted Western culture (e.g., Hofstede, 1980; McCrae et al., 2005). Participants were recruited as a convenience sample via posters, email invitations, and academic recruitment websites. They had to be at least 18 years of age and living in Australia to be eligible and as an incentive to participate they could enter an optional draw for a chance to win one of ten \$50 gift cards.

There were 399 participants (78% female) aged between 18 and 61 years ( $M = 24.29$ ,  $SD = 8.38$ ). Fifty one percent of these participants described their ethnicity as “Caucasian/white” and a further 39 percent as “Asian”. Seventy two percent were “students or unemployed”, and 56 percent were born in Australia. Missing data for all substantive variables were minimal (5%). The larger data set comprised 422 participants but this was reduced to 399 participants for two reasons: First, 21 cases failed to answer one or more of the substantive questionnaire items; second, two cases provided unusable multi-word responses on one of the substantive text-based questionnaire items.

### **Measures**

The online survey included an established measure of trait introversion-extraversion and a researcher-designed questionnaire to explore lay beliefs about introversion-extraversion, as well as some basic demographic items regarding age, gender, ethnicity, occupation, and country of birth.

**Trait introversion-extraversion.** The IPIP-NEO-120 personality questionnaire (Goldberg et al., 2006; International Personality Item Pool (IPIP); Johnson, 2014) assesses the Big Five traits. Each of five domain scales contains several subscales to capture different facets. In this study only the 24-item Extraversion scale, comprising six facet subscales of four items each, was given to participants. Items are in phrase form (e.g., “Make friends easily”), and scoring uses 5-point response scales that range from 1 = *very inaccurate* to 5 = *very accurate*. Averaging across the six subscales yielded a composite Extraversion score with higher scores indicating higher levels of trait extraversion (reverse-scoring is used on some items). For the purposes of this research we used a median split to define trait “introverted” versus trait “extraverted” participants in our sample (e.g., Hills & Argyle, 2001). The measure’s internal consistency at the Extraversion domain level is high, and its factor structure aligns with the 240-item NEO-PI-R (e.g., Johnson, 2014).

**Prototypical descriptors of introverts and extraverts.** The study first tested whether laypeople in Australia describe introverts and extraverts similarly to extant prototype definitions of Big Five introversion-extraversion (i.e., expert-defined ratings of trait centrality; see John, 1990). Participants were asked to free-list, under the headings “Introverted” and “Extraverted”, up to five key words that they believed best described people on the introverted and extraverted ends, respectively, of the introversion-extraversion personality dimension. Frequencies of free-listing give an indication of how readily concepts come to mind and are a guide to prototypicality

(Fehr & Russell, 1984). Moreover, most research on personality language has concentrated on trait adjectives (Hofstee, 1990; Peabody, 1987; Saucier, 2003). Hence, we specifically asked participants for key words that would "...*best describe*..." introverts and extraverts. However, their responses were not always provided as single-word adjectives. To enable more meaningful tallies and ready comparison with John's (1990) prototype definitions by using the same word class, responses presented as nouns or verbs were changed to adjectives or compound adjectives (e.g., "observer" and "observe" were changed to "*observant*"; "high achievers" was changed to "*high-achieving*"). Moreover, multiple grammatical variations on a similar descriptive theme were collapsed into one single-word descriptor that was deemed to adequately capture their common meaning (e.g., the responses "internalises", "thinks inwards", "inwards", "inward", "looking in", "internally oriented", "introspection", "inward turning", "internal thinker", "inward-looking", and "internal" were all changed to "*introspective*").

Where we believed that a double-meaning was plausible we did not change the response into another descriptor (e.g., "inside" was not changed to "introspective" as the former could reasonably be construed to mean either that a person prefers to remain indoors or that they tend to focus their thinking internally). Also, obvious spelling mistakes were corrected (e.g., "quite" was changed to "*quiet*"), ambiguous responses were deleted (e.g. "inside" for an introvert or "networking" for an extravert), and multi-word responses that could not be readily and meaningfully converted to single-word adjectival form were deleted (e.g., "need alone time" for an introvert or "relax well with people" for an extravert).

Overall, data cleaning resulted in a 10 percent reduction in responses. After data were cleaned, the descriptors of introverts and extraverts were ordered by their

frequency of free-listing to provide a guide to prototypicality for both poles of introversion-extraversion. We compared a subset of the top 10 most frequently listed descriptors from each of these two ordered sets to John's (1990) Big Five prototype definitions of the low and high poles, respectively, of introversion-extraversion.

**Thinking versus social introverts.** Participants were presented with the following two statements and asked to select the one that, in their opinion, best represented a typical introverted person:

*“Introverted people prefer to quietly reflect on ideas and carefully consider options before making decisions and taking any action.”*

*“Introverted people prefer solitude, few social relationships, and limited interaction.”*

The first statement was intended to reflect thinking introversion, and the second statement was intended to reflect social introversion. Overall frequency counts and percentages for thinking and social introversion were obtained by summing the responses for each choice.

**VIA character strengths—attribution to introverts and extraverts.**

Participants were presented with a list of the 24 VIA character strengths (e.g., “creativity”) and asked to place them under the headings “Introvert - strengths” or “Extravert - strengths” based on whether they believed those strengths would be commonly associated with either introverted or extraverted people. Brief definitions of each strength were provided in the form of synonyms (e.g., for creativity: “imagination, originality”). Participants were instructed to allocate as many strengths as they wished to either introverts or extraverts; they could only allocate each of the strengths to either introverts or extraverts, not both. They were then asked to rank the chosen strengths from most to least commonly associated with each trait.

Frequency counts for each of the strengths attributed to introverts were obtained, with *higher* numbers being favourable in terms of a given strength's perceived association with the trait. Overall rankings for each of the strengths attributed to introverts were obtained by averaging their individual rankings, with *lower* numbers being favourable in terms of a given strength's perceived association with the trait. The same processes were used in regard to the strengths attributed to extraverts. "Indices of association" for each introvert strength, and for each extravert strength, were then computed based on a weighted combination of their frequency of selection and their average rank in the respective lists. These indices operationalised the degree of conceptual association between each of the character strengths and introversion or extraversion; *higher* numbers indicate a stronger association. The indices were designed to take into account both frequency of selection and ranking, which offer complementary but independent information regarding perceived relations between the traits and strengths.

The indices were computed separately for each introvert strength and each extravert strength as follows. First, the average rank across all 24 strengths in the relevant trait list was divided by the average rank for a given strength in that list. Second, the frequency count for a given strength was divided by the average frequency count across all 24 strengths. These two numbers were multiplied together to obtain a weighted index of association for a given strength. The overall lists of strengths attributed to introverts and to extraverts were then ordered by these indices to obtain the top five (signature) strengths for each trait, and these ordered lists were used in subsequent analyses.

#### **Character weaknesses—attribution to introverts and extraverts.**

Participants were presented with a list of 24 undesirable attributes (i.e., character

weaknesses) and they followed the aforementioned process to allocate and rank them under the headings “Introvert – undesirable attributes” and “Extravert – undesirable attributes”. Each of the weaknesses was intended to denote the opposite of a particular character strength. For example, “triteness” was included as the opposite of the strength of creativity. Again, participants could view a brief definition (e.g., for triteness: “staleness”). The list of weaknesses was largely derived from Peterson’s and Seligman’s (2014) preliminary classification. In a few instances however, where the available terms in Peterson’s and Seligman’s list were not intuitively clear enough or appropriate for the present study, antonyms of the character strengths were instead selected from a thesaurus (e.g., we used “subservience”, rather than their term “sabotage”, to denote the opposite of leadership).

The same processes as above were used to obtain frequency counts and overall rankings, and to compute indices of association, for each of the weaknesses attributed to introverts and to extraverts. The overall lists of weaknesses attributed to introverts and to extraverts were then ordered by these indices to obtain the top five weaknesses for each trait, and these ordered lists were used in subsequent analyses.

**Cultural preference for extraversion.** To directly test our presumption that a cultural reality favouring extraversion exists in Australia, and thus provide important context within which to interpret the descriptive and evaluative findings of our study, we posed two questions to participants. The first question asked them to indicate, using an 11-point sliding scale ranging from zero to 100 percent, the “...*the overall percentage of time during the last month where you believed that it was necessary for you to behave in an extraverted manner (e.g., outgoing, bold, assertive, active)*”. The second question was “*Where do you believe most people in your society are typically located on the Introversion-Extraversion personality dimension?*”; to which

participants responded using a 7-point sliding scale ranging from -3 = *very introverted* to 3 = *very extraverted*, with a mid-point of 0 = *neither introverted or extraverted*.

### **Data Analysis Strategy**

Aside from a general expectation that it will reveal a cultural preference for extraversion in Australia, specific hypotheses and predictions are not presented or formally tested via inferential statistics in this descriptive-exploratory study (see Dulock, 1993). Rather, outcomes will be analysed and interpreted using frequency counts, rankings, averages, and computed indices. Given the text-based nature of some items, we used Microsoft Excel for data preparation, analyses, and display—including cleaning, compiling, and tallying participant responses, and computing our indices.

## **Results**

### **Preliminary Analyses**

**Trait introverted and trait extraverted participants.** Among our sample ( $n = 399$ ) scores on the IPIP-NEO-120 had a median value of 3.08 ( $M = 3.10$ ,  $SD = 0.59$ ); slightly above the scale midpoint. Based on a median split there were 192 trait introverted and 198 trait extraverted participants (9 participants scored at the median value). We used this median split to define trait introverts versus trait extraverts for our subsequent analyses comparing participants' responses regarding a cultural preference for extraversion, and also when comparing descriptive- and evaluative-based views of introversion-extraversion.

**Cultural preference for extraversion.** Overall, on average, participants indicated that they believed it was necessary for them to behave in an extraverted manner for approximately two thirds (65.1%) of the time during the preceding month. Moreover, they also indicated a belief that most people in their society were slightly

extraverted ( $M = 0.71$ ,  $SD = 1.09$ ). Trait introverts believed that it was necessary to behave in an extraverted manner 59.9 percent of the time during the preceding month, and that most people in their society were slightly extraverted ( $M = 0.86$ ,  $SD = 0.98$ ). Similarly, trait extraverts believed that it was necessary to behave in an extraverted manner 70.3 percent of the time during the preceding month, and that most people in their society were slightly extraverted ( $M = 0.58$ ,  $SD = 1.18$ ). These findings suggest that, in general, participants shared a belief that they were living in a society where extraversion was a preferred and more typical way of being.

### **Descriptive-based Perspectives on Introversion-Extraversion**

**Prototypical descriptors of introverts and extraverts.** Two sets of descriptors, ordered by their frequency of free-listing, were produced; one each for introverts and extraverts. There were 267 different descriptors for introverts; of these the top 10 descriptors accounted for 55.2 percent of the total responses. Similarly, there were 251 different descriptors for extraverts and the top 10 descriptors accounted for 60.4 percent of the total responses. The top 10 descriptors for introverts and extraverts are shown in Figures 1 and 2, respectively.

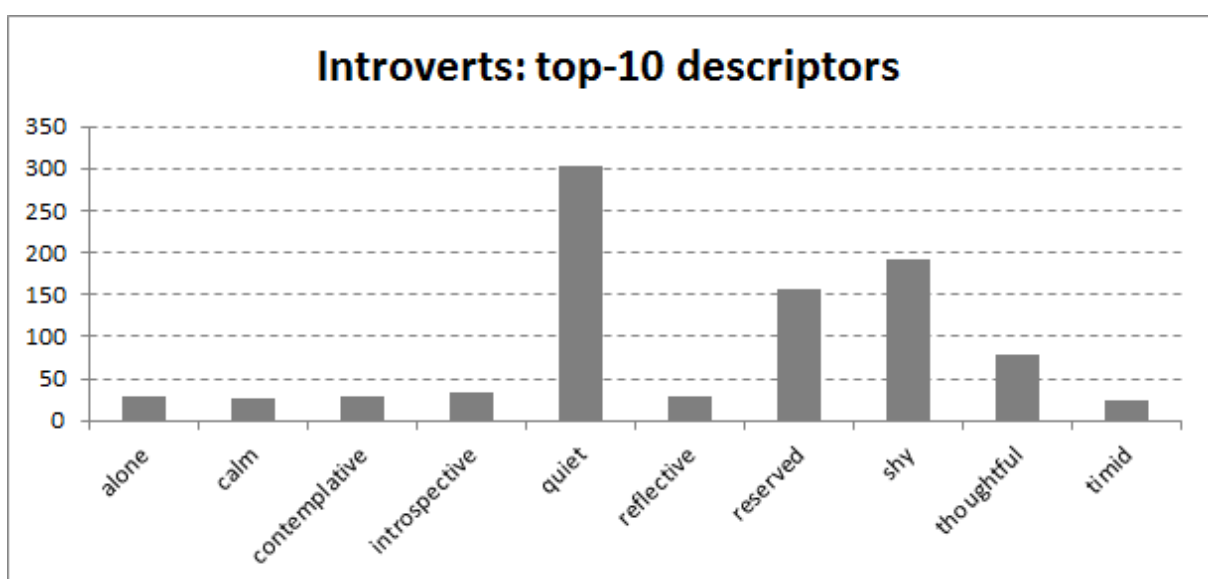


Figure 1. Top 10 descriptors of introverts reported by laypeople in Australia.

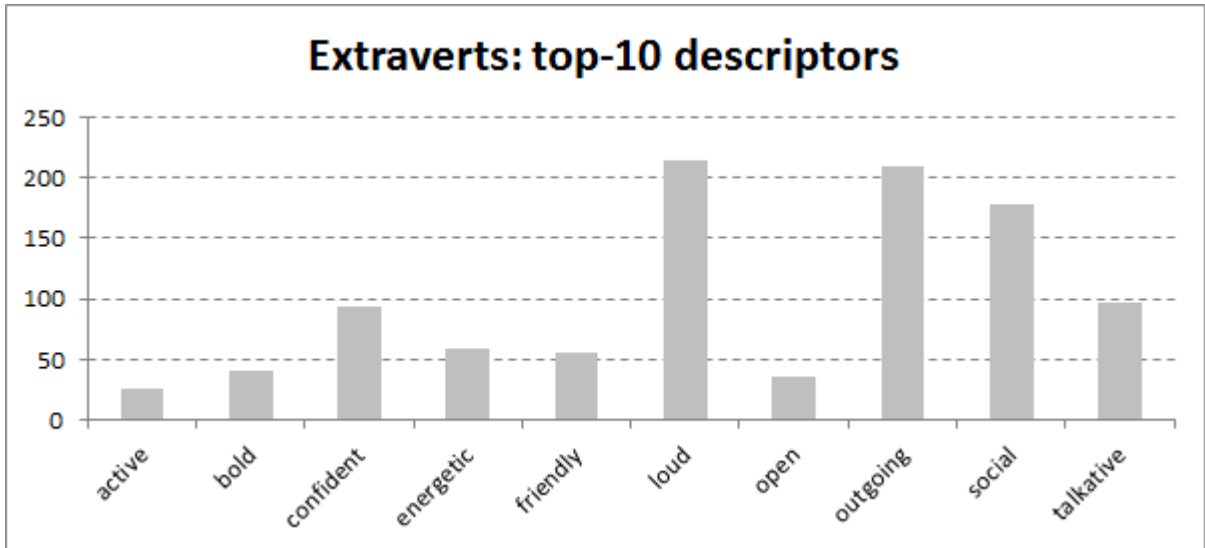


Figure 2. Top 10 descriptors of extraverts reported by laypeople in Australia.

The high concentration among just a few common descriptors, evident in Figures 1 and 2, suggests that participants were very clear in their beliefs about what attributes best describe introverts and extraverts; thus, we compared these two subsets of the top 10 descriptors to John's (1990) Big Five prototype definitions of the low and high poles, respectively, of introversion-extraversion. The comparison is shown in Table 1.

Table 1  
*Top 10 Descriptors for Introverts and Extraverts*<sup>a</sup>

Descriptor <sup>b</sup>	Frequency count	Position based on size of factor loadings in John's (1990) Big Five prototype definitions
Introverts		
1 Quiet *	304	1 <sup>st</sup>
2 Shy *	193	3 <sup>rd</sup>
3 Reserved *	157	2 <sup>nd</sup>
4 Thoughtful	79	
5 Introspective	34	
6 Alone	28	
7 Contemplative	28	
8 Reflective	28	
9 Calm	26	
10 Timid	24	
Total	901	
Extraverts		
1 Loud	214	
2 Outgoing *	209	equal 3 <sup>rd</sup>
3 Social * <sup>c</sup>	177	equal 7 <sup>th</sup>
4 Talkative *	96	1 <sup>st</sup>
5 Confident	93	
6 Energetic *	58	equal 3 <sup>rd</sup>
7 Friendly	55	
8 Bold	41	
9 Open	35	
10 Active *	26	equal 3 <sup>rd</sup>
Total	1,004	

<sup>a</sup> Overall there were 267 descriptors for introverts and 251 descriptors for extraverts.

<sup>b</sup> Asterisked descriptors (\*) are those that also appeared in John's (1990) prototype definitions.

<sup>c</sup> The equivalent descriptor in John's (1990) prototype definitions was "sociable".

As seen in Table 1 there was a reasonably high degree of correspondence between the most frequently listed descriptors of introverts and extraverts from our sample and John's (1990) prototype definitions. For introverts, the top three descriptors (i.e., "quiet", "shy", and "reserved"; representing 72.6% of the top 10 in our list) are the same in both lists. For extraverts, five of the top 10 descriptors in our list (i.e.; "outgoing", "social", "talkative", "energetic", and "active"; representing 56.4% of the top 10) also appear in John's (1990) list. Interestingly, the list of top 10 descriptors for introverts as seen in Table 1 also contains several terms ("thoughtful", "introspective", "contemplative", "reflective", and "calm") that do not appear in John's (1990) prototype definitions; instead, these descriptors from our sample appear to reflect the aforementioned ambiguity about the true nature of introversion. While they were not in the top three most frequently listed descriptors, these terms were nevertheless considered by participants to be defining attributes of an introverted person. However, they represent tendencies that more properly belong to the Big Five dimensions of Openness and Emotional Stability (see also the next section regarding thinking versus social introverts).

A comparison of the ways that introverts and extraverts were described by trait introverted and trait extraverted participants is shown in Table 2.

Table 2  
*Top 10 Descriptors for Introverts and Extraverts;  
 Comparison of Descriptions Given by Trait Introverts and Trait Extraverts*

Trait introverts		Trait extraverts			
Descriptor <sup>a</sup>	Frequency count	Descriptor <sup>b</sup>	Frequency count		
Descriptors of introverts					
1	Quiet	145	Quiet	154	
2	Reserved	82	Shy	105	
3	Shy	82	Reserved	72	
4	Thoughtful	52	Thoughtful	23	
5	Introspective	20	Timid *	18	
6	Reflective *	20	Alone	15	
7	Contemplative *	16	Calm *	14	
8	Observant *	13	Introspective	14	
9	Alone	12	Independent *	12	
10	Private *	12	Withdrawn *	12	
Total		454	Total		439
Descriptors of extraverts					
1	Loud	109	Loud	103	
2	Outgoing	107	Outgoing	97	
3	Social	90	Social	81	
4	Talkative	43	Confident	56	
5	Confident	36	Talkative	49	
6	Energetic	32	Friendly	29	
7	Friendly	26	Bold	26	
8	Active	15	Energetic	24	
9	Open	13	Open	22	
10	Bold	12	Active	11	
	Excitable *	12	Expressive *	11	
	Impulsive *	12	Outspoken *	11	
Total		507	Total		520

<sup>a</sup> and <sup>b</sup> Asterisks (\*) indicate those core descriptors that were provided uniquely by either trait introverts or trait extraverts.

As seen in Table 2 there were strong similarities in the ways that trait introverted and trait extraverted participants described introverts and extraverts. The top four descriptors of introverts were the same among the lists generated by trait introverts and trait extraverts. The top five descriptors of extraverts were the same among the lists generated by trait introverts and trait extraverts. Moreover, in both lists these common descriptors accounted for a substantial portion of the top 10 descriptors (for the top four in the “introverts” lists: trait introverts 79.5% and trait extraverts 80.6%; and for the top five in the “extraverts” lists: trait introverts 75.9% and trait extraverts 74.2%).

There were a few descriptors that did not appear in the top 10 lists for introverts and extraverts generated by the full sample but appeared in the most frequently listed terms for introverts and extraverts among subsets of trait introverted and trait extraverted participants. Regarding an introverted person, trait introverts uniquely described them as “observant” and “private”, and trait extraverts uniquely described them as “independent” and “withdrawn”. Regarding an extraverted person, trait introverts uniquely described them as “excitable” and “impulsive”, and trait extraverts uniquely described them as “expressive” and “outspoken”.

**Thinking versus social introverts.** A substantial majority of participants (68.9%) chose thinking introversion (i.e., reflecting intellectual tendencies)—rather than social introversion (i.e., reflecting low interpersonal tendencies)—as best representing a typical introvert. Consistent with this finding, earlier we also showed that the most frequently listed descriptors of introverts included some terms—such as thoughtful, introspective, contemplative, reflective, and calm—that reflected intellectual tendencies and did not align with prototype definitions of introversion as it conceptualised in the Big Five.

There were no real differences between trait introverts and trait extraverts when choosing between thinking versus social introversion; 66.7 percent of trait introverts and 71.2 percent of trait extraverts believed that thinking introversion best represented a typical introvert.

### **Evaluative-based Perspectives on Introversion-Extraversion**

**Attribution of VIA character strengths and character weaknesses to introverts and extraverts.** Figures 3 and 4 show the attributions of all 24 VIA character strengths, and corresponding character weaknesses, to introverts and to extraverts respectively.

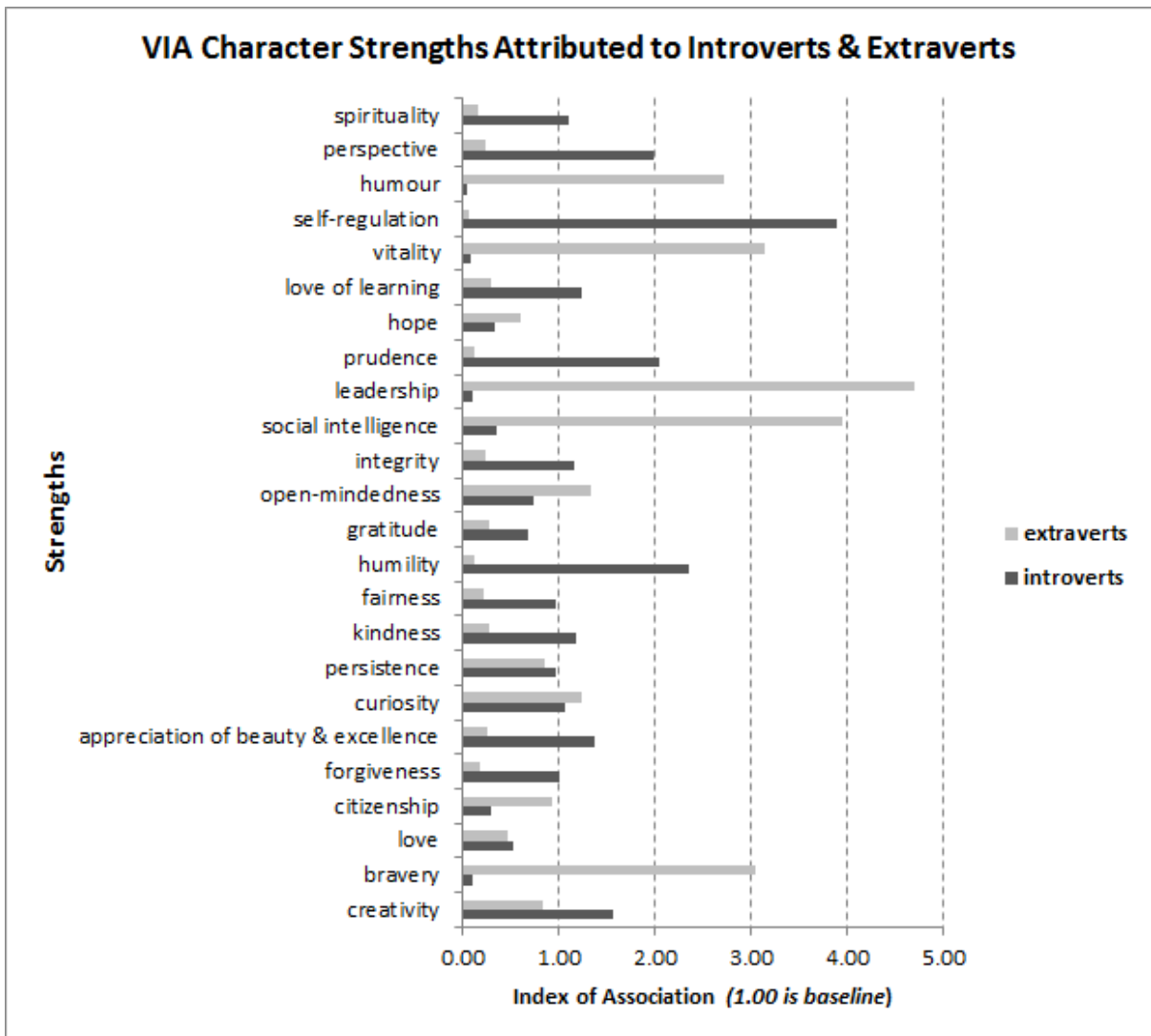


Figure 3. Attribution of VIA character strengths to introverts and extraverts by laypeople in Australia.

It is clear from Figure 3 that some strengths were considered to be much more characteristic of an introvert (e.g., “self-regulation”, “humility”) or an extravert (e.g., “leadership”, “social intelligence”) than others. Strengths that were selected the most often also tended to be ranked most highly. Based on their indices of association the signature strengths attributed to introverts accounted for 47.1 percent of all their perceived strengths, and the signature strengths attributed to extraverts accounted for 66.7 percent of all their perceived strengths. By comparison, for both introverts and

extraverts the bottom five strengths accounted for just 2.5 percent of all their perceived strengths. This high concentration of conceptual association among the top five of 24 strengths suggests that participants were unequivocal in their beliefs about the positively valenced, morally relevant character attributes of introverts and extraverts—particularly so for extraverts.

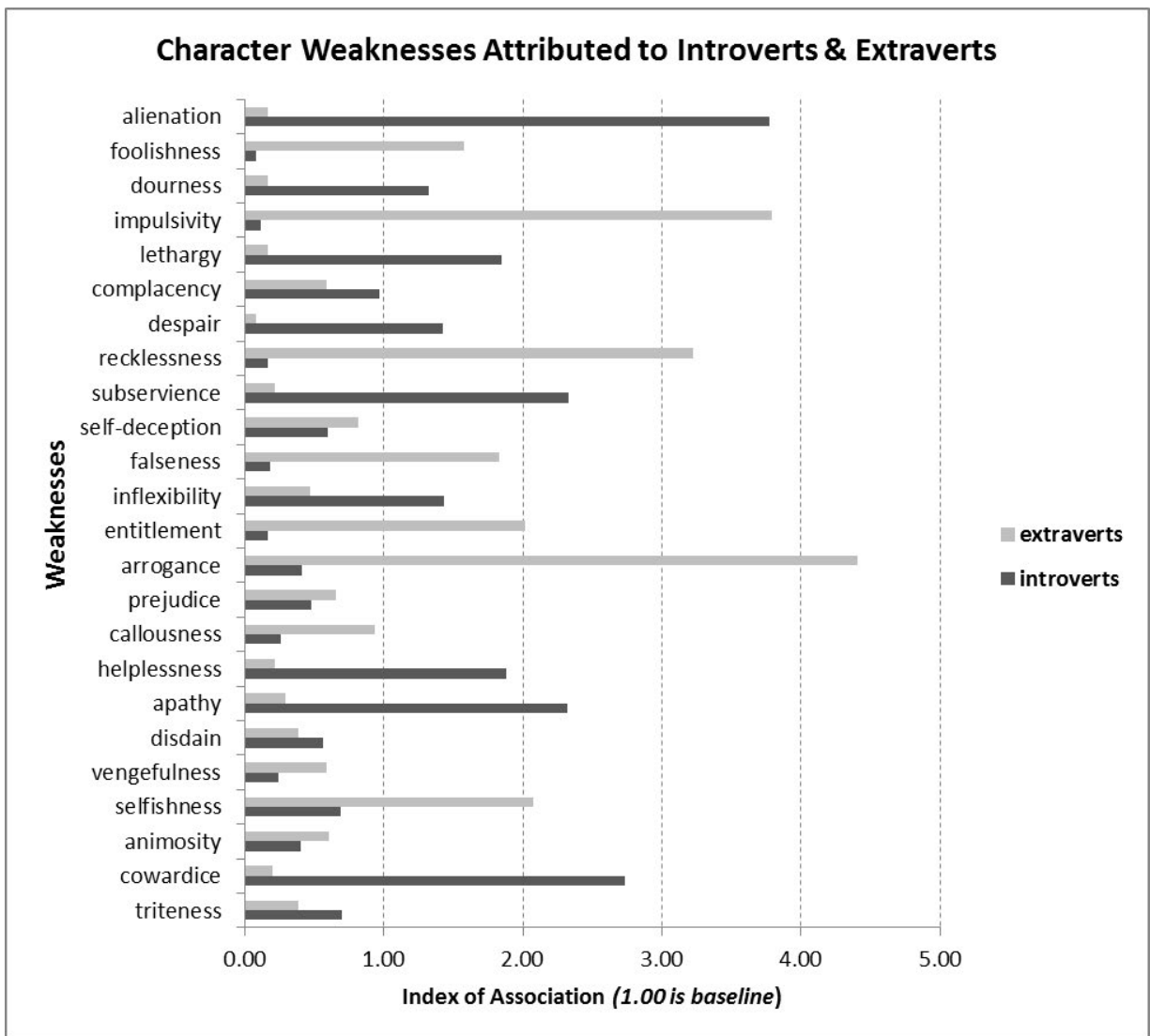


Figure 4. Attribution of character weaknesses to introverts and extraverts by laypeople in Australia.

Similarly, it is clear from Figure 4 that some weaknesses were considered to be much more characteristic of an introvert (e.g., “alienation”, “cowardice”) or an extravert (e.g., “arrogance”, “impulsivity”) than others. Weaknesses that were selected the most often also tended to be ranked most highly. Based on their indices of association the top five weaknesses attributed to introverts accounted for 51.9 percent of all their perceived weaknesses, and the top five weaknesses attributed to extraverts accounted for 59.9 percent of all their perceived weaknesses. By comparison, the bottom five weaknesses accounted for just 2.9 percent and 3.1 percent, respectively, of all the perceived weaknesses of introverts and extraverts. As with the strengths, this high concentration of conceptual association among the top five of 24 weaknesses suggests that participants were unequivocal in their beliefs about the negatively valenced, morally relevant character attributes of introverts and extraverts.

**Similarities between trait introverts and trait extraverts in their evaluations of introverts and extraverts.** Table 3 shows the top five and bottom five character strengths and weaknesses attributed to introverts and to extraverts by trait introverted and trait extraverted participants. These strengths and weaknesses, as they were attributed to introverts and extraverts, are listed in order from one to five and from 20 to 24 based on their indices of association.

Table 3

*Differential Attribution of Top Five and Bottom Five Character Strengths and Weaknesses to Introverts and Extraverts by Trait Introverts and Trait Extraverts*<sup>a</sup>

		Strengths		Weaknesses	
		Trait introverts	Trait extraverts	Trait introverts	Trait extraverts
Introverts					
1	Self-regulation	Self-regulation		Alienation	Alienation
2	Prudence	Humility		Cowardice	Cowardice
3	Humility	Perspective		Subservience	Apathy
4	Perspective	Prudence		Apathy	Subservience
5	Creativity	Creativity		Lethargy	Helplessness
...					
20	Citizenship	Social intelligence		Recklessness	Callousness
21	Leadership	Vitality		Entitlement	Recklessness
22	Bravery	Bravery		Falseness	Impulsivity
23	Humour	Leadership		Foolishness	Entitlement
24	Vitality	Humour		Impulsivity	Foolishness
Extraverts					
1	Leadership	Leadership		Arrogance	Arrogance
2	Social intelligence	Social intelligence		Impulsivity	Impulsivity
3	Vitality	Bravery		Recklessness	Recklessness
4	Bravery	Humour		Entitlement	Selfishness
5	Humour	Vitality		Falseness	Entitlement
...					
20	Spirituality	Spirituality		Cowardice	Cowardice
21	Love of learning	Forgiveness		Lethargy	Dourness
22	Humility	Prudence		Alienation	Alienation
23	Prudence	Humility		Despair	Lethargy
24	Self-regulation	Self-regulation		Dourness	Despair

<sup>a</sup> Order of listings based on computed “indices of association” (not shown); weighted combinations of the frequency of selection and the average rank of each strength and weakness.

As seen in Table 3 there was a high correspondence in the ways that trait introverted and trait extraverted participants evaluated introverts and extraverts. For

example, the signature strengths attributed to introverts and to extraverts, while not in the same order, were all consistent among the lists generated by trait introverts and trait extraverts. “Self-regulation” was the most characteristic strength of introverts in both lists; “leadership” was the most characteristic strength of extraverts in both lists.

Similarly, four of the top five weaknesses attributed to introverts and extraverts, while again not in the same order, were consistent among the lists generated by trait introverts and trait extraverts. “Alienation” was the most characteristic weakness of introverts in both lists; “arrogance” was the most characteristic weakness of extraverts in both lists.

**Introverts and extraverts as conceptual opposites.** In a descriptive sense—as reflected in the bipolar dimension of Big Five introversion-extraversion and the contrasting prototype definitions of either pole—introverts and extraverts are conceptual opposites (John, 1990; Krueger & Markon, 2014). If introverts and extraverts are also conceptual opposites in an evaluative sense then the attribution of character strengths and weaknesses to them should reflect this. That is, the top strengths and weaknesses attributed to introverts should be among the bottom strengths and weaknesses attributed to extraverts, and vice versa. It is apparent from Table 3 that this is the case. For example, regarding strengths, while “self-regulation” is the number one strength of introverts in both lists it is only the number 24 strength of extraverts in both lists. Similarly, while “leadership” is the number one strength of extraverts in both lists it is only numbers 21 and 23 in the lists of introvert strengths.

To confirm this apparent pattern we conducted an analysis of the relative attributions of each of the signature strengths and weaknesses among introverts and extraverts. Table 4 lists the signature strengths attributed either to introverts or to extraverts (i.e., 10 signature strengths in total) by our full sample, and shows the

Table 4  
*“Signature Strengths” Attributed to Introverts and to Extraverts*

Signature strengths	Position for introvert	Position for extravert	Place separation
Introverts			
Self-regulation	1	24	23
Humility	2	23	21
Prudence	3	22	19
Perspective	4	17	13
Creativity	5	10	5
Extraverts			
Leadership	22	1	21
Social intelligence	18	2	16
Vitality	23	3	20
Bravery	21	4	17
Humour	24	5	19
Overall “Separation Index” <sup>a</sup>			17.40

<sup>a</sup> Computation based on the average of the absolute place difference across the 10 signature strengths, as they were attributed to introverts or extraverts.

position that each of those strengths occupied in the respective lists based on their indices of association.

Given that there are 24 strengths it seems reasonable to assume that, on average, there should be a difference of 14 places in the relative positions of the top five strengths attributed to introverts versus how those same five strengths were attributed to extraverts (i.e.,  $24 - 5 - 5 = 14$  places in between), and vice versa. We therefore computed a “separation index” as an intuitive measure of the average degree of place separation between the traits across the 10 signature strengths. This separation index—shown in Table 4—was computed as follows. The absolute value of the difference in

place between each of the signature strengths as they were attributed to introverts and extraverts was obtained (e.g., for self-regulation:  $1 - 24 = 23$ ; for leadership:  $22 - 1 = 21$ ), and the average of these absolute values was then taken across the 10 strengths. The value of the separation index was 17.40, indicating that indeed, on average, the top five strengths attributed to introverts were among the bottom five strengths attributed to extraverts, and vice versa (i.e., 17.40 is greater than 14). Examining just the signature strengths attributed to introverts, the value of the separation index was 16.20; three of the top five strengths of introverts were in the bottom five strengths of extraverts (“self-regulation”, “humility”, and “prudence”). Examining just the signature strengths attributed to extraverts, the value of the separation index was 18.60; four of the top five strengths of extraverts were in the bottom five strengths of introverts (“leadership”, “vitality”, “bravery”, and “humour”).

Table 5 lists the top five weaknesses attributed to introverts and to extraverts (i.e., 10 weaknesses in total) by our full sample, and shows the position that each of those weaknesses occupied in the respective lists based on their indices of association. The overall separation index is also shown.

Table 5  
*Top Five Weaknesses Attributed to Introverts and to Extraverts*

Weaknesses	Position for introvert	Position for extravert	Place separation
Introverts			
Alienation	1	22	21
Cowardice	2	20	18
Subservience	3	18	15
Apathy	4	17	13
Helplessness	5	19	14
Extraverts			
Arrogance	16	1	15
Impulsivity	23	2	21
Recklessness	21	3	18
Selfishness	12	4	8
Entitlement	22	5	17
Overall "Separation Index" <sup>a</sup>			16.00

<sup>a</sup> Computation based on the average of the absolute place difference across the 10 weaknesses, as they were attributed to introverts or extraverts.

As seen in Table 5 the value of the separation index across the 10 weaknesses was 16.00. Examining just the top five weaknesses attributed to introverts, the value of the separation index was 16.20; two of the top five weaknesses of introverts were in the bottom five weaknesses of extraverts ("alienation" and "cowardice"). Examining just the top five weaknesses attributed to extraverts, the value of the separation index was 15.80; three of the top five weaknesses of extraverts were in the bottom five weaknesses of introverts ("impulsivity", "recklessness", and "entitlement").

Thus, based on lay beliefs about their positive, desirable and negative, undesirable character attributes, introverts and extraverts are clearly evaluated as conceptual opposites.

## Discussion

The aim of the present study was to systematically identify and delineate how introverts and extraverts are described and evaluated by laypeople in Australia, in terms of their personality as well as their character. Australians tend to perceive themselves as an extraverted society (Terracciano et al., 2005) and, as expected, our data were consistent with this. Participants in our study believed that they lived in a society where extraversion was a preferred and more typical way of being. Moreover, these beliefs were reasonably consistent among trait introverted and trait extraverted participants, supporting our presumption that, no matter where they are located on the introversion-extraversion continuum, people in Australia share a belief that they exist in a cultural reality that favours extraversion. For extraverts such a shared cultural reality is likely to be beneficial (e.g., Fulmer et al., 2010; Wood et al., 2007); for introverts, however, such a shared cultural reality might have adverse consequences (e.g., Cain, 2012a; Davidson et al., 2015).

In this cultural context, we found that the way introverts and extraverts were described by laypeople in Australia aligned reasonably well with expert-defined prototypical meanings of Big Five introversion-extraversion. However, somewhat surprisingly, we also found that the typical introvert was broadly characterised more in terms of intellectual, rather than low interpersonal, tendencies. In an evaluative sense, we found that laypeople in Australia were very clear in their beliefs about the positively- and negatively-valenced, morally relevant core character attributes of introverts and extraverts. Again, these beliefs were reasonably consistent among trait introverted and trait extraverted participants. Moreover, we also found that, in character-based terms, introverts and extraverts were regarded as conceptual opposites.

Below we discuss the novel contribution of these findings, including possible theoretical and practical implications. As the primary focus of our study was the evaluative-based component we will concentrate mainly on findings from that part of the study. Moreover, our particular interest here lies in the potential implications of those findings for introverts in the West, in terms of the challenges they confront and the opportunities available to them. We conclude with a comment on the study's strengths and limitations, along with suggestions for future research and a summary of implications.

### **Prototypical Introverts and Extraverts**

The substantial resemblance between our lists and John's (1990) prototype definitions provides evidence that the construct our participants had in mind when generating their free-lists to describe introverted and extraverted people *was* actually introversion-extraversion as it is conceptualised in the Big Five. In other words, in a descriptive sense the beliefs that laypeople in Australia hold about introverts and extraverts are very similar to the expert-defined core meanings of the low and high poles, respectively, of the introversion-extraversion continuum. Moreover, this gives us a degree of confidence that, in our study, when doing the evaluative exercise to attribute character strengths and weaknesses to introverted or extraverted people, participants *did* actually have in mind prototypical introverts and extraverts.

Regarding the core descriptors that were uniquely provided for introverts and extraverts by trait introverted versus trait extraverted participants, perhaps these descriptors reflect a degree of self-insight and/or stereotyping (e.g., Hofstee, 1994) by participants when describing people who are either similar or different to them in terms of their position on the introversion-extraversion continuum. For example, trait introverts described introverted people as being "private", which might reflect some

common self-insight among introverts that introverted people are motivated to “keep things to themselves” (see Semin et al., 1981). Trait extraverts described introverted people as being “withdrawn”, which might reflect a stereotype among extraverts that introverted people are highly reluctant to engage with the world in any meaningful way. Private seems to be a more favourable way of describing a general preference for solitude and independence than does withdrawn.

### **Thinking versus Social Introverts**

In regard to thinking versus social introversion, our results bear some resemblance to the common, everyday conception of introverts from a previous study (Semin et al., 1981) and provide a clear example of the ongoing ambiguity in the scientific and popular literatures about what it really *means* to be introverted. It appears that—in the popular mind at least—there is a belief that intellectual tendencies for introspection and deliberation are as much a part of being introverted as are low interpersonal tendencies. This belief is at odds with the Big Five conception of introversion, which tends to emphasise low interpersonal tendencies as its core feature (McCrae & John, 1992). The disparity here is interesting given that the Big Five was itself derived from lexical studies that reflect lay conceptions (Hofstee, 1994; John et al., 2008). Moreover, the choice of thinking introversion over social introversion by laypeople in our study stands in contrast with the recent findings showing that based on self-report ratings, the thinking dimension is not correlated with other dimensions of introversion (Cheek et al., 2014; Grimes et al., 2011).

It is therefore surprising that, in our study, intellectual tendencies feature so prominently in lay beliefs about what it means to be introverted. Perhaps, as suggested by others (see Blatchford, 2017; Kaufman 2014a, 2014b; Smillie, 2015), laypeople do tend to conflate introversion with several other Big Five trait dimensions (such as

Openness and Conscientiousness) in assigning introverts with some sort of overall, blended “personality” or stereotypical “identity” (see Cain, 2012a). Another possibility is that the participants in our sample were biased toward intellect, given that a substantial proportion of them were students.

Nonetheless, based on the evidence suggesting that people distinguish between intellectual and social desirability when making trait inferences about a target person (Rosenberg et al., 1968), it is plausible that this ambiguous distinction between thinking and social introversion might have implications in regard to people’s evaluation of introverts. We comment on this in the next section, in regard to the differential attribution of character strengths to introverts versus extraverts.

### **Western Beliefs Regarding the Character of Introverts**

**Challenges to introverts’ identity and well-being.** Does living in a shared cultural reality that favours extraversion have an adverse *impact* on introverts? We suggested that over and above their personality as it is described in the Big Five, the particular set of core character strengths and weaknesses that introverts are believed to possess might provide a unique evaluative-based indicator of their purported lack of person–environment fit, and the consequent challenges for their identity and well-being.

An ideology of individualism makes particular claims about what constitutes a good person and the nature of the good life (Christopher, 1999; Christopher & Hickenbottom, 2008; Markus & Kitayama, 1998)—in other words, the cultural ideals worth striving for in terms of who to be and what to do. Our data strongly suggest that laypeople in the West consider introversion and extraversion are very different ways of being—not only in a descriptive sense, but on an evaluative basis as well. In particular, based on their perceived character strengths and weaknesses it appears that introverts, relative to extraverts, are believed to be at a natural disadvantage in terms of navigating

their day-to-day lives in an individualistic cultural context (see Cain, 2012a; Laney, 2002). Among our sample, in general, someone who was described as quiet and reserved was also evaluated as an intellectually-oriented, restrained, humble, alienated person lacking in leadership qualities and apparently unable or unwilling to positively engage with the world in the dynamic, bold, and cheerful interpersonal style favoured by an individualistic culture. Moreover, this was the case regardless of whether the people holding that belief were trait introverted or trait extraverted.

In our study a clear pattern emerged in the differential attribution of character strengths to introverts and extraverts. In light of individualistic Western values this pattern appears to reflect a cultural preference for extraversion—the signature strengths attributed to extraverts are appropriate for a value system that emphasises uniqueness and independence (Markus & Kitayama, 1998) and promotes the pursuit of hedonic happiness (Joshani & Jarden, 2016). For example, “social intelligence”, “bravery”, “vitality”, and “humour” all seem relevant to succeeding in a culture where personal expressiveness and autonomy (Baumeister, 1997; Markus & Kitayama, 1991), and positive engagement with the world (see DeYoung, 2015; John et al., 2008) are rewarded.

In particular the attribution of “leadership” to extraverts, as their most important strength, might well reflect a common belief that extraverts have a high level of personal agency and are able to make a substantial social contribution by mobilising others to achieve common goals (see Bono & Judge, 2004; Borkenau, 1992; Hogan, Curphy, & Hogan, 1994; Ozer & Benet-Martinez, 2006; Peterson & Seligman, 2004; Zaccaro, Peterson, & Seligman, 2004). Conversely, the strength of leadership was one of the lowest-attributed strengths to introverts; both by trait introverts and trait extraverts. This suggests that people believe introverts are not naturally equipped to

assume positions of social influence or authority and is in line with several previous findings showing robust positive associations between extraversion and different aspects of leadership (see Bono & Judge, 2004; and Judge, Bono, Ilies, & Gerhardt, 2002 for reviews). Given that leadership is related to concepts of status and popularity (Anderson, John, Keltner, & Kring, 2001) and it enables one to make a substantial social contribution through others (Zaccaro et al., 2004), these beliefs would seem to place introverts at a distinct disadvantage, relative to extraverts, in taking or being afforded opportunities to attain rewards and influence in their social groups.

The signature strengths attributed to introverts—while they are putatively desirable attributes—do not appear, *prima facie*, to be as conducive to thriving in an individualistic Western culture. Rather, they all represent intellectual virtues of “temperance” or “wisdom and knowledge” (Peterson & Seligman, 2004). For example, “humility” is the antithesis of personal expressiveness and wanting to be in the spotlight (Peterson & Seligman, 2004). Moreover, in support of our findings regarding thinking introversion versus social introversion it is interesting to note that the other four signature strengths attributed to introverts (e.g., “self-regulation”, “prudence”, “perspective”, and “creativity”) all reflect some sort of tendency for cautious, persistent deliberation and introspection (see Peterson & Seligman, 2004) and are more related to “mind” (intellectual restraint) than to “heart” (emotional expression) (Peterson, 2006).

In regard to character weaknesses, a clear pattern again seemed to emerge in their differential attribution to introverts and extraverts. The weaknesses are *all* intrinsically “bad”, undesirable attributes; however, it could be argued that, in an individualistic cultural context, some weaknesses might be less of a hindrance to thriving than others. The top five weaknesses attributed to extraverts (“arrogance”, “impulsivity”, “recklessness”, “selfishness”, and “entitlement”) seem much less likely

to hinder the agentic pursuit and attainment of personal goals than do the top five weaknesses attributed to introverts (“alienation”, “cowardice”, “subservience”, “apathy”, and “helplessness”). Given that they appear to represent a general propensity for spontaneous self-interest it might reasonably be argued, in fact, that in some ways the top five weaknesses attributed to extraverts might actually *promote* a sense of personal agency, expressiveness, and autonomy in contemporary Western cultures (see Baumeister & Exline, 1999). It is difficult, however, to see how this could be the case for the top five weaknesses attributed to introverts.

Our findings are, thus, in line with previous findings among Western samples showing that extraversion (not introversion) is implicitly and explicitly related to socially desirable, agentic (e.g., vivacity, power, and drive; Haslam, Bain, & Neal, 2004), and virtuous (e.g., positivity and goodness; Macdonald et al., 2008) character-related concepts. In the individualistic West, therefore, identifying oneself as an introvert or being identified as an introvert by others is likely to have some adverse personal and social consequences (see Cain, 2012a; Laney, 2002).

**Opportunities for introverts to thrive: “Quiet flourishing”.** To this point we have focused on the challenges that our findings could present in terms of introverts’ identity and well-being. But what about opportunities for introverts to thrive? In recent years, since the emergence of positive psychology, there have been several books published in the popular press highlighting the difficulties of being introverted in contemporary Western society and exhorting introverts to explore, acknowledge, and use their natural strengths in order to achieve happiness and success (e.g., Cain, 2012a; Helgoe, 2013; Laney, 2002). To our knowledge, the present study is the first to use an established model of positive moral traits (the VIA Classification) to empirically identify what those introvert strengths might be—at least those according to lay beliefs.

Our findings showed that introverts' perceived signature strengths represent virtues of temperance or wisdom and knowledge (Peterson & Seligman, 2004), thus extending current knowledge about the opportunities for happiness and success potentially available to introverts in the West. Research has shown that people tend to most highly value those relationships, jobs, and recreational activities that align with their natural strengths (Peterson & Seligman, 2004; Peterson, 2006). It is important to reiterate here that all of the strengths in the VIA Classification are asserted to be universally desirable traits (Park et al., 2006; Peterson & Seligman, 2004). Thus, while in light of individualistic Western values our findings showed a clear pattern in favour of extraversion, this does not necessarily preclude introverts from flourishing in the right circumstances. Hills and Argyle (2001) showed that introverts in the West *can* achieve happiness, and suggested that introversion-extraversion might thus be an instrumental variable that reflects how people *choose* to pursue happiness in their own lives. Consistent with this argument, perhaps one reason that some introverts are happier than others could be that they are highly aware of and comfortable with their own particular tendencies, strengths, and weaknesses and are able to structure their lives accordingly, in ways that enable them to live authentically and still reach their goals. In other words, they may be able to find or successfully carve out a suitable "life niche" (Tesser, 2002) for themselves, within their broader sociocultural context. Indeed, volitional strengths use facilitates adjustment to the environment and the healthy pursuit and attainment of personal goals, and promotes authenticity and well-being (Govindji & Linley, 2007; King & Trent, 2013; Linley, Nielsen, Gillett, & Biswas-Diener, 2010).

**Leadership.** For example, despite the robust positive associations between extraversion and leadership (e.g., Bono & Judge, 2004; Judge et al., 2002) and our own findings showing that introverts are believed to be lacking in the strength of leadership,

there is some evidence to suggest that due to their quiet and reserved nature introverts *can* be more effective leaders than extraverts in roles where their followers are proactive (Grant, Gino, & Hoffman, 2011). Moreover, servant leadership is a style increasingly important to success in contemporary Western organisations, but extraverts tend to be regarded by both their subordinates and superiors as relatively poor servant leaders (Hunter et al., 2013). Servant leaders exercise humility and have considerable conceptual skills (Hunter et al., 2013); notably, humility was the second-highest signature strength attributed to introverts in our sample, and perspective and creativity were the fourth- and fifth-highest, respectively. This suggests that the virtues of temperance or wisdom and knowledge that were believed to best characterise introverts lend themselves very well to servant leadership. However, it has also been found that introverts are less likely than extraverts to emerge as leaders because introverts believe they will need to act extraverted in group situations and they make negative affective forecasts about doing so, which inhibits their potential (Spark, Stansmore, & O'Connor, 2018). These findings among Western samples suggest that it might be important for introverts to recognise and understand that there *are* certain leadership roles and styles wherein they can cultivate and practice their signature strengths and still make a valued social contribution without having to constantly act extraverted. By doing so they might remain true to themselves while “getting ahead” and “getting along” (Hogan, 1983) in their sociocultural milieu.

***Authenticity.*** Being true to self, or authentic, has been found to be positively associated with extraversion in the West (Wood, Linley, Maltby, Baliousis, & Joseph, 2008). It has also been found to be positively associated with well-being (Wood et al., 2008). It is therefore surprising to note that in our study people attributed the strength of “integrity” (a synonym for authenticity in the VIA Classification: Davidson, Pollard,

Sheldon, Peterson, & Seligman, 2004; Peterson & Seligman, 2004) to introverts more so than to extraverts (see Figure 3). Conversely, they attributed the weakness of “falseness” (or “deceit”, the opposite of integrity-authenticity; Seligman, 2014) to extraverts more so than to introverts (see Figure 4). While neither integrity nor falseness were considered a *signature* strength or weakness, respectively, of either introverts or extraverts (see Table 3), these differential attributions appear to suggest that people believe introverts are more in touch with their true self and present a more accurate representation of their private self to public view than do extraverts.

***Self-Regulation.*** Recall that self-regulation was the highest signature strength attributed to introverts in our sample. It has been suggested that “self-control”—often a synonym for self-regulation—is important for adaptive functioning in that it can promote healthy goal pursuit and attainment, and enable the avoidance of reckless, impulsive behaviours (Baumeister & Exline, 2000; Baumeister, Vohs, Peterson, & Seligman, 2004; Hooker & McAdams, 2003; Peterson & Seligman, 2004). Indeed, in a humanistic sense, high self-regulation is considered to be a critical indicator of one’s journey toward self-actualisation (Rogers, 1951 as cited in Ford, 1991), and it is becoming increasingly important for functioning well in modern life (Bandura, 1999; Baumeister et al., 2004). Moreover, it could be regarded as the master virtue due to its capacity to promote the interests of the group over individual needs and thereby facilitate many of the other virtues (Baumeister & Exline, 1999, 2000). Statements about character often tend to be concerned with notions of self-regulation (Saucier & Srivastava, 2015), and Baumeister and Exline (1999) assert that it is difficult to achieve self-control (self-regulation), and hence to exercise virtue, in contemporary Western cultures due to the nature of their social and economic fabric and their accompanying concept of selfhood that emphasises individual needs or self-interest.

Therefore, the fact that participants in our sample so readily and consistently attributed self-regulation to introverts (but not to extraverts) could be regarded as advantageous to introverts' adaptive functioning, in that they are believed to possess such a personally and socially consequential, fundamental and yet elusive, strength. Indeed, perhaps in general people believe that introverts have something unique to offer society in terms of virtue. One relevant example might be the aforementioned servant leadership; this leadership style aligns well with the virtues of temperance or wisdom and knowledge that are believed to best characterise introverts, and it is also a style that promotes moral reflection and ethical behaviour in modern organisations (Hunter et al., 2013).

Interestingly, along these lines, the top three signature strengths attributed to introverts in our sample (i.e., self-regulation, humility, and prudence) have also been found to be the three *least*-endorsed strengths across many nations and cultures (Park et al., 2006; Peterson, 2006). One plausible interpretation of these findings is that the natural strengths that introverts are believed to possess are relatively rare and might thus, perhaps, be valuable to society. This could especially be the case in individualistic Western cultures.

### **Strengths, Limitations, and Future Research**

Psychology inevitably has a moral dimension (Sandage & Hill, 2001), and it is now well acknowledged that this includes personality and its relations with character (Avia, 2013; Fleenon, Furr, Jayawickreme, Meindl, & Helzer, 2014). Indeed, moral character plays a crucial role in identity, person perception, and impression formation (Goodwin et al., 2014; Strohmingner & Nichols, 2014). Thus, a particular strength of our research was the use of a complementary, descriptive-and-evaluative framework to uniquely identify the defining characteristics, and better understand the social

desirability, of trait introversion and extraversion—over and above their typical, relatively neutral Big Five conception. In particular, this approach enabled us to gain a novel insight into beliefs about the positively- and negatively-valenced, morally relevant character attributes of introverts and extraverts in a Western context.

Furthermore, the descriptive-exploratory nature of our research enabled us to systematically unearth and signpost some possible challenges and opportunities relevant to introverts living in the West, in terms of their perceived lack of person–environment fit and their identity and well-being. This is a topical area in the popular press (e.g., Cain, 2012a), but an area where very little research has been done.

Despite its novel contribution, however, we note below some limitations of the present study.

Notwithstanding the advantages of descriptive-exploratory research for generative discovery, the inductive nature of our study means that these findings are tentative interpretations that are potentially open to bias and cannot be generalised. Moreover, no claims can be made about causality among the constructs that were examined (Dulock, 1993).

In order to sample from people across the full range of the introversion-extraversion continuum and maximise the data used in our analyses, we used a median split to examine differences in responses between trait introverted and trait extraverted participants (this is not uncommon; e.g., Hills & Argyle, 2001). We found only minor differences in their responses; however, this may not have been the case if we had used an alternative definition of trait introverts and trait extraverts (e.g., a tertile split) that could emphasise any differences between them. Future studies might consider testing this possibility by sampling responses only from people toward the extremes of the introversion-extraversion continuum.

Finally, there is a possibility that participants' free-list responses in relation to the prototypical descriptors of introverts and extraverts could have been subject to order effects in our online survey. Participants were randomly presented with one of two survey versions and in one of those versions the relevant survey item, to which participants gave their free-list responses, was preceded by another item (a vignette not used in the present study) which discussed people hypothetically in terms of being "quiet" and "reserved" or "outgoing" and "bold". Although that vignette item did not explicitly mention introverts or extraverts, it is possible that the use of these specific terms may have influenced participants' subsequent free-list responses, in which each of these terms was listed in the top 10 descriptors of either introverts or extraverts.

The present study also raised some intriguing possibilities for future research. We briefly outline these below.

Our findings provided further confirmation of the ongoing ambiguity in the scientific and popular literatures about the core meaning or true nature of introversion (i.e., thinking versus social introversion). This ambiguity warrants continued investigation (e.g., Cheek et al., 2014; Grimes et al., 2011) in that it might have implications for how introverts are evaluated in terms of their perceived strengths and weaknesses. For example, in our sample participants believed that thinking introversion best represented a typical introvert, and introverts were unequivocally characterised in terms of the intellectual virtues of temperance or wisdom and knowledge. It is also interesting to note, however, that based on an exploratory factor analysis of Values-In-Action Inventory of Strengths scores, self-regulation—the highest signature strength attributed to introverts—is regarded more as an "emotional" strength (Park, Peterson, & Seligman, 2004a). Future studies might examine the implications of this for introverts and how they are perceived.

Evaluative terms might be useful for understanding cultural differences in lay beliefs about personality (Benet-Martinez & Waller, 2002). Our study focused on perceived relations between introversion-extraversion and character in Australia; a Western, individualistic culture (McCrae et al., 2005). It would be interesting for future studies to explore similar terrain in an Eastern, collectivist cultural context to ascertain whether there are any differences in the patterns of person perception that might emerge.

People make reasonably accurate, but by no means perfect, judgements about personality (Borkenau, 1992; Funder, 2012; Vazire & Carlson, 2010). In the case of trait introversion-extraversion, the self and others make equally good judgements (Vazire, 2010). To the extent that this accuracy holds true for their judgements regarding evaluative aspects of personality (see Benet-Martinez & Waller, 2002), and particularly as it appears to do so for moral character (Helzer et al., 2014), we might reasonably assume that the implicit associations between trait introversion-extraversion and character we unearthed in our study reflect real relationships among these constructs. However, it would be interesting to directly test this—future studies could examine explicit relations between trait introversion-extraversion and character strengths and weaknesses.

In day-to-day life trade-offs must be made in the cultivation and use of one's signature strengths (Peterson, 2006; Schwartz & Sharpe, 2006), and patterns often emerge in how these trade-offs are made (Peterson, 2006). Based on our findings, perhaps one real-world driver of these characteristic patterns might be whether a person is introverted or extraverted. Using Peterson's (2006) circumplex model of the structure of trade-offs among the character strengths as a guide, our findings suggest that introverts are believed to possess strengths of *mind* (intellectual restraint), while

extraverts are believed to primarily possess strengths of heart (emotional expression). Future studies might explore how readily introverts can cultivate and use strengths of heart, and vice versa, along with any possible implications for person–environment fit, identity, and well-being.

Finally, our study raised some interesting questions about introversion’s perceived relations (or lack thereof) with some character strengths in particular. We focused here particularly on integrity (authenticity), self-regulation, and leadership; these all merit further investigation. Authenticity has important implications for identity and well-being (Medlock, 2012; Schlegel & Hicks, 2011; Wood et al., 2008). Self-regulation was the strength most attributed to introverts and could be considered a master virtue that promotes personal and social harmony (Baumeister & Exline, 1999, 2000). Leadership was the strength most attributed to extraverts (and among the least attributed to introverts), and is an evolutionarily adaptive, aspirational strength that can enable people to pursue shared goals and make a valuable social contribution (Lukaszewski & von Rueden, 2015; Zaccaro et al., 2004). Using these strengths as a starting point, therefore, future studies could address the points we have made, and perhaps other issues, in regard to the challenges confronted by introverts, and the opportunities available to them, in the West.

In conclusion, our findings support previous theory and research showing that over and above conventional descriptions of personality, evaluative notions of character add something important to our understanding of human nature and individual differences—particularly regarding people embedded in sociocultural contexts. Participants in our study—regardless of whether they were introverted or extraverted—believed that, in general, Australia is a society that tends to favour extraversion over introversion. In this cultural context, our novel findings showed that introverts and

extraverts in Australia are believed to be very different, both in terms of their personality as well as their character. Prima facie, extraverts appear much more suited to thriving in individualistic Western cultures. However, upon closer inspection it is apparent that introverts might have something unique and valuable to offer, both to themselves and broader society, in terms of the more intellectually-oriented tendencies and virtues. This could have important implications for their person–environment fit, identity, and well-being. Much more research is required to definitively determine *whether, how, and when* this is the case. In the meanwhile we tentatively suggest that introverts might be well served by believing that, in the long run, cultivating their signature strengths, finding or creating a personally enabling physical and social environment, and being true to themselves gives them the best opportunity to realise their potential and, perhaps, experience higher well-being.

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## **4.0 CHAPTER FOUR**

### **BRIDGING CHAPTER**

**(LINKING EMPIRICAL CHAPTERS THREE AND FIVE)**

The inductive study in Chapter Three addressed the *first* of two research questions posed in Section 1.3 of Chapter One of this thesis. That is, Chapter Three presented some novel “descriptive-exploratory” findings based on lay beliefs about the personality and positively- and negatively-valenced character attributes of introverts and extraverts in Australia. Importantly, these findings show that, in a Western cultural context, introverts are reported to be very different to extraverts in terms of their personality as well as their character. Moreover, based on their perceived character differences, it appears that extraverts are typically evaluated as being more suited than introverts to thriving in the individualistic West. By unearthing this new evidence, the study extends upon the scant extant literature regarding the person–environment fit, identity, and well-being of introverts living in these cultures (e.g., Cain, 2012a; Davidson, Gillies, & Pelletier, 2015; Peterson, 2012; Wood, Gosling, & Potter, 2007; Zelenski, Sobocko, & Whelan, 2014) and provides a unique basis for further research on this topic.

As expected, Chapter Three highlighted an apparent cultural preference for extraversion in Australia, thereby establishing a foundation for investigating my *second* research question which will use the same sample to quantitatively examine relations between trait introversion-extraversion and well-being in Australia. Chapter Three discussed some possibilities for future studies in regard to trait introversion and its perceived associations with character strengths and weaknesses, however it is not intended for the remainder of this thesis to pursue those specific suggestions (with the exception of a focus on authenticity as a key construct in our hypothesised model, to be presented in Chapter Five). Rather, the findings of Chapter Three provide a new, important insight into the defining characteristics and social desirability of introversion versus extraversion in an individualistic culture that favours extraversion, supporting the

notion that person–environment fit (or a lack thereof) might be an important element underlying relations between trait introversion-extraversion and well-being (see Fulmer et al., 2010; Pavot, Diener, & Fujita, 1990). *It is this key aspect of the findings from Chapter Three that will be investigated in the next chapter.* Before doing so the remainder of this bridging chapter will, in light of the novel findings in Chapter Three, briefly recap on some key ideas and arguments introduced in Chapters One and Two. This will explain how the character-based evaluations of introverts and extraverts unearthed in Chapter Three provide justification and context for the hypothesised model of relations between trait introversion-extraversion and well-being to be presented in Chapter Five, which addresses my second research question.

The central argument of this thesis is that in the West there is a relationship between lay beliefs about the personality and character of introverts and their identity, happiness, and psychosocial functioning. Chapter Three found evidence of a perceived misalignment between the personality and character of introverts residing in Australia and their sociocultural environment. Trait introverted and trait extraverted participants in that study held consistent beliefs indicating a perceived lack of person–environment fit for introverts, suggesting that introverts and extraverts living in the modern West exist in a shared cultural reality (or spatiotemporal niche) that tends to favour extraversion. In general, introverts were described as quiet and reserved, and evaluated as intellectually-oriented, restrained, humble, and alienated. These defining characterisations could have adverse consequences for the identity and well-being of introverts navigating their day-to-day lives in individualistic cultures, where the “ideal” self is an agentic being who expresses their needs and actively influences their social and physical surroundings (Markus & Kitayama, 1998; Ryff, 1987).

Character reflects cultural ideals (McGrath, 2015), and the ideal self incorporates concepts of character and virtue (Sandage & Hill, 2001). Indeed, it has been suggested that character performs an important function in making first-person evaluative comparisons between actual and ideal selves (Banicki, 2017). Self-discrepancy theory suggests that discrepancies between a person's actual and ideal selves can have adverse psychological consequences due to the absence of desired positive outcomes (Higgins, 1987). Based on the findings in Chapter Three, people in Australia believe that the particular set of core character strengths (and weaknesses) introverts naturally possess renders them relatively ill-equipped to deal with the norms and demands of their sociocultural environment or to shape their own destiny. Moreover, given that personality traits are central to people's self-concept (Baumeister, 1997; McCrae & Costa, 1988, 1994; Prentice, 1990) and introversion-extraversion is such a fundamental dimension of personality (Zelenski et al., 2014), it is likely to feature prominently in people's sense of who they are and how they fit into the world. Thus, in individualistic cultures, introverts are more likely to make unfavourable evaluative comparisons between their actual selves (as represented by beliefs about their personality and character) and their culturally-influenced ideal selves (i.e., as an agentic, expressive being). This idea is supported by evidence from a U.S. sample showing that most people want to be more extraverted (Hudson & Roberts, 2014). Indeed, introverts might come to believe that the only way they can fit in with an individualistic cultural environment—where extraversion is a preferred and more typical way of being—and achieve their goals is to *not* use their natural strengths or be their true self. This also introduces the concept of authenticity.

Authenticity captures the experience and expression of ones' true self in daily life (Goldman & Kernis, 2002; Schlegel & Hicks, 2011; Vannini & Franzese, 2008;

Wood, Linley, Maltby, Baliouisis, & Joseph, 2008) and has long been conceptualised as an essential precursor to well-being (Medlock, 2012; Schlegel & Hicks, 2011; Wood et al., 2008). Some evidence suggests that people experience authenticity when they act in alignment with their personality traits (McGregor, McAdams, & Little, 2006; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). Moreover, character strengths form part of people's true self (Banicki, 2017; Park, Peterson, & Seligman, 2004b; Peterson & Seligman, 2004). However, people are often required to act in ways that are inconsistent with their dispositional tendencies (i.e., their mean-level traits) to meet the demands of changing situations (Fleeson, 2001, 2007) in a complex social landscape (Harter, 2002). This could have particularly important implications for the authenticity of introverts living their daily lives in individualistic cultures, where people are likely to need to spend substantially more time behaving extraverted than introverted to adhere to prevailing cultural norms and expectations. In line with the trait-consistency hypothesis (Fleeson & Wilt, 2010), it seems plausible that over time the longer-term impact of acting out of character (Little, 2008, 2014) and believing that they are not able to volitionally use their natural strengths (Govindji & Linley, 2007; Linley, Nielsen, Gillett, & Biswas-Diener, 2010; Park et al., 2004b) could adversely impact upon introverts' dispositional authenticity (Jacques-Hamilton, Sun, & Smillie, 2019; Park et al., 2004b) and thus, perhaps, their well-being (Little, 2008; McGregor et al., 2006; Govindji & Linley, 2007; Linley et al., 2010).

However, a study in Great Britain showed that introverts in Western cultures *can* be happy and suggested that this might reflect how they make lifestyle choices in their pursuit of happiness (Hills & Argyle, 2001). Based on the findings in Chapter Three it was speculated that flourishing introverts might be those who can manage to structure their lives to align with their dispositional tendencies and core character attributes;

thereby creating a suitable “life niche” for themselves (see Tesser, 2002). These introverted people would be more likely to use their natural strengths to achieve their goals (see Cain, 2012a; Helgoe, 2013; Laney, 2002) and thus be “comfortable in their own skin”; therefore they should be less inclined to experience mismatches between their actual and ideal selves or to experience inauthenticity by constantly acting out of character in navigating their day-to-day lives.

Thus, the important issue becomes not merely *whether* there is a relationship between trait introversion-extraversion and well-being, but rather *how* this relationship might occur, and *when* its effects are manifest; all situated in context—these are more interesting questions to the extent that they can provide a nuanced understanding of relations between the constructs of interest (see Hayes, 2013 regarding scientific questions of “whether”, “how”, and “when”). Beyond dispositionally-based direct effects, it is therefore important to examine any *mechanisms* via which introversion-extraversion might exert indirect effects on well-being, and also any *boundary conditions* on the occurrence of such effects. The second research question outlined in Section 1.3 of Chapter One (see also Lawn, Slemp, & Vella-Brodrick, 2019) directly addresses these issues, namely: *If there is a cultural preference for extraversion in Australia what impact does this have on the well-being of introverts living there; and do authenticity, and beliefs about introversion-extraversion, act as a mechanism and a boundary condition respectively that might help to explain or change this relationship?*

To operationalise and answer this question, the next chapter will present and empirically test a hypothesised model of relations between trait introversion-extraversion and well-being. The model to be presented is a “moderated mediation” model and the aim of testing it is to identify a plausible *alternative pathway* to well-being for trait introverts (Lawn et al., 2019). Such a pathway goes beyond direct effects

to examine the indirect, conditional effects of some relevant social-cognitive and phenomenological-humanistic variables. The model is underpinned by the concept that the self is situated within an overarching, shared sociocultural context (e.g., Bronfenbrenner, 1977b; Fulmer et al., 2010; Pettigrew, 1997; Ryff, 1987). *Authenticity* is positioned well as a potential mediator in the model, given its theoretical and empirical positive relations with both trait introversion-extraversion and well-being (e.g., Wood et al., 2008). *Extraversion-deficit beliefs* (i.e., the extent to which a person is comfortable with their level of trait introversion-extraversion; see Chapters One and Two, and Lawn et al., 2019) are proposed to moderate this indirect pathway. These two constructs will, therefore, be included in the model to examine the how and the when of relations between trait introversion-extraversion and well-being in a Western sample.

The model will build upon the idea explored in Chapter Three that, based upon their perceived personality traits and associated character attributes, introverts experience a relative lack of person–environment fit in individualistic Western cultures, and this could have adverse consequences for their identity and well-being (Cain, 2012; Davidson et al., 2015; Wood et al., 2007; Zelenski et al., 2014). Conversely, for extraverts living in these cultures their perceived personality traits and associated character attributes are socially desirable; hence they should experience good subjective and/or objective person–environment fit which may be beneficial for their identity and well-being (Fulmer et al., 2010; Pavot et al., 1990; Wood et al., 2007). Crucially, however, despite these presumptions about social desirability and person–environment fit, the model will also extend upon the previous important finding by Hills and Argyle (2001) showing that introverts in the West *can* be happy. It was speculated in earlier chapters that there may be some introverts in the West who hold positive beliefs about their place on the introversion-extraversion continuum; and are thus comfortable with

their quiet, reserved disposition and with using their natural strengths to achieve their goals, notwithstanding a broader sociocultural environment that favours extraversion. In our model, therefore, the hypothesised alternative pathway to well-being for these introverted people is via authenticity, conditional on extraversion-deficit beliefs (Lawn et al., 2019).

## 5.0 CHAPTER FIVE

### STUDY TWO:

#### QUIET FLOURISHING: THE AUTHENTICITY AND WELL-BEING OF TRAIT INTROVERTS LIVING IN THE WEST DEPENDS ON EXTRAVERSION-DEFICIT BELIEFS

The study commencing on the following page is an author accepted manuscript (see Preface). This is a post-peer-review, pre-copyedit version of an article published in *Journal of Happiness Studies*. The final publication is available at link.springer.com: <https://link.springer.com/article/10.1007/s10902-018-0037-5>

At the time of submitting this thesis in November 2019 the published article has an Altmetric Attention Score of 51, meaning the article is ranked in the top 5% of all research outputs ever scored by Altmetric: <https://springeropen.altmetric.com/details/49092987>

Preliminary findings arising from this study were presented at the Institute for Positive Psychology & Education (IPPE) 9<sup>th</sup> SELF Biennial International Conference, held in Melbourne, Australia in September 2017.

**Quiet Flourishing: The Authenticity and Well-Being of Trait Introverts Living in  
the West Depends on Extraversion-Deficit Beliefs**

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The authors declare that they have no conflict of interest.

## Abstract

Introversion-extraversion is a particularly salient personality trait, whereby “extraverts” are known to be more outgoing, bold, assertive, active, and cheerful than “introverts”. These extraverted attributes are socially desirable in individualistic Western cultures, and some evidence suggests that extraverts experience better person-environment fit and greater well-being than introverts in these cultures. However, what remains unclear is how living in a context that values and emphasises extraversion may impact upon the well-being of introverts, and how introverts might improve their well-being. This study aimed to explore this question via a moderated mediation model. Adult participants in Australia ( $N = 349$ ) completed scales of trait introversion-extraversion, dispositional authenticity, and well-being. The extent to which participants wanted to be more extraverted than they were currently—labelled an *extraversion-deficit belief*—was also measured. Participants overwhelmingly indicated that they lived in a society where extraversion was more socially desirable than introversion, and most participants held extraversion-deficit beliefs. Moderated mediation analysis showed that higher trait introversion-extraversion predicted well-being directly as well as indirectly via dispositional authenticity, but this indirect pathway depended on extraversion-deficit beliefs. Extraversion-deficit beliefs were more important for the authenticity and well-being of introverts than for extraverts. Overall, we interpret our findings to mean that introverts in the West might be more authentic, and hence boost their overall well-being, if they can change their beliefs to become more accepting of their introversion.

*Keywords:* introversion; extraversion; well-being; authenticity; beliefs; self-discrepancy

## **Quiet Flourishing: The Authenticity and Well-Being of Trait Introverts Living in the West Depends on Extraversion-Deficit Beliefs**

In the individualistic West where personal uniqueness and independence tend to be culturally valued (Baumeister, 1997; Markus & Kitayama, 1991), the “ideal” self is an agentic being who is autonomous, expressive, and comfortable in the spotlight (Ryff, 1987). These qualities are embodied by trait “extraverts”, who are typically described as outgoing, bold, assertive, active, and cheerful (e.g., John, 1990; Watson & Clark, 1997). Trait “introverts” are their conceptual opposites (Krueger & Markon, 2014). The positive evaluation of extraversion in Western cultures has been well documented in the personality literature (e.g., Anderson, John, Keltner, & Kring, 2001; Furnham & Henderson, 1982), and some recent, influential work has popularised this notion of the ideal self as an extravert. For example, Susan Cain’s book *Quiet: The power of introverts in a world that can’t stop talking* was a New York Times best-seller (Cain, 2012a), and her corresponding TED Talk has been viewed upwards of 19 million times (Cain, 2012b). While Cain’s view of “introversion” has received some criticism (e.g., Smillie, 2015) her argument that an “Extrovert Ideal” prevails in contemporary Western cultures, to the detriment of introverts, clearly struck a chord with the public. Cain’s work highlighted lay perceptions of the inherent struggles of being introverted in a cultural context where behaving as a prototypical extravert is rewarded.

Overwhelming evidence from the personality and well-being literatures has established that extraverted individuals tend to experience higher levels of happiness than do those who are introverted (see Steel, Schmidt, & Shultz, 2008 for a review). This robust association is often attributed to direct, temperamental effects (e.g, McCrae & Costa, 1991, Watson & Clark, 1997). However, in line with Cain’s (2012a, 2012b)

popular argument, a recent large-scale study found a cultural amplifying effect such that the positive relationship between extraversion and happiness and self-esteem was even greater when individuals' level of extraversion matched the aggregate level for extraversion in their society (Fulmer et al., 2010). This finding implies a role for indirect, interactive effects in relations between introversion-extraversion and happiness (beyond temperament), and suggests that being extraverted in a Western cultural context might provide better person-environment fit (Fulmer et al., 2010; Pavot, Diener, & Fujita, 1990).

So where does this leave introverts living in cultures where extraversion is highly valued and emphasised? In recent decades, with the emergence of positive psychology, there has been a surge in interest as to how individuals with different characteristics and in different contexts might achieve greater happiness, psychosocial functioning, or *well-being* more broadly construed (Seligman, 2011; Seligman & Csikszentmihalyi, 2000). However, a largely unexplored question within this literature is how introverts might improve their well-being (cf. Peterson, 2012). Are they destined to live a life of relative unhappiness or ill-being in comparison to their extraverted counterparts? This is an important question, as happiness tends to be highly valued in the West (Joshanloo & Weijers, 2014) and is predictive of a range of positive life outcomes (Lyubomirsky, King, & Diener, 2005). Moreover, introversion-extraversion is a normally distributed trait in the Big Five model of personality (Zelenski, Sobocko, & Whelan, 2014), which means that introverts represent a substantial demographic. There is merit in examining how living in cultures that favour extraversion might impact on the well-being of introverts, and whether there are opportunities to change the relationship between introversion and well-being (cf. Zelenski et al., 2014). The present study aims to examine this.

Culture influences people's *beliefs* (Ryff, 1987) and people hold firm, meaningful beliefs about the self and personality (Dweck, 2008). Thus, if there really is a cultural preference for extraversion in the West, then this should be reflected in lay beliefs about trait introversion-extraversion. That is, to better align with the prevailing cultural message, people are likely to express the desire to be more extraverted than they currently are. Drawing on self-discrepancy theory (Higgins, 1987), we refer to this difference between the actual and ideal selves in regard to one's level of trait introversion-extraversion as an *extraversion-deficit belief*. Moreover, given that introversion-extraversion is such a fundamental personality trait for "getting along" and "getting ahead" in the social world (DeYoung, 2015; Hogan, 1983), individual differences in these beliefs might interact with one's trait tendencies for introversion or extraversion to impact on one's ongoing experience of *authenticity*. Authenticity is a eudaimonic construct (Smallenbroek, Zelenski, & Whelan, 2017) that is often conceptualised as the experience and expression of one's true self; including the capacity to resist sociocultural influences when they conflict with one's core tendencies, values, and beliefs (e.g., Barrett-Lennard, 1998; Maltby, Wood, Day, & Pinto, 2012; Wood, Linley, Maltby, Baliousis, & Joseph, 2008). Existential-humanistic philosophers and psychologists have long theorised that authenticity encapsulates notions of identity and functioning that are essential to well-being (Maltby et al., 2012; Medlock, 2012). Extraversion-deficit beliefs and authenticity are, therefore, both likely to impact the well-being of introverts living in the West. We examine this via a moderated mediation model, as per the conceptual diagram in Figure 1.

The model is based on the premise that extraversion is more socially desirable than introversion in Western cultures, with the implication that extraverts might experience better person-environment fit and greater authenticity and well-being in this

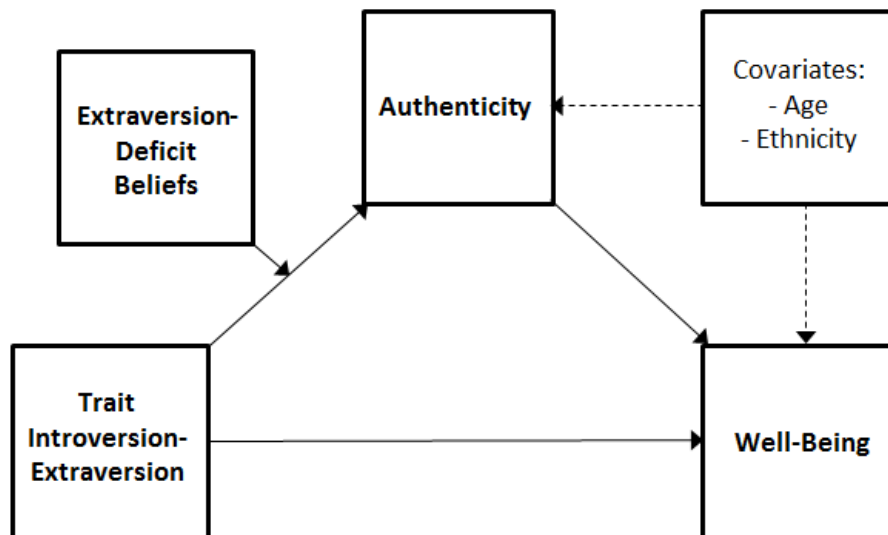


Figure 1. Conceptual diagram of our hypothesised model (including covariates)

context (cf. Fulmer et al., 2010; Pavot et al., 1990). An empirical test of the model will yield a unique perspective on the identity and functioning of introverts in this context. A study in Great Britain comparing happy and unhappy people found that around one third of people who self-reported as happy were introverts (Hills & Argyle, 2001). This study used a reasonably broad measure of happiness encompassing hedonic and eudaimonic elements of well-being, and provides some evidence that introverts living in the West *can* find ways to be happy. We suggest that, taken together, extraversion-deficit beliefs and authenticity might provide one such alternative pathway to well-being for introverts living in the West. Before presenting our hypotheses, we first offer an overview of the proposed relations between the constructs in our model. We extend the extant literature by emphasising the joint role of authenticity and extraversion-deficit beliefs for the well-being of introverts.

### **The (In)authenticity of Trait Introverts in the West**

The advent of positive psychology has led to a renewed interest in, and a more empirical focus on, authenticity and its role in well-being (Wood et al., 2008). Wood et

al. developed a measure of authenticity as a dispositional construct comprising three components: self-alienation, authentic living, and accepting external influence. Testing their tripartite measure among a British sample, Wood et al. found that authenticity was predictive of both subjective and psychological well-being, along with self-esteem. This accords with the view that living consistent with one's true self leads to the experience of satisfaction and meaning, and higher well-being (Schlegel & Hicks, 2011).

The trait consistency hypothesis (Fleeson & Wilt, 2010) contends that people are being their true self when they behave primarily in accordance with their core personality traits (cf. McGregor, McAdams, & Little, 2006; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). However, people often behave in ways that are inconsistent with their mean-level traits (Fleeson 2001, 2007). This has possible implications for introverts living in Western cultures, who are likely to spend substantial time behaving extraverted (versus introverted) in order to fit in with the prevailing cultural norm and meet situational demands. Over time, the cumulative effects of compromising their true self by acting out of character (Little, 2014) might adversely impact upon their experience of authenticity (cf. McGregor et al., 2006). Importantly, authenticity appears particularly relevant in individualistic cultures that value the uniqueness and independence of the self (Robinson, Lopez, Ramos, & Nartova-Bochaver, 2012; Slabu, Lenton, Sedikides, & Bruder, 2014), and thus, a lack of authenticity might be an antecedent to ill-being for people living in these cultures.

Some evidence does suggest that, in the West, a tendency for introversion might be associated with lower levels of authenticity. Wood et al. (2008) found in a British sample that people who reported higher levels of trait extraversion also reported higher levels of authenticity. Similarly, a qualitative review of feedback from self-proclaimed

introverted students in U.S. medical schools found that their experiences included core themes such as being misunderstood, not fitting in, a perceived pressure to change who they were, and being evaluated as underperforming (Davidson, Gillies, & Pelletier, 2015). Interestingly, some of these introverts conveyed a sense of comfort and validation after viewing Susan Cain's (2012b) popular TED Talks video endorsing the virtues of introversion (Davidson et al., 2015). This accords with our suggestion that, over and above their actual trait levels, people's experience of authenticity, and hence well-being, might be contingent upon their beliefs about the social desirability of introversion versus extraversion.

### **Individual Differences in Extraversion-Deficit Beliefs among Extraverts and Introverts**

From a social-cognitive perspective on personality, people's beliefs are important for their sense of meaning about themselves and their place in the world (Dweck, 2000, 2008). Beliefs therefore have implications for people's identity and functioning. Importantly, people's sense of self includes beliefs about their own personality traits (Baumeister, 1997; McCrae & Costa, 1988). Given that introversion-extraversion is a fundamental part of personality (Zelenski et al., 2014) and the most widely recognised and noticeable Big Five trait (Vazire, 2010; Winter, John, Stewart, Klohnen, & Duncan, 1998), it seems quite likely that it would be an important attribute in most people's sense of self.

Self-discrepancy theory (Higgins, 1987) suggests that people make comparisons between their own actual and ideal selves; these self-comparisons are based on their beliefs about current versus desired levels of attributes that are personally relevant and accessible. In self-discrepancy theory, people's ideal self thus represents a "self-guide" or internalised standard for being (Higgins, 1987). We suggest that introversion-

extraversion is a particularly likely attribute on which people might form such a self-guide in going about their daily life. To the extent that the sociocultural environment suggests extraversion is a favourable attribute, people might internalise this standard such that it forms part of their ideal self. Thus, we expect that for most people living in the West their ideal self would be more extraverted than their actual self. Some empirical support for this belief system is provided by the finding that, in a U.S. sample, a substantial majority (87%) of people expressed a specific goal to become more extraverted (Hudson & Roberts, 2014).

In self-discrepancy theory, an actual-ideal discrepancy is motivated by an absence of positive outcomes and can lead to adverse psychological consequences (Higgins, 1987). In the present study we suggest that the motivations for, and the consequences of, wanting to become more extraverted will differ between extraverts and introverts. Most people are motivated to belong or fit (Baumeister & Leary, 1995). The extent to which people assess that they fit with their peers is associated with how normal they consider themselves to be (Wood, Gosling, & Potter, 2007). A study with 18,818 participants found that extraverts felt more normal than introverts, as well as feeling that they had a better fit with their peers than introverts, across age groups (Wood et al., 2007). This research suggests that introverts are more likely than extraverts to hold extraversion-deficit beliefs, and for introverts in particular, holding an extraversion-deficit belief is likely to be motivated by a lack of natural person-environment fit. This might have adverse consequences for their experience of authenticity and well-being.

### **Study Aim and Hypotheses**

In a Western context where extraversion is likely to be culturally preferred, our moderated mediation model (Figure 1) aims to examine: 1) whether extraversion-deficit

beliefs moderate the relation between trait introversion-extraversion and authenticity; and 2) whether authenticity mediates the relation between trait introversion-extraversion and well-being, contingent upon extraversion-deficit beliefs. Based on the preceding literature review and our conceptual model, we present the following hypotheses.

*Hypothesis 1:* There will be a positive relation between trait introversion-extraversion and authenticity. However, this positive relation will be moderated by extraversion-deficit beliefs. Specifically, it will be stronger for those people who hold relatively high extraversion-deficit beliefs (i.e., people who want to be more extraverted than they are currently) and weaker for those people who hold relatively low extraversion-deficit beliefs.

*Hypothesis 2:* Authenticity will act as an indirect, conditional mechanism for the positive effects of trait introversion-extraversion on well-being. Specifically, authenticity will partially mediate this relationship, but the mediation effect will be moderated by extraversion-deficit beliefs; the difference in well-being between introverts and extraverts will be larger when extraversion-deficit beliefs are higher, and smaller when extraversion-deficit beliefs are lower.

## **Method**

### **Participants**

This research was approved by the University of Melbourne Human Research Ethics Committee in 2016. We collected our sample in Australia on the basis that it is a relatively individualistic, extraverted Western culture (e.g., McCrae et al., 2005). The convenience sample comprised participants who were recruited via posters, email invitations, and academic recruitment websites. As an incentive for participation, participants were given the option to enter a draw for a chance to win one of ten \$50 gift

cards. To be eligible to participate they needed to be at least 18 years of age and living in Australia.

There were 349 participants (79% female) ranging in age from 18 to 61 years ( $M = 24.21$ ,  $SD = 8.59$ ). Seventy two percent of these participants were “students or unemployed”, and fifty eight percent were born in Australia. Of the forty two percent of participants not born in Australia, the country of birth most frequently nominated was China (23%), followed by Malaysia (9%), then Singapore and India (8% each). The remainder (52%) came from a mix of 34 other Eastern and Western countries. Sixty five percent of the participants not born in Australia indicated they had been living in Australia for five years or less. Missing data for all substantive variables in the sample were minimal ( $< 2\%$ ). The larger data set comprised 422 participants which was reduced to 349 participants for two reasons. First, against the clear trend in our data, 38 participants reported that they wanted to be more introverted than they currently were. These cases were dropped from our analyses to avoid potential confounding of interaction effects with curvilinear relations (see Darlington & Hayes, 2017). Second, participants’ ethnicity was recoded into a dichotomous variable (0 = *Eastern-Collectivist*; 1 = *Western-Individualist*) to enable its inclusion as a covariate in the model. Remaining cases that did not fit into either of these two recoded categories were also dropped from our analyses ( $n = 29$ ).

## Measures

The online survey comprised a battery of established measures and a researcher-designed questionnaire, along with some basic demographic items about age, gender, ethnicity, occupation, and country of birth.

**Trait introversion-extraversion.** The IPIP-NEO-120 (Goldberg et al., 2006; International Personality Item Pool (IPIP); Johnson, 2014) is a 120-item personality

questionnaire that measures the Big Five traits at both the domain and facet level. There are five scales, one for each domain. Each scale contains several subscales to assess the various facets. As our focal interest was introversion-extraversion, only the 24-item Extraversion scale was administered to participants in this study (six facet subscales of four items each). Items are expressed as self-report phrases (e.g., “Make friends easily”), with scoring based on 5-point response scales ranging from 1 = *very inaccurate* to 5 = *very accurate*. Higher scores indicate higher levels of trait extraversion, with several items reverse-scored. A composite score was computed by averaging the six subscales. In the present study, in the interests of clarity and simplicity, we refer generally to those participants scoring lower or higher on the trait introversion-extraversion continuum as “introverts” and “extraverts”, respectively. Internal consistency at the Extraversion domain level is high, and the measure has a factor structure which aligns with the commonly used 240-item NEO-PI-R (e.g., Johnson, 2014). In our study the overall scale had good internal consistency reliability ( $\alpha = .89$ ).

**Authenticity.** The Authenticity Scale (Wood et al., 2008) is a 12-item questionnaire that measures authenticity as a person-centred, dispositional, tripartite construct related to experiencing and expressing the true self, and resisting conflicting influences from the sociocultural environment. The scale contains three subscales of four items each (Self-Alienation; Authentic Living; and Accepting External Influence) which combine to provide an overall dispositional authenticity score. *Self-alienation* involves a mismatch between one’s core characteristics and deep-level experiences, and the conscious awareness of those characteristics or experiences. *Authentic living* requires frequent behavioural expression of one’s core characteristics. *Accepting external influence* involves resisting sociocultural influences when they conflict with

one's core characteristics. Items are expressed as statements (e.g., "I think it is better to be yourself, than to be popular."), with scoring based on 7-point response scales ranging from 1 = *does not describe me at all* to 7 = *describes me very well*. Higher scores indicate higher levels of dispositional authenticity, with the Self-Alienation and Accepting External Influence subscales reverse-scored. A composite score was computed by averaging the three subscales. Internal consistencies for the subscales are satisfactory, and the measure has a stable factor structure (e.g., Wood et al., 2008). In our study the overall scale had good internal consistency reliability ( $\alpha = .87$ ).

**Well-Being.** The Mental Health Continuum – Short Form (MHC-SF; e.g., Keyes, 2005) is a 14-item questionnaire designed to briefly measure a multi-faceted, "functioning and feeling" conception of overall well-being, or "flourishing". The scale contains three subscales that capture hedonic and eudaimonic perspectives on well-being (Subjective Well-Being, three items; Psychological Well-Being, six items; and Social Well-Being, five items). Items are expressed as sentences (e.g., "During the past month, how often did you feel...happy."), with scoring based on 6-point response scales ranging from 0 = *never* to 5 = *every day*. Higher scores indicate a greater recent frequency of experiencing symptoms of positive mental health. A composite score for flourishing was computed by summing the three subscales. Internal consistencies for the scale and subscales are high, and the measure has a stable factor structure (Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2010). In our study the overall scale had excellent internal consistency reliability ( $\alpha = .91$ ).

**Extraversion-deficit beliefs.** Extraversion-deficit beliefs were operationalised by asking participants two questions regarding their "actual" and "ideal" levels of introversion-extraversion. The *actual* question was "Where do you believe you are typically located on the Introversion-Extraversion personality dimension?" The *ideal*

question was “Where would you *like* to be located on the Introversion-Extraversion personality dimension?” To provide participants with some guidance about the meaning of each pole of the continuum some prototypical trait adjectives (e.g., John, 1990) for introverts (e.g., “quiet”, “withdrawn”) and extraverts (e.g., “active”, “outgoing”) were listed in the question instructions. Participants used a 7-point sliding scale, ranging from -3 = *very introverted* to 3 = *very extraverted*, to answer each question. A difference score was computed by subtracting the actual scores from the ideal scores, to create an index of extraversion-deficit beliefs.

This index could be interpreted according to three possible results: (a) positive difference scores indicate extraversion-*deficit* beliefs, suggesting that participants would like to be *more* extraverted than they are currently; (b) negative difference scores indicate extraversion-*surplus* beliefs, suggesting that participants would like to be *less* extraverted than they are currently; and (c) a difference score of zero indicates no mismatch, or a *neutral* belief. Scores are construed as *increasing* when moving from neutral toward deficit. As mentioned, to avoid potential confounding of interaction effects with curvilinear relations (Darlington & Hayes, 2017), and thus more accurately test our research question, our final sample only included participants who reported extraversion-deficit or neutral beliefs: The minority of cases with extraversion-surplus beliefs (around 9%) were dropped.

**Cultural preference for extraversion.** To confirm that extraversion is considered more socially desirable in Australia and provide further context for our model, we asked participants two further questions designed to gauge their perceptions of the value of, and the pressure to display, introversion versus extraversion (cf. Bastian, Kuppens, De Roover, & Diener, 2014 regarding this procedure). For both questions participants were shown a list of eight adjectives based on a prototype approach to trait

definition (e.g., John, 1990), representing four introverted and four extraverted characteristics. The introverted adjectives were “quiet”, “reserved”, “passive”, and “withdrawn”; the extraverted adjectives were “active”, “assertive”, “bold”, and “outgoing”.

The first question was “Please indicate to what extent, in your opinion, the following personality traits are *valued* in your society”. Participants rated on a 5-point scale ranging from 1 = *not at all* to 5 = *extremely*. Responses for the four introverted items were summed ( $\alpha = .69$ ) as were responses for the four extraverted items ( $\alpha = .71$ ), and a difference score was computed by subtracting the summed extraversion items from the summed introversion items to create an index of “perceived value” for introversion versus extraversion. Positive difference scores indicated that introversion was more highly valued by society; negative difference scores indicated that extraversion was more highly valued by society. A difference score of zero indicated that introversion and extraversion were valued equally.

The second question was “Please indicate *how often* during the last month you believed that it was necessary to display each of the following personality traits in going about your daily life (e.g., at home, at work, at university, at a party, at a gym, etc.)”. Participants rated on a 5-point scale ranging from 1 = *never* to 5 = *always*, and  $\alpha$ 's were .72 for the introverted items and .64 for the extraverted items. An index of “perceived pressure to display” introversion versus extraversion was obtained using the same procedure as above. Positive difference scores indicated more pressure to display introversion; negative difference scores indicated more pressure to display extraversion. A difference score of zero indicated equal pressure to display introversion or extraversion.

### **Data Analysis Strategy**

We statistically controlled for participants' age and ethnicity, on the basis that each might be expected to relate to authenticity and/or well-being in the context of our model (e.g., age: Davidson, 2004; and ethnicity: Fulmer et al., 2010).

Relations among the variables in our model were analysed using IBM SPSS Statistics version 24, as well as PROCESS custom dialog release 2.16.3. PROCESS is an add-on tool for doing ordinary least squares regression-based moderation and mediation analyses, including tests for interaction, direct, and indirect effects, and their integration (Hayes, 2013).

To enable meaningful interpretation of all conditional effects within range of the data, the focal predictor (trait introversion-extraversion) and the moderator (extraversion-deficit beliefs) were both mean centred prior to model estimation (Hayes, 2013). For more robust inference, the HC3 estimator was used to compute heteroscedasticity-consistent standard errors for regression coefficients and the change in model  $R^2$  (Hayes & Cai, 2007). Data were screened for violations of regression assumptions, including multicollinearity.

## **Results**

### **Preliminary Analyses**

Descriptive statistics for the substantive variables and covariates in our model appear in Table 1, along with their zero-order correlations, and the scale internal consistencies from our sample for the three established measures.

As expected, trait introversion-extraversion was positively associated with authenticity and well-being, extraversion-deficit beliefs were negatively associated with authenticity and well-being, and authenticity was positively associated with well-being. Trait introversion-extraversion was also negatively associated with extraversion-deficit

Table 1  
*Sample Characteristics, Internal Consistencies, and Correlations*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max	Cronbach's $\alpha^a$	Correlations				
							1.	2.	3.	4.	5.
Substantive variables:											
1. Trait Introversion-Extraversion	349	3.05	0.58	1.29	4.83	0.89					
2. Extraversion- Deficit Beliefs	349	1.30	1.13	0	5	—	-.42**				
3. Dispositional Authenticity	349	4.87	1.00	2	7	0.87	.36**	-.33**			
4. Well-Being	349	42.03	13.13	3	69	0.91	.52**	-.37**	.50**		
Covariates:											
5. Age <sup>b</sup>	349	24.21	8.59	18	61	—	.04	-.13*	.25**	.10	
6. Ethnicity							-.06	-.04	.13*	.00	.21**
Western-Individualist ( <i>coded 1</i> )	196	—	—	—	—	—					
Eastern-Collectivist ( <i>coded 0</i> ) <sup>c</sup>	153	—	—	—	—	—					

<sup>a</sup> Scale reliabilities for full sample ( $N = 422$ ).

<sup>b</sup> Age was positively skewed.

<sup>c</sup> Eastern-Collectivist composition: 143 participants self-described as “Asian”; 10 participants self-described as “Middle Eastern”.

\* $p < .05$ ; \*\* $p < .01$  (two-tailed)

beliefs, suggesting that, as expected, introverts generally expressed a greater desire to become more extraverted than did extraverts. The covariates age and ethnicity were both positively associated with authenticity, but neither covariate was associated with well-being.

**Cultural preference for extraversion.** A substantial majority of participants (96.0%) believed that extraverted characteristics were more valued than introverted characteristics in their society. Moreover, our index of perceived value yielded a negative difference score (mean difference = -8.03,  $SD = 4.11$ ), confirming the perceived value of extraversion over introversion. A one-sample t-test revealed that this negative difference score was different than a neutral test value of zero,  $t(348) = -36.46$ ,  $p < .001$ .

A substantial majority of participants (82.2%) also believed it was necessary to display extraverted characteristics more often than introverted characteristics in going about their daily life. Moreover, our index of perceived pressure to display yielded a negative difference score (mean difference = -4.26,  $SD = 4.23$ ), confirming greater perceived pressure to display extraversion (versus introversion). A one-sample t-test revealed that this negative difference score was different than a neutral test value of zero,  $t(348) = -18.82$ ,  $p < .001$ .

These findings from our sample suggest a distinct cultural preference for extraversion in Australia, and provide further context within which to interpret our model and hypotheses.

**Introverts, extraverts, and extraversion-deficit beliefs.** In regard to participants' beliefs about their *actual* place on the introversion-extraversion continuum, a clear majority of participants (69.1%) self-identified as being introverted (scale midpoint = 0,  $M = -0.78$ ,  $SD = 1.49$ ). Moreover, participants' beliefs about their

actual levels of introversion-extraversion and their measured trait levels according to the IPIP-NEO-120 showed a strong positive correlation ( $r = .73, p < .001$ ), suggesting that these indicators were covering the same conceptual domain (cf. Furnham & Henderson, 1983). In regard to participants' beliefs about their *ideal* place on the introversion-extraversion continuum, a majority of participants (53.6%) wanted to be extraverted (scale midpoint = 0,  $M = 0.52, SD = 1.32$ ).

Table 2 shows the proportions of trait introverts and extraverts—using a scale midpoint split of scores on the IPIP-NEO-120—who held either extraversion-deficit or neutral beliefs based on our index. A substantial majority of participants (70.2%) held extraversion-deficit beliefs, and of those the majority were more introverted than extraverted. Conversely, for those who held neutral beliefs, a substantial majority were more extraverted than introverted.

The overall sample mean score for extraversion-deficit beliefs was well above a neutral belief of zero ( $M = 1.30, SD = 1.13$ ). A one-sample t-test revealed that this positive difference score was different than a neutral test value of zero,  $t(348) = 21.47, p < .001$ , providing further evidence that participants wanted to be more extraverted than they were currently. This difference score was higher for trait introverts ( $M = 1.76, SD = 1.16$ ) and lower for trait extraverts ( $M = 0.93, SD = 0.96$ ).

### **Model Analyses**

Parameter estimates for our moderated mediation model are shown in Table 3. We examine the model in two parts, in line with hypotheses 1 and 2. First, we examine the first-stage moderating effect of extraversion-deficit beliefs on relations between trait introversion-extraversion and authenticity (hypothesis 1). Second, we examine the mediation of trait introversion-extraversion's effect on well-being through authenticity,

Table 2

*Proportions of Trait “Introverts” and “Extraverts” with Extraversion-Deficit and Neutral Beliefs*

Level of Trait Introversion-Extraversion (IPIP-NEO-120)	Extraversion-Deficit Beliefs <sup>a</sup>		
	Deficit	Neutral	Total
Introverted	133	22	155
Neutral (scale midpoint)	5	3	8
Extraverted	107	79	186
Total	245	104	349

*Note.* Introverted means those participants who scored *below* the scale midpoint; extraverted means those participants who scored *above* the scale midpoint ( $n = 349$ ).

<sup>a</sup> Totals do not include 38 participants who reported extraversion-*surplus* beliefs; these participants were excluded from all analyses. Their proportions across the trait introversion-extraversion continuum were: introverted 9, neutral 0, and extraverted 29.

Table 3

Ordinary Least Squares Regression Coefficients, with (Standard Errors) and [Confidence Intervals], Estimating Dispositional Authenticity and Well-Being

Predictor	Criterion								
	Dispositional Authenticity				Well-Being				
	Parameter	Coefficient	SE	95% CI	Parameter	Coefficient	SE	95% CI	
Trait Introversion-Extraversion	$a_1$ →	0.522***	(.084)	[0.357, 0.687]	$c'$ →	8.692***	(1.030)	[6.666, 10.717]	
Dispositional Authenticity					$b_1$ →	4.885***	(.622)	[3.662, 6.108]	
Extraversion-Deficit Beliefs	$a_2$ →	-0.132**	(.043)	[-0.217, -0.048]					
Trait I-E x Extraversion-Deficit Beliefs	$a_3$ →	0.182**	(.063)	[0.058, 0.305]					
Age	$a_4$ →	0.023***	(.006)	[0.012, 0.034]	$b_2$ →	-0.015	(.074)	[-0.160, 0.130]	
Ethnicity	$a_5$ →	0.200*	(.095)	[0.013, 0.388]	$b_3$ →	-0.494	(1.138)	[-2.732, 1.744]	
Intercept	$i_M$ →	4.255***	(.145)	[3.970, 4.541]	$i_Y$ →	18.877***	(3.153)	[12.675, 25.079]	
		$R^2 = .236$				$R^2 = .381$			
		$F(5, 343) = 24.904, p < .001$				$F(4, 344) = 61.786, p < .001$			
		Change in $R^2$ due to interaction = .014							
		$F(1, 343) = 8.308, p < .01$							
		“Index of moderated mediation” ( $a_3b_1$ ) = 0.887; 95% bias-corrected bootstrap CI [0.304, 1.600]							

Note. Listwise  $n = 349$ . The focal predictor trait introversion-extraversion, and the moderator extraversion-deficit beliefs, are both mean centred. All regression coefficients are unstandardised and based on a model with all variables entered. SE = standard error; CI = confidence interval.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed)

but contingent upon extraversion-deficit beliefs (i.e., moderated mediation; hypothesis 2).

**Moderation.** Results of estimating the first-stage moderation are shown in the left criterion panel in Table 3. Regression coefficients are unstandardised. The conditional effect of trait introversion-extraversion on authenticity (path  $a_1$ ) was positive and significant after controlling for age and ethnicity. This means that higher levels of trait introversion-extraversion predicted higher levels of authenticity when participants had an average level of extraversion-deficit beliefs. The conditional effect of extraversion-deficit beliefs on authenticity (path  $a_2$ ) was negative and significant after controlling for age and ethnicity. This means that higher levels of extraversion-deficit beliefs predicted lower levels of authenticity when participants had an average level of trait introversion-extraversion. The covariates age and ethnicity were also significant predictors of authenticity among our sample. Older participants experienced more authenticity, and participants who identified as Eastern-Collectivist experienced less authenticity than those who identified as Western-Individualist.

Importantly, coefficient  $a_3$  for the interaction term (trait introversion-extraversion x extraversion-deficit beliefs) was positive and significant after also controlling for age and ethnicity. Thus, the effect of trait introversion-extraversion (the focal predictor) on authenticity depended linearly on extraversion-deficit beliefs (the moderator). Figure 2 shows the simple slopes for trait introversion-extraversion's effect on authenticity at three conventionally chosen values of the moderator (Hayes, 2013), representing "low" ( $-1 SD$ ), "average" (sample mean), and "high" ( $+1 SD$ ) levels of extraversion-deficit beliefs. For interpretative ease, trait introversion-extraversion and extraversion-deficit beliefs are shown in their original, uncentred metric, with both covariates set to their means (Hayes, 2013).

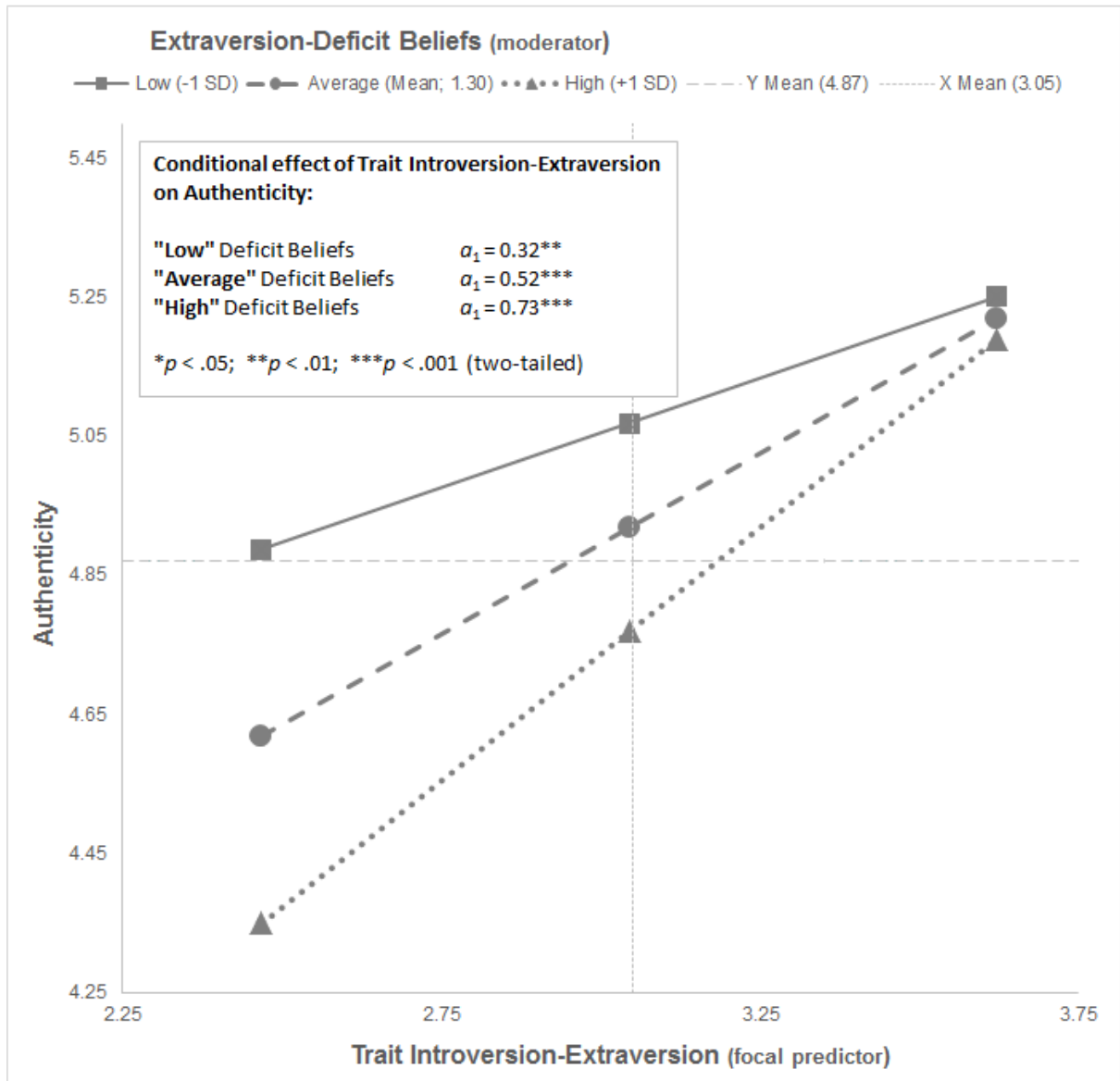


Figure 2. The moderating effect of extraversion-deficit beliefs on positive relations between trait introversion-extraversion and authenticity ( $n = 349$ )

As can be seen from the direction of the simple slopes in Figure 2, the effect of trait introversion-extraversion on authenticity was consistently positive at the different levels of extraversion-deficit beliefs. However, the non-parallel gradient of the slopes clearly highlights the significant interaction: As extraversion-deficit beliefs decreased (i.e., as they moved from high toward low) the positive effect of trait introversion-extraversion on authenticity reduced, and the slope became noticeably flatter. The size

of this interaction effect was in the typical range for nonexperimental research (McClelland & Judd, 1993), and importantly, the distinct change in slope was substantial enough to push introverts who held low extraversion-deficit beliefs above the mean on authenticity.

A Johnson-Neyman analysis (Hayes, 2013) revealed that, despite the interaction effect, extraverts experienced more authenticity than introverts across the entire observed range of extraversion-deficit beliefs. Furthermore, as can be seen by the relative positions of the simple slopes in Figure 2, holding a low extraversion-deficit belief was better for one's authenticity than holding a high extraversion-deficit belief, regardless of one's place on the trait introversion-extraversion continuum. Importantly, however, the more introverted participants were, the larger the gain in authenticity appears to be. To formally confirm this distinct visual trend we conducted a supplementary analysis, this time with extraversion-deficit beliefs as the focal predictor and trait introversion-extraversion as the moderator (both mean centred). At  $-1$  *SD* for trait introversion-extraversion (i.e., introverts), extraversion-deficit beliefs were negatively related with authenticity,  $\beta = -0.237$ ,  $t(343) = -4.78$ ,  $p < .001$ , 95% confidence interval (CI)  $[-0.334, -0.139]$ . Therefore, for introverts, individual differences in extraversion-deficit beliefs mattered for their experience of authenticity, insofar as introverts with lower deficit beliefs experienced higher authenticity. However, conditional effects of extraversion-deficit beliefs at  $+1$  *SD* for trait introversion-extraversion (i.e., extraverts) were not significant. Thus, for extraverts, individual differences in extraversion-deficit beliefs did not impact their authenticity.

**Moderated mediation (full model).** Having found evidence for a first-stage moderation effect our analysis turns to the direct, and conditional indirect, effects in our

full moderated mediation model. Results of estimating the full model are shown across both criterion panels in Table 3.

The direct effect of trait introversion-extraversion on well-being (path  $c'$ ) was positive and significant after controlling for other predictors (i.e., authenticity, age, and ethnicity). This means that higher levels of trait introversion-extraversion independently predicted higher levels of well-being. Neither of the covariates uniquely predicted well-being.

However our primary focus in examining the full model was on the *indirect* pathway. In the second-stage of the model, the effect of authenticity on well-being (path  $b_1$ ) was positive and significant after controlling for other predictors (i.e., trait introversion-extraversion, age, and ethnicity), indicating that higher levels of authenticity independently predicted higher levels of well-being. Taken in conjunction with our earlier first-stage findings, this might suggest a conditional indirect effect of trait introversion-extraversion on well-being through authenticity, contingent upon extraversion-deficit beliefs. However, a formal test of moderated mediation is required to quantify this (Hayes, 2013, 2015). The conditional indirect effect ( $\omega$ ) is a linear function of the moderator  $W$  (i.e., extraversion-deficit beliefs):  $\omega = (a_1 + a_3W)b_1 = a_1b_1 + a_3b_1W$ , where  $a_1b_1$  defines the intercept and  $a_3b_1$  defines the slope (Hayes, 2013, 2015). The “index of moderated mediation”, or slope, provides the formal test of this effect. Figure 3 shows the nature of the conditional indirect effect, as well as the result of this test. Extraversion-deficit beliefs (the moderator) are again shown in their original, uncentred metric.

As can be seen by the 95% bias-corrected bootstrap CI's in Figure 3, the indirect effect of trait introversion-extraversion on well-being via authenticity was consistently positive and significant at each of the three conventionally chosen values of

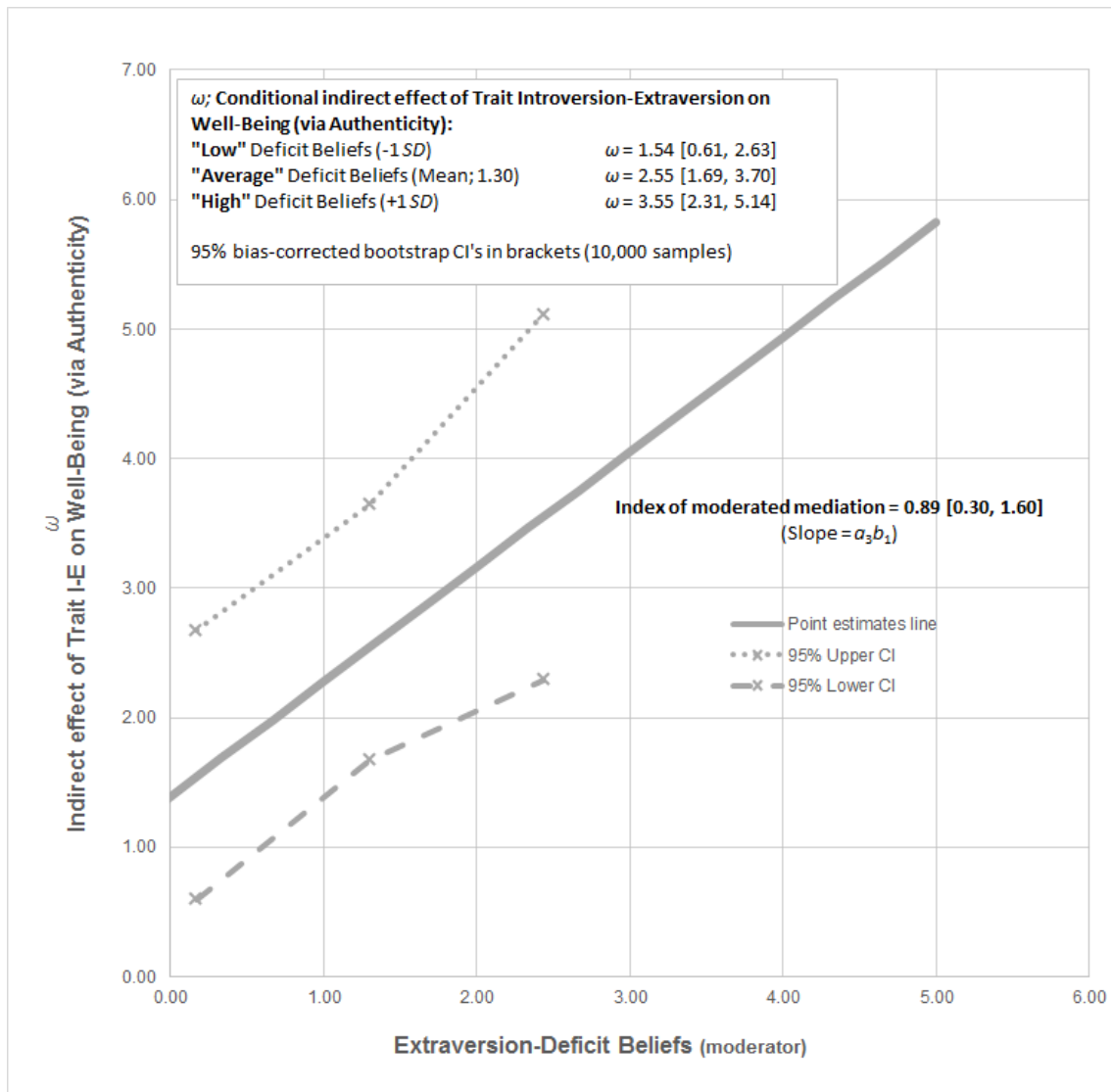


Figure 3. The positive indirect effect of trait introversion-extraversion on well-being via authenticity, conditional upon extraversion-deficit beliefs ( $n = 349$ )

extraversion-deficit beliefs (i.e., “low”, “average”, and “high”; as used in the first-stage component of our model). Authenticity, thus, mediated the positive relationship between trait introversion-extraversion and well-being. However, as seen by the upward slope of the point estimates line, this indirect effect clearly appears to increase as extraversion-deficit beliefs increased. The Y-axis quantifies the *difference* in well-being (via authenticity) between introverts and extraverts, and the slope of the point estimates line—or index of moderated mediation—represents how much this difference

depends on individual differences in extraversion-deficit beliefs (Hayes, 2013). The upward slope of the point estimates line was 0.887, suggesting that these beliefs were amplifying the indirect pathway. A 95% bias-corrected bootstrap CI for this index [0.304, 1.600] did not contain zero and the lower bound was greater than zero; evidence that the mediation effect was indeed positively moderated. Therefore, the indirect pathway from trait introversion-extraversion to well-being via the mechanism of authenticity depended linearly on extraversion-deficit beliefs. As extraversion-deficit beliefs increased, the differences in authenticity, and hence well-being, between introverts and extraverts also increased. In other words, lower extraversion-deficit beliefs were important for improving the authenticity and well-being of introverts relative to extraverts.

### **Discussion**

The aim of the present study was to investigate indirect, conditional relations between trait introversion-extraversion and well-being in a context where extraversion was likely to be culturally preferred. We were particularly interested in gaining a more nuanced view of the well-being of introverts in this context. Findings supported our two hypotheses. First, we predicted and found that extraversion-deficit beliefs moderated the positive effect of trait introversion-extraversion on participants' tendencies to experience authenticity (hypothesis 1). Specifically, introverts who were comfortable with their introversion (i.e., they held a relatively low extraversion-deficit belief) showed higher levels of authenticity than did those who wanted to be more extraverted than they were currently. For extraverts, this effect was much weaker and did not reach significance.

Second, we predicted and found that authenticity partially mediated the positive relation between trait introversion-extraversion and well-being, and this indirect mechanism was positively moderated by extraversion-deficit beliefs (hypothesis 2). We interpret this to mean that introverts who were comfortable with their introversion experienced higher authenticity, and, thus, were able to achieve a level of well-being that was closer to the level experienced by extraverts, relative to introverts who wanted to be more extraverted than they were currently.

Our findings thus extend current knowledge about the implications of being an introvert in a cultural context where extraverted characteristics are preferred. Below, we discuss the contribution of our findings in more detail, including theoretical and practical implications of the study. We conclude with a discussion of the study's limitations, as well as suggestions for future research.

### **Cultural Preference for Extraversion**

Our data showed a majority of participants perceived that they lived in a society where extraversion was valued and emphasised over introversion. Moreover, most participants wanted to be more extraverted than they were currently. Not only did most participants hold extraversion-deficit beliefs, but the majority of those who held deficit beliefs were introverted and introverts held larger deficit beliefs than extraverts. Hence, our data strongly suggest that from a lay perspective, extraversion is preferred over introversion in Australia and, thus, in general extraverts are more comfortable with their place on the introversion-extraversion continuum. This finding is consistent with perceptions of national character in Australia (e.g., Terracciano et al., 2005), and supports assertions about extraversion and person-environment fit in the West (e.g., Pavot et al., 1990).

### **Extraversion-Deficit Beliefs and the Authenticity and Well-Being of Introverts**

To our knowledge, our data are the first to show that, in this cultural context, beliefs about introversion-extraversion can interact with trait introversion-extraversion to exert joint effects upon authenticity and well-being. This unique finding has potential beneficial implications for introverts living in the West. More specifically, favourable belief systems about trait introversion may act as a “buffer” against the disadvantages that introverts encounter when a fundamental part of their personality is incompatible with the dominant cultural norm for extraversion (cf. Davidson et al., 2015; Fulmer et al., 2010). Despite the interaction effect in our sample, extraverts enjoyed higher authenticity than introverts across all levels of extraversion-deficit beliefs. Perhaps this just serves to further illustrate the extent of the natural advantages that extraverts enjoy, in terms of person-environment fit, in a Western cultural context. Importantly, however, the interaction effect meant that introverts did partially “catch up” with extraverts on authenticity, and hence well-being, when they were comfortable with their current place on the introversion-extraversion continuum.

This is an important finding, to the extent that in comparison to inherent and relatively stable personality traits, beliefs are malleable and can be learned and changed (Dweck, 2008; Higgins, 2000). For introverts, making a favourable change in the beliefs they hold about their level of trait introversion-extraversion may have positive consequences for their authenticity. Given that our analysis also showed that the mediating role of authenticity between trait introversion-extraversion and well-being was contingent upon these beliefs, a favourable change in beliefs might also provide introverts with an alternative, volitional pathway to improving their well-being.

We note a key point regarding interpretation of our findings: Our model rests on the presumption that people’s beliefs about their actual versus ideal levels of introversion-extraversion are motivated by different concerns, with different

consequences for their authenticity and well-being, based on whether they are trait introverted or extraverted. For introverts, we argue that their motivation is based specifically on concerns about lack of person-environment fit. Given the extant literature (e.g., Davidson et al., 2015; Fulmer et al., 2010, Wood et al., 2007), along with our own findings in this study, we consider this to be the most reasonable and likely interpretation.

A strength of our model was that it combined trait and social-cognitive theoretical perspectives on personality. This is in line with the broad view taken by modern personality science, which encapsulates both structural and process theories in the study of individual differences and their implications (McCrae, 2009). Furthermore, we used a broad measure of well-being that captured hedonic as well as eudaimonic conceptions, which is important when considering alternative routes to happiness (Vella-Brodrick, Park, & Peterson, 2009) and particularly so when considering the implications for introverts versus extraverts (Seligman, 2011). This integrative approach enabled us to identify extraversion-deficit beliefs as a means by which trait introverts might achieve volitional improvement in their authenticity and well-being, which is important given the malleability of beliefs (Dweck, 2008). Introverts who can learn to be more comfortable with their place on the introversion-extraversion continuum might, for example, better thrive in our schools, universities, and workplaces despite the fact that in the West these institutions are often geared toward extraverted behaviour (e.g., Cain, 2012a; Davidson et al., 2015). We speculate that introverts might learn to become more comfortable with their own introversion in these environments by focussing on eudaimonic concepts such as maintaining a positive attitude toward oneself, and cultivating good character; this might be achieved by practicing more self-

acceptance (Ryff, 1989), and developing their “signature strengths” (Peterson & Seligman, 2004).

### **Study Limitations, and Future Research**

Despite the novel contribution of the present study, some limitations and suggestions for future research are worth noting. Our study relied on self-report measures, raising the possibility of response biases, and also common method variance in our data which can artificially inflate effect sizes (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Although our findings supported the hypothesised directional effects in our model, the cross-sectional design of our study limits the ability to infer causality. Moreover, we used a convenience sample, thus introducing the likelihood of increased sampling error in our data and limiting generalisability. Future studies could address these limitations by conducting a multi-method, longitudinal study to test similar hypotheses in a more representative sample.

In a Western cultural context we did not expect that individuals would want to be more introverted than they currently were. However, as mentioned a small portion of our sample did report extraversion-surplus beliefs and we dropped them from our analyses. Most of these participants were trait extraverted. The implications of this remain unclear and warrant further attention. Future studies might explore the impact of surplus beliefs on authenticity and well-being.

For the items used to create our index of extraversion-deficit beliefs, we used a scale midpoint of zero to emphasise that the introversion-extraversion dimension has two opposing poles with a neutral middle. Hence introversion was labelled with negative values, whereas extraversion was labelled with positive values. It is possible that participants’ judgements about the valence of introversion (versus extraversion) may have been impacted by this negative-positive distinction. Future studies might

complement our approach by trialling alternative scaling methods that may perhaps be less likely to influence responses towards either introversion or extraversion.

It would be interesting to replicate our study in an Eastern context to examine whether the effects we found are specific to people living in the West. This would provide a contrasting test of the social desirability of introverted versus extraverted characteristics, and the implications for authenticity and well-being, in a cultural context where collectivism and harmonious interdependence are the norm (Hofstede & McCrae, 2004; Markus & Kitayama, 1991).

Beyond our presumption regarding person-environment fit, we did not investigate specific reasons as to why extraversion-deficit beliefs might develop, or how they might be changed. This could be an important next step in understanding relations between the constructs in our model. It would be particularly worthwhile to investigate how and why some introverts in Western cultures do manage to be comfortable with their place on the introversion-extraversion continuum.

In conclusion, our findings showed a distinct cultural preference for extraversion in Australia. In this context our moderated mediation model provides some novel evidence that while, in general, extraverts are likely to experience higher levels of authenticity and well-being than introverts, individual differences in extraversion-deficit beliefs tend to matter more for introverts' experience of authenticity and well-being. Therefore, we suggest that introverts living in the West could be more authentic, and hence boost their overall well-being, if they can learn to be comfortable with their introversion.

## **Compliance with Ethical Standards**

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### **Conflict of Interest:**

The authors declare that they have no conflict of interest.

### **Ethical Approval for Research Involving Human Participants:**

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

### **Informed Consent:**

Informed consent was obtained from all individual participants included in this study.

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## **6.0 CHAPTER SIX**

### **GENERAL DISCUSSION AND CONCLUSION:**

#### **6.1 THE *MEANING* OF PERSONALITY TRAITS IN PEOPLE'S LIVES—SUMMARY AND SYNTHESIS OF FINDINGS, AND BROADER IMPLICATIONS**

##### **6.1.1 Understanding the Whole Person in Context—the Advantages of Integrating Character, Authenticity, and Beliefs about the Self**

##### **6.1.2 The Ambiguity Surrounding Introversions—Possible Implications for Introverts**

##### **6.1.3 The Benefits of Considering Eudaimonic Conceptions of Well-Being**

#### **6.2 LIMITATIONS**

#### **6.3 FUTURE RESEARCH**

#### **6.4 CONCLUSION**

## **General Discussion and Conclusion**

The overarching purpose of this thesis was to conduct a nuanced investigation into beliefs about the personality and character of introverts (and extraverts) and the implications of this for the identity and well-being of trait introverts in a Western cultural context. This topic has received much attention in the popular press and garnered interest from the public in recent years (e.g., Cain, 2012a; Laney, 2002). However, as noted by some researchers in personality and positive psychology (e.g., Peterson, 2012; Zelenski, Sobocko, & Whelan, 2014) there is sparse research that specifically examines the well-being implications for introverts of living in a context where extraversion is likely to be preferred.

In addressing this gap in the literature, the central argument of this thesis was that in Western cultures there is a link between the beliefs that laypeople hold about introversion (and extraversion) and the identity and well-being of trait introverts. This argument was pursued in two distinct but interrelated parts, as reflected in the thesis title and specified by the two primary research questions presented in Chapter One. Study One addressed the first research question (i.e., “exploring beliefs”; Chapter Three) and thereby provided some justification and context for Study Two, which addressed the second research question and confirmed its related hypotheses (i.e., “identifying pathways”; Chapter Five).

The two empirical chapters in this thesis each included their own Discussion section, in which their respective findings were interpreted in relation to the specific research question and related objectives that they addressed, along with relevant extant literature. It is not intended to repeat those detailed interpretations here. Rather, this final chapter expands upon those interpretations, presenting a broader, more integrated

discussion that summarises and synthesises the findings of the two studies within a unifying theme and links those findings to the overall aims of the thesis. This includes some theoretical and practical implications in regard to personality, social, and positive psychology more generally. In this broader context, “big picture” strengths and limitations of the research carried out in this thesis are discussed, and suggestions for future research arising from the joint findings are also provided. Finally, overall conclusions are drawn from this discussion that will highlight the original contribution to knowledge made by this thesis.

### **6.1 The *Meaning* of Personality Traits in People’s Lives—Summary and Synthesis of Findings, and Broader Implications**

In a *broader* sense, the findings of the two empirical studies included in this thesis can be distilled to the following core theme, namely: what people’s personality traits *mean* to them and to others, and how this might impact upon them in their day-to-day lives. Meaning is culturally mediated (Baumeister, Vohs, Aaker, & Garbinsky, 2013; Benet-Martinez & Oishi, 2008; Greenfield, 2000) and is becoming an increasingly important topic in personality and social psychology (Kreitler, 2018; McAdams, 2010; Molden & Dweck, 2006). Moreover, it is acknowledged as a key component of authenticity (Schlegel, Hicks, Arndt, & King, 2009) as well as eudaimonic perspectives on well-being (e.g., Baumeister et al., 2013; Ryff & Singer, 1998, 2008; Seligman, 2011; Vella-Brodrick, Park, & Peterson, 2009). Thus, meaning properly encompasses all the constructs of interest and the proposed relations among them investigated by this thesis, and it makes sense to interpret the overall findings herein using this common theme. The importance of the meaning or purpose of personality traits was introduced in Chapter One (Section 1.4) when outlining the

research paradigm underpinning the present research; in particular regarding the functionalist perspective on personality traits. It was discussed further in Chapter Two when reviewing literature in regard to trait I-E and its relations with well-being, authenticity, character, and social cognition. In light of the combined findings of this thesis and the extant literature, the broader implications of the meaning of personality traits in people's lives in terms of their identity and functioning will be discussed further below, after a brief recap of Studies One and Two.

Addressing the issue of the meaning of personality traits and its impact in a narrower or more specific sense, Studies One and Two used a self-report survey to jointly investigate lay beliefs about introversion and extraversion and the implications of these beliefs for trait introverts living in Australia. The use of self-report methods in personality and social psychology implicitly assumes that people have a reasonable awareness or knowledge of their own traits (McAdams, 1992, 1996b; Vazire & Carlson, 2010). This is particularly applicable to people in Western, individualistic cultures where the self is emphasised (Church, 2000; Markus & Kitayama, 1998). In regard to judging trait I-E specifically, evidence suggests that people (self or others) make quite accurate judgements (Vazire, 2010). Thus, in the case of a trait introvert living in a Western culture for example, it is likely that they know they are introverted and can describe themselves as such. Moreover, others can recognise them as an introvert, and they can also recognise others as either introverted or extraverted. But what does this all really *mean* to them?

Study One explored the meaning of trait I-E from a descriptive as well as an evaluative perspective, focusing particularly on people's beliefs regarding associations between introversion and extraversion and positively- and negatively-valenced, morally-relevant character attributes. This novel study thereby went beyond

conventional personality descriptions (e.g., the Big Five prototypes; John, 1990) to shed new evaluative-based light on the defining characteristics and social desirability of trait I-E, and the identity of introverts. Importantly, in doing so it highlighted an apparent cultural preference for extraversion in Australia. In light of these descriptive-exploratory findings Study Two used a hypothesised model to further investigate the meaning *and* impact of trait I-E in people's lives. Study Two asked individuals to rate their own actual as well as ideal levels of trait I-E. Examining people's beliefs about their own levels of trait I-E in a context where extraversion is a culturally-influenced ideal shed further light on the meaning of this fundamental trait, in terms of its social desirability implications. By quantitatively testing the impact of these extraversion-deficit beliefs on people's authenticity and well-being, Study Two showed that these beliefs do matter for introverts (Lawn, Slemp, & Vella-Brodrick, 2019).

The interpretation of findings from Studies One and Two made in this thesis, framed in terms of the meaning of personality traits in people's lives, is consistent with a (moderate) functionalist perspective of personality (e.g., Saucier & Srivastava, 2015; Srivastava, 2010). As discussed in Chapters One and Two, a functionalist perspective based on social perception focuses on *what personality traits are for*; acknowledging that they can represent real attributes within a perceived target person as well as reflecting the motives and beliefs of the perceiver (Saucier & Srivastava, 2015; Srivastava, 2010). Thus, from a functionalist perspective, personality traits primarily exist to enable one to make socially relevant judgements and decisions about the value or usefulness of people situated in particular contexts (Mollaret, 2009; Srivastava, 2010). Importantly, the "perceiver" and the "perceived" might be the same person (Srivastava, 2010); a functionalist perspective is therefore relevant to self-judgements of personality made in light of prevailing sociocultural norms.

Taking a functionalist perspective on personality enabled this thesis to unearth new knowledge regarding the experience of trait introverts living in Western cultures. The findings of Study One suggest that laypeople in Australia believe that extraverts possess character attributes that are more obviously suited to thriving in an individualistic cultural context. The findings of Study Two suggest that most people in Australia want to be more extraverted (Lawn et al., 2019). This latter finding is consistent with a recent finding in the U.S. showing that the vast majority of people (87%) had a goal to become more extraverted (Hudson & Roberts, 2014). There must be a *reason* that most people in individualistic Western cultures such as Australia and the U.S. express a clear desire to move “up” the trait I-E continuum. It has been argued in this thesis—based on a variety of converging evidence from the scientific and popular literature, and supported by the findings of the present investigation—that in the case of trait introverts that desire is laden with self-relevant, culturally-influenced meaning. In other words, it stems from their perceived lack of person–environment fit in societies that favour extraverted characteristics (e.g., Cain, 2012a; Fulmer et al., 2010; Laney, 2002; Lawn et al., 2019; Pavot, Diener, & Fujita, 1990; Wood, Gosling, & Potter, 2007).

Given I-E’s prominence as a personality trait in science and the popular mind (Watson & Clark, 1997), its importance for goal-directed positive functioning (e.g., DeYoung, 2015), and its ambiguity and social desirability implications in Western cultures (e.g., Cain, 2012a; Hills & Argyle, 2001; Pavot et al., 1990), it lends itself well to an analysis of its meaning and impact in people’s everyday lives. However, the joint findings of this thesis also have broader implications for research in personality, social, and positive psychology.

One of the most important reasons for studying personality is to understand its impact on meaningful life outcomes, including well-being (Mottus, 2016; Ozer & Benet-Martinez, 2006). Influential explanatory models of personality such as FFT (McCrae & Costa, 2008) conceptualise traits as latent, neurobiological entities with causal force, whereby they *directly* impact upon people's experiences and actions as well as their self-concept (McCrae, 2004; Mottus, 2016). For example, based on correlational and experimental evidence trait I-E's positive relations with positive affect (e.g., Costa & McCrae, 1980; Larsen & Ketelaar, 1989) and life satisfaction (e.g., Herringer, 1998) have often been attributed to temperament-based effects. In other words, by this account relations between trait I-E and hedonic happiness depend on one's inherent level of the trait and the direct impact this has on the affective and cognitive elements of SWB (McCrae & Costa, 1991; Watson & Clark, 1997). However, the combined findings of this thesis suggest that how people *construe* introversion and extraversion, and how they *view themselves* in regard to their own level of trait I-E and its sociocultural implications, also impacts upon their identity and well-being; over and above their actual dispositional tendencies. Thus, the present findings along with some other recent research regarding I-E, cultural influences, and well-being (e.g., Fulmer et al., 2010; Kim, Schimmack, Oishi, & Tsutsui, 2018) provide some evidence that within-person processes and ongoing, broad contextual factors are important influences on relations between trait I-E and well-being.

Moving beyond traits and the direct effects of temperament to investigate the lived experience of people embedded in sociocultural context would seem to capture a much more nuanced, holistic view of what it means to be a well-functioning person (see Diener, Oishi, & Lucas, 2003; Lucas & Diener, 2008). Such an approach requires the examination of indirect and/or conditional effects (Diener et al., 2003), as was done by

the moderated mediation model tested in this thesis. McCrae and Costa (1991) wrote of “temperamental”, “instrumental”, and “experiential” effects on relations between personality and well-being. The possibility of instrumental and experiential pathways implies that contextual factors, and social-cognitive and phenomenological-humanistic variables, might be relevant to these relations, over and above traits. Specifically regarding trait I-E, although McCrae and Costa asserted that its relations with well-being are likely temperament-based, the findings of this thesis have shown that indirect, conditional effects also play a role. The present research is thus consistent with the assertion that, beyond direct effects, “


” (Diener et al., 2003, p. 409). Indeed, in line with this proposition, a multi-wave panel study in Australia showed that personality—including trait I-E—and life events are both related to SWB (Headey & Wearing, 1989).

The nuanced approach taken in this thesis is in line with some contemporary theories or models of personality that seek a whole-person-in-context view of human nature and individual differences (e.g., Dweck, 2017; Fleeson & Jayawickreme, 2015; McAdams & Pals, 2006). These integrative models include traits as well as social-cognitive variables and/or narrative-based accounts of human experience. According to McCrae (2009) the integration of structural- and process-based accounts of personality is important because, despite their philosophical and methodological differences, they ultimately share a common concern for how people function. McCrae further suggested that social-cognitive and narrative-based accounts of personality (i.e., process-based approaches) incorporate much of what might also be considered social psychology. The two empirical studies in this thesis, as well as including structural trait or trait-like variables (i.e., I-E and character attributes), also included process variables (i.e.,

authenticity and beliefs). Thus this thesis, in its exploration of beliefs about I-E and the self and its examination of relations between trait I-E and well-being, took an integrative stance that straddled the boundary between personality and social psychology as well as incorporating positive psychology/well-being science.

### **6.1.1 Understanding the Whole Person in Context—the Advantages of Integrating Character, Authenticity, and Beliefs about the Self**

This integrative stance is a strength of the present research. To date—for various reasons outlined in earlier chapters and recapped briefly below—the constructs investigated herein (i.e., character, authenticity, and beliefs about the self) have been relatively under-represented in research on the relations between personality and well-being. In light of the present findings, the advantages of including these particular constructs in a unified, meaning-based approach to investigating such relations are discussed next.

McAdams (1994) dubbed personality traits, as exemplified by the dominant Big Five/FFM, as “” (p. 146). McAdams argued that traits, as biological dispositions, set the broad parameters within which a person functions and how they are perceived but do not really provide proper insight into their unique personhood and life circumstances. Similar views have also been put by others (e.g., Lamiell, 1997). McAdams (1994, 1995, 1996a, 1996b) therefore asserted that to really know a person, one must also consider non-structural, contextualised individual difference variables such as social-cognitive mechanisms and narrative identity. Thus, by McAdams’ account there are three distinct, reasonably independent levels of analysis one must utilise in truly getting to know a person (i.e., traits, personal concerns/characteristic adaptations, and life narratives). These three levels of

personality potentially comprise the self (McAdams, 1996b). Importantly, McAdams (1995, 1996b) has also emphasised the particular relevance of these different levels of analysis for gaining a complete and coherent view of the person in the modern West, with its complex, individualistic take on the self. Moreover, McAdams (2010) specifically framed these levels of analysis in terms of their *meaning*, arguing that each level adds unique semantic layers to a person's life. Therefore, for example, if we want to understand what life is like for a trait introvert living in contemporary Western society we must utilise theories and methods that attempt to investigate the *whole person situated in time and place*—that is the approach adopted for this thesis via an exploration of introverts' perceived character and an analysis of relations between trait I-E and well-being based on authenticity and beliefs about the self, in a contemporary Australian context.

In the early 20th century character was a distinct and legitimate topic of psychological research (Fleeson, Furr, Jayawickreme, Meindl, & Helzer, 2014). However, it lost favour as the study of personality began to emphasise neurobiologically-based individual differences or traits over evaluative- and affective-based attributes (John, Angelitner, & Ostendorf, 1988; Nofle, Schnitker, & Robins, 2011; Tellegen, 1993). Character has only had a resurgence of theoretical and empirical interest recently with the advent of positive psychology and its focus on positive, virtuous functioning (Peterson & Seligman, 2004). In everyday life people make socially relevant judgements (of the self and others) based on descriptive as well as evaluative notions (Benet-Martinez & Waller, 2002; Goodwin, Piazza, & Rozin, 2014; Haslam, 2007), and character is explicitly evaluative (Fleeson et al., 2014; Goodwin et al., 2014). Moreover, it reflects cultural ideals (McGrath, 2015). Morally-relevant traits are central to laypeople's beliefs about identity and functioning (Goodwin et al., 2014;

Strohminger & Nichols, 2014) and are interpersonally meaningful (Barranti, Carlson, & Furr, 2016). Moreover, notions of the true self, and comparisons between actual and ideal selves, are facilitated by character (Banicki, 2017). Therefore, it is now being acknowledged that in order to gain a more complete picture of what it means to be human, researchers in the social and well-being sciences must consider positively- and negatively-valenced, morally relevant traits in addition to conventional personality traits such as those in the Big Five/FFM (Avia, 2013; Fleeson et al., 2014; Goodwin et al., 2014; Strohminger & Nichols, 2014).

The findings of this thesis appear to reflect these prior ideas and findings regarding the importance of character. Study One unearthed new aspects of introverts' (and extraverts') identity by examining laypeople's beliefs about introversion and extraversion and character attributes in an Australian context. As discussed in Chapter Three, these descriptive-exploratory findings suggest that introverts are not, *prima facie*, evaluated as being as well equipped as extraverts are to deal with the demands of individualistic Western society. However, they also suggest some opportunities for introverts to thrive. The findings of Study One thus provided conceptual support for the hypothesised model in Study Two, which tested direct and conditional, indirect relations between trait I-E and well-being.

While it did not explicitly incorporate character, the model-based analysis in Study Two suggests that most people in Australia (and particularly introverts) want to be more extraverted and that in general, extraverts experience higher authenticity and well-being than introverts (Lawn et al., 2019). However, introverts with low extraversion-deficit beliefs also experienced higher authenticity and well-being (Lawn et al., 2019). As mentioned in Chapters Two and Five, based on the extant literature and supported by the present findings it seems eminently plausible that character could

have a meaningful influence on people's extraversion-deficit beliefs. Introverts who can identify, acknowledge, and use their signature strengths might reduce their extraversion-deficit beliefs; becoming more comfortable with their introversion and thereby improving their authenticity and their well-being (Lawn et al., 2019). In other words, the cultivation of their signature strengths might enable introverts in the West to adjust to their environment and flourish via the agentic expression of their true self (see Govindji & Linley, 2007).

Interestingly, according to King and Trent (2013) even personality traits themselves may be considered as strengths that can promote adjustment to the environment across various domains of life, and this might be moderated or mediated by sociocultural context and self-perceptions. Indeed, they suggested the possibility that introversion itself might be a strength in some circumstances and they provided some examples of where extraversion may “[REDACTED]” (King & Trent, 2013, p. 204). Similarly, McAdams and Walden (2010) acknowledged the possibility that mid-range (i.e., neither low nor high) responses on a measure of trait I-E might be “ideal” in the sense of predicting desired outcomes (see also MacDonald, 1995; Nettle, 2005). Bandura's (1999, 2001) social cognitive theory of personality suggests that the self—as an agentic being—shapes its own shared reality in meaningful ways. Similarly, Tesser (2002) suggested that if the prevailing reality does not align with their personality attributes (and particularly their biological traits), people can make choices to carve out their own “life niches”; creating unique person–environment fit for themselves within a broader sociocultural context. Given that a person will pursue the use of their signature strengths by choice and with volition, and structure their core projects around them (Peterson & Seligman, 2004), a corollary is that these strengths will be a significant contributor to the ways in which people agentially

express their true self and establish an enabling environment for themselves whereby they can live meaningfully and authentically.

Authenticity, the experience and expression of the true self (Kernis & Goldman, 2006; Wood, Linley, Maltby, Baliouisis, & Joseph, 2008), is a phenomenological construct with a long theoretical history in existential philosophy and humanistic psychology (Maltby, Wood, Day, & Pinto, 2012; Medlock, 2012). Like character, it has important implications for people's identity and functioning and has had a recent resurgence of interest with the advent of positive psychology, particularly with the development of measures that can empirically examine authenticity as an individual difference variable (e.g., Wood et al., 2008). Given that, "[REDACTED]" (Sheldon, Ryan, Rawsthorne, & Hardi, 1997, p. 1392), it is likely that people will prefer to behave in accordance with their personality traits. This is the basis of the trait consistency hypothesis (e.g., Fleeson & Wilt, 2010; McGregor, McAdams, & Little, 2006; Sheldon et al., 1997). Moreover, in the existential-humanistic tradition, authenticity is considered to be the primary route to well-being (e.g., Maltby et al., 2012; Medlock, 2012; Schlegel & Hicks, 2011; Wood et al., 2008). As discussed in earlier chapters, for these reasons authenticity was included as a *mediating* variable between trait I-E and well-being in the hypothesised model tested in this thesis (Lawn et al., 2019).

Given the social salience of trait I-E and its fundamental status as a personality trait (Watson & Clark, 1997; Zelenski et al., 2014) it is likely to feature prominently in how people experience their day-to-day lives and therefore to be an important part of their identity and functioning. A corollary is that it would be fundamental to people's notions of their true self and hence their authenticity. Indeed, trait extraversion has been shown to be positively associated with authenticity (Wood et al., 2008). However, as



Kreitler (2018) argued that trait extraversion might best be summarised as the dispositional tendency to identify and focus on the state and characteristics of objects and events in the external world, including other people and interpersonal relations, rather than experiential concerns. In contrast, Markus and Kitayama (1998) instead emphasised the primary role of sociocultural factors in people's processes of meaning making.

McAdams (2010) has taken a broader, balanced approach to personality and meaning. McAdams also acknowledged that people inherit a set of dispositional, decontextualised traits conferring broad tendencies and resources that enable them to experience the world in certain ways. However, he argued that it is how people—situated in specific contexts—choose to uniquely interpret and use those traits via other more dynamic components of their personality such as beliefs, values, and goals, and how they define themselves in story across time and place that largely determines the meaning they make and the outcomes they attain in life (McAdams, 2010; McAdams & Walden, 2010). McAdams and colleagues referred to these different levels of personality or ways of making meaning as, respectively, the person being an “actor”, “agent”, and “author” in their own life (McAdams, 2010, 2013; McAdams & Olson, 2010; McAdams & Walden, 2010). So, for example, in the case of a trait introvert they will be dispositionally inclined to be quiet, reserved, and perhaps introspective, which in and of itself may not necessarily serve them well in individualistic Western cultures. However, by drawing upon the more dynamic aspects of their personality they can choose to interpret and channel those inherent tendencies in particular directions and thereby volitionally create a meaningful, fulfilling life story for themselves—perhaps facilitated by utilising their signature strengths.



traits) might result in different conceptual representations by people from Western versus Eastern cultures. Moreover, Miller recognised that social inference is functional in a descriptive as well as a prescriptive sense. However, while acknowledging the important role of meaning in processes of social inference, Miller's findings offer a *between-culture* explanation. Molden and Dweck (2006) went further; reviewing a variety of evidence from domains such as self-regulation and person perception showing that even *within* cultures, people can ascribe different meanings to the same basic psychological phenomena depending on the ways in which they view themselves and others.

The findings of Study Two in this thesis have extended this prior research by showing that within a Western cultural context introverts can view their own traits differently, as reflected in their extraversion-deficit beliefs, and this has implications for their identity and functioning. It does not seem unreasonable to suggest, based on the extant literature reviewed herein and the findings of Study One, that the meaning introverts ascribe to their own level of trait I-E might differ depending upon the conceptual associations they make between introversion, extraversion, and character.

### **6.1.2 The Ambiguity Surrounding Introversion—Possible Implications for**

#### **Introverts**

Study One suggested that, *prima facie*, extraverts' personality and core character attributes are believed to be better aligned with the value system of individualistic Western cultures, and this belief was generally shared by trait introverted and trait extraverted participants. This study used a "descriptive-and-evaluative" conceptual and methodological framework to explore the defining characteristics and social desirability of introversion versus extraversion in Australia. This complementary approach is

another strength of the present research, in that it shed new light on the historic and ongoing *ambiguity* in the scientific and popular literature about what it really means to be an introvert (see Cain, 2012a; Cheek, Brown, & Grimes, 2014; Grimes, Cheek, & Norem, 2011). For example, Study One showed that while several of the core descriptors of introverts provided by participants aligned well with their expert-defined Big Five prototype definitions (John, 1989, 1990), there were also some other descriptors of introverts provided that cast them in intellectually-oriented terms. Also, when asked to choose between “thinking” and “social” introversion, most participants surprisingly chose the intellectually-relevant option, rather than the interpersonally-relevant option, as best representing a typical introvert. Moreover, in support of these descriptive findings, based on the perceived character attributes of introverts they were clearly evaluated in more intellectually-oriented terms; whereby all their perceived signature strengths aligned with the virtues of “temperance” or “wisdom and knowledge” (Peterson & Seligman, 2004).

Again, a functionalist perspective on personality that focuses on people’s perceptions of what traits are good for in everyday life, or their social affordances and effects (Beauvois & Dubois, 2000; Mignon & Mollaret, 2002; Saucier & Srivastava, 2015; Srivastava, 2010), can provide some further insight. Recall that in processes of person perception the perceiver can be the self (Srivastava, 2010). In light of the present findings, there are some relevant possibilities to unpack here regarding the ambiguous nature of introversion and the impact this could have in terms of introverts’ identity and functioning. However, it must be emphasised that these possibilities, while plausible, remain speculative given that they were not directly tested in this thesis (see Section 6.3).

First, while Study One showed that trait introverted and trait extraverted participants held shared beliefs about the core character of introverts versus extraverts, and that in light of Western values the more socially desirable strengths were attributed to extraverts, this was true in a general sense (i.e., averaged across all participants). This does not preclude the possibility that *some* trait introverted participants held different beliefs about the character of introverts. For example, some trait introverts might have attributed the socially desirable signature strengths of leadership or social intelligence to introverts (instead of to extraverts).

Second, even if most or all trait introverted participants in Study One did hold the same beliefs about the character attributes of introverts it is possible that they might have interpreted the social value or utility of those character attributes differently. For example, some trait introverts might have construed the intellectually-oriented signature strengths that were attributed to introverts (e.g., self-regulation, humility, prudence, etc.) as being helpful for thriving in the West, whereas others might have construed them as being a hindrance to thriving. As noted by Srivastava (2010): “  
[REDACTED]  
[REDACTED]  
[REDACTED]” (p. 73). Swann (1984) asserted that person perception often need only be accurate in a practical sense, given that this everyday inferential process takes place in real-world interpersonal contexts and serves social purposes. Thus, for example, from the perspective of the self, introverts living in the West who believe (rightly or otherwise) that being quiet and reserved typically goes hand-in-hand with introspective, intellectually-oriented tendencies and strengths, and who can appreciate the opportunities that these attributes may afford them in such a cultural context, might thrive relative to those introverts who

do not hold such beliefs. Therefore, perhaps as suggested by others (see Blatchford, 2017; Cain, 2012a; Smillie, 2015), introverts who conflate introversion with socially desirable traits belonging to other Big Five domains such as Openness and Conscientiousness might be negotiating an identity for themselves (see Swann & Bosson, 2008) that is beneficial to their personal and social functioning in everyday life, even though it may not strictly adhere to scientific definitions of introversion. Moreover, character plays an important role in person perception that might be based in people's concerns about identity and functioning (Goodwin et al., 2014). It is also relevant to notions of one's actual and ideal selves (Banicki, 2017). Therefore, the positive interpretation of particular character strengths and their conceptual associations with introversion might further enhance this identity-negotiation process and its potentially beneficial effects.

Another possibility that must be acknowledged is that the attribution of character strengths and weaknesses by trait introverted participants in Study One had nothing to do with the extraversion-deficit beliefs held by those participants in Study Two. This too remains to be explicitly tested, however given the importance of character for people's identity and functioning it seems more unlikely.

Some interesting practical considerations flow from the preceding discussion. An important part of the wider environment in which people are nested consists of the institutions via which sociocultural norms are transmitted and enacted (Bronfenbrenner, 1977a, 1977b). These institutions, in which people spend a large part of their day-to-day lives, include homes, schools, universities, and workplaces. In the West these institutions typically tend to encourage extraverted behaviour in, for example, processes of learning and leadership (Cain, 2012a; Davidson, Gillies, & Pelletier, 2015; Henjum, 1982). In regard to educational settings such as schools and universities, Henjum

(1982) and Davidson et al. (2015) have pointed out the necessity for parents and teachers to consider the unique needs of introverted students and to recognise and foster their strengths so that they can reach their potential. For example, Henjum acknowledged the ambiguity in science and the popular mind surrounding the true nature of introversion, as well as the stigma that is often attached to it. He proposed that there are two broad, very different types of introverts: “Type A” introverts are functional and tend to flourish whereas “Type B” introverts are dysfunctional and tend to languish. Henjum’s conception of a Type A introvert appears to reflect the conflation of introversion with the desirable pole of other Big Five trait domains such as Openness, Conscientiousness, and even Neuroticism (see Blatchford, 2017; Cain, 2012a; Kaufman, 2014a, 2014b; Smillie, 2015), whereas his conception of a Type B introvert appears to be mostly conflated with the undesirable pole of Neuroticism. Henjum argued that rather than trying to mold Type B introverted students into extraverts, their schools, parents, teachers, and even peers ought to respect their introversion while also assisting them to succeed via the development of their interpersonal skills and a positive self-concept.

In regard to workplace settings, similarly, there has been some acknowledgement that trait introversion is not necessarily a barrier to success. Again, however, this acknowledgement appears to be contingent upon more than just one’s standing as an introvert as it is conceived in the Big Five/FFM (see Smillie, 2015). For example, a recent quantitative review of meta-analytic findings highlighting the many advantages of extraversion at work also recognised that these extravert advantages do not inevitably prevent introverts from achieving career success, but the authors suggested that any such success would probably be due to personal attributes other than their introversion, such as their occupational experience and skills (Wilmot, Wanberg,

Kammeyer-Mueller, & Ones, 2019). Perhaps this might depend on how people (self or others) perceive and judge the value and usefulness of introversion in conjunction with those other attributes.

As an intriguing aside, a question arises here concerning different measures of introversion-extraversion that can be used to assess people in the corporate arena. That is, what might be the implications for people's identity, and perhaps even their functioning, in the workplace of being assessed using the popular MBTI (Myers, 1962) versus another, more conventional personality instrument such as the BFI (John, Donahue, & Kentle, 1991) or the NEO-PI-R (Costa & McCrae, 1985, 1992)? As discussed in Chapter Two, the MBTI operationalises Jungian notions of introverts and extraverts as types, whereas the BFI and the NEO-PI-R operationalise introversion-extraversion as a Big Five/FFM trait dimension. Thus, a person assessed as an introvert using the MBTI would likely be characterised in terms of a *preference* for introspection, whereas that same person assessed as an introvert using the BFI or the NEO-PI-R (or similar) would likely be characterised as *dispositionally lacking* in desirable extraverted tendencies such as sociability, assertiveness, and cheerfulness. Moreover, would the same person necessarily be identified as an introvert regardless of the measure used to assess them? The possible implications of this for the identity and functioning of introverts in the workplace remain to be tested (but see Furnham, 1996; Lloyd, 2012; McCrae & Costa, 1989; and Pittenger, 1993, for comparative analyses of the theoretical basis and psychometric properties of the popularly used MBTI versus other more academically-accepted personality instruments). However, this example does highlight the importance of considering the *meaning* of personality traits in real-world contexts.

### **6.1.3 The Benefits of Considering Eudaimonic Conceptions of Well-Being**

Another strength of this thesis is that well-being was conceptualised and operationalised as a broad construct that involves hedonic as well as eudaimonic notions (e.g., Norrish & Vella-Brodrick, 2008; Ryan & Deci, 2001; Ryff & Keyes, 1995; Seligman, 2002, 2011; Waterman, 1993). The importance of doing so was discussed in the Introduction and Literature Review chapters, and the findings of Study Two confirmed the benefits of this approach. This approach enabled the identification of a plausible alternative pathway to optimal well-being or “flourishing” (Keyes, 2002, 2005, 2007) for trait introverts—a pathway that does not rely on the direct effects of having a cheerful temperament (see Peterson, 2012; Seligman, 2011). That is, the findings of Study Two confirmed the hypothesis that authenticity partially mediates the relationship between trait I-E and well-being, and that introverts who are comfortable with their level of introversion can access this indirect pathway and flourish by being true to themselves without necessarily being dispositionally happy (Lawn et al., 2019). Authenticity is a eudaimonic construct (Medlock, 2012; Schlegel et al., 2009; Smallenbroek, Zelenski, & Whelan, 2017), therefore it seems unlikely that it would have been identified as a mediator of relations between trait I-E and well-being if a narrower, purely hedonic measure of well-being (e.g., SWB) had been used—although this possibility was not tested herein (see Section 6.3). The findings of Study Two therefore highlight the importance of using measures of well-being that incorporate existential notions such as meaning, over and above indicators of “happiness” such as positive affect and life satisfaction (Vella-Brodrick et al., 2009). This might be especially the case when examining the well-being of introverts (Seligman, 2011), and more generally when examining indirect or conditional pathways between personality and well-being (Diener et al., 2003) or when designing positive psychology interventions.

Meaning is related more to eudaimonia than to hedonia, and is the key difference between these two conceptions or components of well-being (Baumeister et al., 2013; Keyes, Shmotkin, & Ryff, 2002). Moreover, meaning in life is associated with the true self (Schlegel et al., 2009). Indeed, findings suggest that meaningfulness, but not happiness, is related to involvement in activities that entail being oneself (Baumeister et al., 2013). Aristotle advocated that eudaimonia, or the good life, consists of a life spent largely in contemplation and solitude (Hills & Argyle, 2001; Vitterso, 2001). Clearly, introverts would seem to be more dispositionally suited than extraverts to find meaning in such a volitional disengagement from the social world (Zelenski et al., 2014). However, as McAdams (2010) has argued, while people's personality traits set the broad parameters, real meaning making occurs via their personal concerns/characteristic adaptations and life narratives. Therefore, some introverts might be more inclined than others to seek solitude, depending on their beliefs, values, and goals, their circumstances, and the long-term story they wish to tell about themselves. Indeed, as suggested by Averill and Sundararajan (2014), the determining factor in the meaning a person derives from the experience of solitude can be distilled to a matter of personal *choice*. An introvert who chooses a life of relative solitude for reasons that align with their *whole* personality is thus likely being true to self and will probably experience that solitude in a positive way. It is plausible that these are the introverts who would hold low extraversion-deficit beliefs because they have been able to use their signature strengths in an agentic way to carve out a quiet life niche for themselves and live meaningfully and authentically (see Bandura, 1999; Govindji & Linley, 2007; Tesser, 2002); even in broader sociocultural environments that promote a more outwardly engaged lifestyle.

## 6.2 Limitations

This thesis as a whole makes no claims about causality. The descriptive-exploratory nature of Study One means that its findings, while generating some novel insights, are potentially open to multiple interpretations and therefore causal inferences cannot be made and any generalisation should be made with caution (Dulock, 1993). However, on the available evidence the interpretation presented in this thesis (i.e., that lay beliefs about introversion-extraversion reflect Western individualism; see below) seems highly reasonable. The correlational nature of Study Two means that while its findings supported the hypothesised flow of effects between trait I-E, authenticity, and well-being, the possibility that the causal arrow might point the opposite way cannot be eliminated. For example, while theoretically less likely, higher well-being might lead to higher authenticity (Wood et al., 2008), or well-being might influence personality (Diener et al., 2003). Moreover, it is possible that extraneous variables that were not included in the hypothesised model could confound these relationships. Multi-method, longitudinal research using more sophisticated models among different populations might help to clarify these potential issues (see Section 6.3).

The remainder of this section will address an important presumption underlying the central argument and research questions investigated by this thesis. While not strictly a limitation of the present research, it does merit acknowledgement and further clarification in light of the findings and interpretations herein. As introduced in Chapter One, this thesis rests on the premise that *individualism* is related to extraversion and therefore individualistic cultures are likely better suited to extraverts than to introverts. This is a popular view that has resonated widely with a lay audience in recent times (e.g., Cain, 2012a), and evidence from the scientific literature that lends support to this popular view is summarised next.

Individualism/collectivism has been referred to as the “[REDACTED]” (Greenfield, 2000, p. 229). It has been suggested that individualism/collectivism is an important dimension in the link between culture and personality (Benet-Martinez & Oishi, 2008; Church, 2001; Triandis, 2001). Indeed, it is the dominant value dimension in contemporary research relevant to personality and culture (Church, 2000; McCrae, 2004). Individualism is commonly regarded as a central part of modern Western society (Baumeister, 1997; Markus & Kitayama, 1998). Evidence has shown that Australia, as a Western nation, is a highly individualistic society (Church et al., 2006; Hofstede, 1980; Singelis, Triandis, Bhawuk, & Gelfand, 1995; Triandis, 1995). This is consistent with findings that, in general, the West tends to be more individualistic than the East (Allik & McCrae, 2004; Hofstede & McCrae, 2004; Markus & Kitayama, 1998; Miller, 1984; Singelis et al., 1995). Evidence has also shown that Australia is a relatively extraverted culture (McCrae et al., 2005; van Hemert, van de Vijver, Poortinga, & Georgas, 2002), and, moreover, Australians perceive themselves to be so (Terracciano et al., 2005). Importantly, findings suggest that at the national aggregate level higher trait I-E has a strong positive correlation with the individualism pole on Hofstede’s (1980, 2001) cultural value dimension of individualism/collectivism (Hofstede & McCrae, 2004; McCrae, 2001; McCrae et al., 2005).

In sum, all of the preceding evidence demonstrates the fundamental cultural importance of the individualism/collectivism value dimension, the individualistic orientation of Western nations (including Australia), the extraverted national profile of Australia, Australians’ perceptions of themselves as an extraverted nation, and, importantly, the empirical associations between cultural individualism and national-level extraversion. This evidence thus lends considerable support to popular arguments

regarding the stigmatisation of introversion in the modern, individualistic West (e.g., Cain, 2012a; Laney 2002) and also aligns well with the premise underpinning this thesis.

However, despite the evidence just presented in regard to the link between individualism and extraversion, there is an apparent conceptual contradiction. There has been some debate in the literature about the precise nature and manifestation of individualism within and between nations (e.g., Bandura, 1999; Sampson, 1988; Singelis et al., 1995). Moreover, not all people in individualistic cultures can be characterised in terms of the overarching norms and ideals that tend to prevail in those cultures—individual differences exist and a nuanced perspective is necessary when considering links between culture and personality (Greenfield, 2000; Hofstede & McCrae, 2004; McCrae, 2001; Triandis, 2001). Nevertheless, it appears to be generally accepted that, in broad terms at least, individualism is a defining feature of the modern West, and that an individualistic value system promotes a *unique, independent self* (e.g., Baumeister, 1997; Markus & Kitayama, 1991, 1998; Triandis & Suh, 2002). It has been suggested by some that *introverts'* primary motivation is to gain *autonomy* from others, and this suggestion is not new (e.g., Hills & Argyle, 2001; Khalil, 2016; Thompson, 1931, as cited in Guilford, 1934). Indeed, this view makes sense if one accepts the intuitive proposition discussed earlier in this chapter that introverts are more suited or inclined to seek a life of relative solitude (Zelenski et al., 2014). Therefore, it might be argued that individualistic cultures that encourage a life of autonomy (Triandis, 1997) are better suited to the introspective tendencies of introverts (*not* the interactive tendencies of extraverts). How might this apparent contradiction be reconciled?

In this thesis it has been argued that while trait extraverts fit more naturally with an individualistic value system, it *is* possible for trait introverts living in the West to



environment fit, identity, and well-being of introverts living in the West (see Cain, 2012a; Laney, 2002).

### **6.3 Future Research**

This thesis has unearthed some new insights into the identity and well-being of trait introverts living in Australia. In doing so it has also signposted some relevant constructs that might be useful for future research into relations between trait I-E and well-being. Suggestions for future research arising specifically from the present investigation were discussed in empirical Chapters Three and Five, thus they will not be repeated here. However, some broader suggestions arising from their joint findings and the integrated discussion in Sections 6.1 and 6.2 are provided below.

Studies One and Two achieved their objectives (see Chapter Two) and thereby answered their respective research questions as presented in Chapter One. However, there is scope for future research to make a more explicit link between research questions one and two. Study One shed new light on the identity of introverts by exploring beliefs about their personality and character attributes. This was a novel way of identifying the defining characteristics of introversion and, importantly, of highlighting an apparent cultural preference for extraversion in Australia; thereby providing a foundation for the hypothesised model in Study Two. However, despite Study One finding evidence indicating a perceived misalignment between the personality and character of introverts and the cultural environment in Australia, this thesis did not directly test whether these lay beliefs were *explicitly* related to people's extraversion-deficit beliefs as identified by Study Two. Some ways in which these relations might plausibly occur have been discussed. However, it would be enlightening and useful for future studies to establish whether there *is* an explicit link

between the way introverts and extraverts describe and evaluate introverts' personality and character attributes, and the level of discrepancy between introverts' actual and ideal selves on the I-E continuum.

It would be interesting to test whether the indirect pathway from trait I-E to well-being via authenticity identified in Study Two would be found if a purely hedonic measure of well-being (e.g., SWB) were to be used in our model. In this thesis it has been argued that it would not, because introverts are not dispositionally inclined to be cheerful, and therefore their pathway to well-being depends on a more eudaimonic conception of optimal functioning (see Seligman, 2011).

The possible causes, correlates, and consequences of the construct we have labelled extraversion-deficit beliefs (see Lawn et al., 2019) might be investigated. Based on findings from this thesis it is suggested that character strengths and weaknesses might play a substantial part in determining the gap between people's actual and ideal selves on the trait I-E continuum, but what other within-person or environmental factors might also be involved? For example, aside from individualism/collectivism, another relevant cultural value dimension in terms of how introverts are perceived and judged might be Hofstede's (1980, 2001) *power distance* dimension. Power distance involves acceptance of differences in status and authority, and it has been suggested that high power distance is positively related to trait introversion (and conscientiousness) because introverts might tolerate more rigid social structures or prefer to be led (Hofstede & McCrae, 2004; McCrae, 2001). Australia, for example, is a relatively low power distance country, as is the U.S. (Hofstede, 2001). Moreover, across many countries power distance has a strong negative correlation with individualism/collectivism such that high power distance is associated with collectivist cultures (Hofstede, 2001), and the two dimensions are closely related (Triandis, 1989).

Srivastava (2010) has suggested that it can be difficult to ascribe social meaning at the level of the Big Five trait domains, and that it is more likely to be found in lower levels of the trait hierarchy that perhaps more directly reflect perceivers' everyday language about personality. Moreover, he suggested that this may contribute to the ambiguity surrounding the nature or central features of trait I-E. It would be worthwhile to replicate and extend our hypothesised model (Lawn et al., 2019) by testing relations between the lower level components of trait I-E, dispositional authenticity, and well-being, and whether those lower level associations are also contingent on extraversion-deficit beliefs. This could be done using structural equation modelling to examine these constructs as a mix of latent and observed variables, and it might shed further light on the meaning and impact of trait I-E in people's everyday lives.

As mentioned in Section 6.2, doing multi-method, longitudinal research using more sophisticated models among different populations might help to establish causal relations between the constructs investigated in this thesis. For example, experimental or quasi-experimental designs could be employed in addition to the correlational analysis used herein, so that directional effects between trait I-E, authenticity, and well-being may be inferred as causal. This might also involve methods other than self-report surveys, such as observer ratings or experience sampling, which encompass other perspectives or capture people's day-to-day lives in real-time. Moreover, qualitative research might add layers of person-centred richness to the quantitative analyses. For example, interviewing introverts who report low versus high extraversion-deficit beliefs might provide more nuanced, phenomenologically-based insights on their differential experiences of living day-to-day in a culture that favours extraversion. This would help to understand the different meanings they assign to those experiences and the impact it has upon them, and might explain why some introverts are comfortable with their

introversion while others have a large gap between their actual and ideal selves in regard to trait I-E. Longitudinal research (both quantitative and qualitative) might help to clarify if and how people's perceptions and experiences of introversion change across the lifespan—perhaps as a function of age and life circumstances given that people's actual levels of trait I-E do change across the lifespan (Roberts, Wood, & Smith, 2005), or even as a function of Erikson's stages of psychosocial development given that some of those stages are specifically associated with identity formation and reflection (Erikson, 1963). McAdams and Olson (2010) discussed all three tiers of personality in terms of different developmental stages across the life course. In particular, a longitudinal, qualitative view might also shed light on introverts' cumulative experiences based on McAdams' (1995, 2001, 2008) third tier of personality (i.e., life narratives). According to McAdams (2008, 2009) a deep layer of culturally-infused meaning arises from this tier as people create and update the story they wish to tell about themselves across time and place.

## **6.4 Conclusion**

It is unequivocally established that there is a substantial portion of dispositionally quiet and reserved people in every society—while disagreeing on some of the details, this fact is well recognised by laypeople and by personality science alike. It is also clear and obvious that societies want people to flourish—this is the domain of positive psychology/well-being science. However, much research has shown that quiet, reserved people are less likely to flourish relative to their more dispositionally outgoing, assertive, and cheerful counterparts.

This thesis has integrated theory and findings from personality psychology and positive psychology/well-being science, as well as social psychology, in an attempt to

gain a better understanding of what it really *means* to be “quiet” in the modern West and to identify what factors reside in the gap between “quiet” and “flourishing” for these introverted people. In Western societies the prevailing cultural norm of individualism tends to favour extraversion (see Cain, 2012a; Laney, 2002), hence the present investigation was conceptualised and operationalised through a lens of social desirability and person–environment fit.

Almost two decades ago, Hills and Argyle (2001) provided some evidence that trait introverts living in the West can be happy. However, research such as this has been sparse, and our understanding of what it means to flourish for people at the introverted end of the I-E continuum has remained limited relative to what we know about the well-being of those people at the extraverted end. In this thesis, we sought to redress that imbalance in our understanding, and in doing so it fulfilled its overarching purpose by taking a small but promising step toward meeting the late Chris Peterson’s “[REDACTED]” (2012, last para.).

We have not sought to deny or diminish the obvious dispositional advantages enjoyed by extraverts in modern Western society; in terms of them being able to naturally express themselves to achieve their goals in ways that align well with prevailing cultural norms. Indeed, as discussed these advantages have been well documented by others and were further highlighted by the thesis findings. However, in pursuing the central argument of this thesis via two primary research questions we have also shown that introverts living in the West are *not* by necessity “square pegs in a round hole”. While our investigation indicated that there is an apparent cultural preference for extraversion in Australia, some introverted participants in Study Two had clearly found a way to be “comfortable in their own skin” and thrive within that cultural context. It has been argued in this thesis that this might be due to the way in which

those introverts uniquely interpret and use their personality and character attributes, but this remains to be directly tested.

As discussed in Section 6.3, the research conducted in this thesis needs to be replicated and extended before any definitive conclusions can be drawn about the identity and well-being of introverts living in Western societies. In the longer-term, an intervention study in an educational or corporate context might be conducted to test and refine these ideas and generate insights as to how they apply in real-world settings. Ultimately, the aim would be to raise people's awareness and understanding of the positive attributes of introverts and, if necessary, to find effective ways to encourage more enabling conditions for flourishing introverts in our homes, schools, universities, and workplaces. Possible modalities or avenues that might be used to educate people on this issue and implement positive change could be parenting, teaching, leadership, coaching, and public policy.

In summary, this thesis has achieved its aims and made an original contribution to knowledge, by: 1) confirming an expected cultural preference for extraversion in Australia; 2) unearthing new insights regarding the identity of introverts (and extraverts) in this cultural context, showing particularly that introverts are largely characterised in intellectually-oriented terms; and 3) identifying a eudaimonic pathway that suggests introverts in Western cultures need not be constrained by their temperament in achieving levels of well-being that are more in line with their extraverted counterparts. While the knowledge claims made herein are tempered due to the limitations of the present investigation and the need for further research that has been acknowledged throughout, the overall contribution made by this thesis might be stated as follows: For introverts living in the modern West, it appears that their traits need not be their destiny.

The findings of this thesis suggest that there are viable, volitional, and meaningful ways by which introverts in the West might “quietly flourish”.

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## Appendix A

### Items from researcher-designed questionnaire used in Study One

Prototypical descriptors of introverts and extraverts:

**Instructions:** *Introversion* and *Extraversion* are opposite ends of a single personality dimension. Under each column heading below, please list up to five key words that you believe *best describe* people on the introverted and extraverted ends of this dimension:

	Introversion-Extraversion	
	Introverted	Extraverted
1	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>

Thinking versus social introverts:

**Instructions:** Below are two statements about *introverted* people. Please select the statement that, in your opinion, *best represents* a typical introverted person:

Introverted people prefer to quietly reflect on ideas and carefully consider options before making decisions and taking any action.

Introverted people prefer solitude, few social relationships, and limited interaction.

VIA character strengths—attribution to introverts and extraverts:

**Instructions:** *Introversion* and *Extraversion* are opposite ends of a single personality dimension. From the list of **character strengths** below, please indicate which ones (if any) you believe would be *commonly associated* with introverted people or with extraverted people by dragging-and-dropping them into the appropriate box. Once you have finished placing all of your choices, please *rank* the choices in order by moving them up or down within their boxes (where **1** = *most* commonly associated, etc...).

You can include as many strengths as you like under each heading:

*(You can hover over each item in the list to view a brief definition.)*

Items	Introvert - strengths	Extravert - strengths
creativity		
bravery		
love		
citizenship		
forgiveness		
appreciation of beauty & excellence		
curiosity		
persistence		
kindness		
fairness		
humility		
gratitude		
open-mindedness		
integrity		
social intelligence		
leadership		
prudence		
hope		
love of learning		
vitality		
self-regulation		
humour		
perspective		
spirituality		

Character weaknesses—attribution to introverts and extraverts:

**Instructions:** *Introversion* and *Extraversion* are opposite ends of a single personality dimension. From the list of **undesirable attributes** below, please indicate which ones (if any) you believe would be *commonly associated* with introverted people or with extraverted people by dragging-and-dropping them into the appropriate box. Once you have finished placing all of your choices, please *rank* the choices in order by moving them up or down within their boxes (where **1** = *most* commonly associated, etc...).

You can include as many attributes as you like under each heading:

(You can hover over each item in the list to view a brief definition.)

Items	Introvert - undesirable attributes	Extravert - undesirable attributes
triteness	[Empty Box]	[Empty Box]
cowardice		
animosity		
selfishness		
vengefulness		
disdain		
apathy		
helplessness		
callousness		
prejudice		
arrogance		
entitlement		
inflexibility		
falseness		
self-deception		
subservience		
recklessness		
despair		
complacency		
lethargy		
impulsivity		
dourness		
foolishness		
alienation		

Cultural preference for extraversion (2 items):

**Instructions:** Using the sliding scale below, please indicate the overall percentage of time during the last month where you believed that it was necessary for you to behave in an **extraverted** manner (e.g., outgoing, bold, assertive, active):

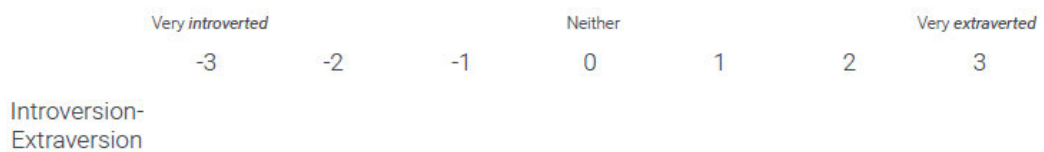


**Instructions:** *Introversion* and *Extraversion* are opposite ends of a single important personality dimension. Some of the traits most commonly associated with **introversion** are *quiet, reserved, passive, and withdrawn*. Some of the traits most commonly associated with **extraversion** are *active, assertive, bold, and outgoing*. People can have different blends of these traits.

Please use the sliding scales below to indicate your responses to the following questions, where:

- 3 Very *introverted*
- 2 Introverted
- 1 Slightly introverted
- 0 *Neither* introverted or extraverted
- 1 Slightly extraverted
- 2 Extraverted
- 3 Very *extraverted*

Where do you believe **most people in your society** are *typically* located on the Introversion-Extraversion personality dimension?





Cultural preference for extraversion (2 items):

**Instructions:** Please indicate to what extent, in your opinion, the following personality traits are **valued** in your society:

**Quiet**

Not at all      Slightly      Moderately      Very much      Extremely

**Active**

Not at all      Slightly      Moderately      Very much      Extremely

**Reserved**

Not at all      Slightly      Moderately      Very much      Extremely

**Assertive**

Not at all      Slightly      Moderately      Very much      Extremely

**Passive**

Not at all      Slightly      Moderately      Very much      Extremely

**Bold**

Not at all      Slightly      Moderately      Very much      Extremely

**Withdrawn**

Not at all      Slightly      Moderately      Very much      Extremely

**Outgoing**

Not at all      Slightly      Moderately      Very much      Extremely

**Instructions:** Please indicate *how often* during the last month you believed that it was necessary to display each of the following personality traits in going about your daily life (e.g., at home, at work, at university, at a party, at a gym, etc.)

**Quiet**

Never Rarely Sometimes Frequently Always

**Active**

Never Rarely Sometimes Frequently Always

**Reserved**

Never Rarely Sometimes Frequently Always

**Assertive**

Never Rarely Sometimes Frequently Always

**Passive**

Never Rarely Sometimes Frequently Always

**Bold**

Never Rarely Sometimes Frequently Always

**Withdrawn**

Never Rarely Sometimes Frequently Always

**Outgoing**

Never Rarely Sometimes Frequently Always