CHARACTER AT WORK

CHARACTER AT WORK:

A VIRTUES APPROACH TO CREATIVITY AND EMOTION REGULATION

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ABSTRACT

The study of character strengths is a promising new approach available to positive psychology in its campaign to focus on the positive aspects of people, work and society, and encourage individuals to thrive in all aspects of their lives. Character strengths have been linked to satisfaction with life, but no previous work has investigated *how* these positive aspects of individuals lead to greater life satisfaction. The current work investigates how different combinations of character strengths, termed strength profiles, predict the use of two emotion regulation strategies, cognitive reappraisal and emotional suppression. Also investigated was the ability of these strength profiles to predict associative creativity, positive and negative affect, and life satisfaction.

A sample of 205 students was used. Participants completed the Virtues in Action survey of character strengths, Positive and Negative Affect Schedule, Satisfaction with Life Scale and Emotion Regulation Questionnaire. An experimental design was employed to investigate the effects of positive and negative emotions on performance on a task requiring associative creativity, the Remote Associates Test. Furthermore, the relationship between character strengths and emotion regulation strategy was investigated.

Character strengths predicted cognitive reappraisal as a preferred method of emotion regulation. Character strengths also positively predicted positive affect, negatively predicted negative affect, and were positively associated with satisfaction with

life. Additionally, cognitive reappraisal mediated the relationship between a profile designed to up-regulate positive emotions and self-reports of positive emotions.

Results were compared for the proposed strength profiles and Peterson and Seligman's (2004) original six virtues. Differences in predictive ability between the strength profiles and virtues are highlighted. Finally, theoretical and practical implications and future research directions are suggested.

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CHAPTER I

INTRODUCTION

A quick perusal of common wisdom and quotes regarding virtues leads us to the conclusion that virtues are universally celebrated, admired and strived for and that they generally lay the foundation of a good and honourable life.   Virtues are used as teaching tools for children (i.e., The Virtues Project; Popov, 1997) and held up as truisms in our daily lives ("Patience is a virtue"). In general, we as a society assume there are benefits to individual virtuousness and we rarely ponder the true meaning behind this intriguing concept.   However, there is much more to understanding the process through which virtues enrich the lives of not only virtuous individuals but also the greater community around them. Aristotle conceived of virtues theory within the context of society, arguing that no individual exists in a vacuum (Solomon, 1992), and believed that happiness is maximized by practicing virtues within a community (Dyck & Kleysen, 2001).   Some scholars go so far as to argue that if the goal of the virtuous individual is to contribute to the common good, which is embedded within a societal definition of the good of the human family, then cooperation within this community becomes an ethical obligation (Arjoon, 2000). One interesting question that has recently arisen in the literature on virtues ethics is how do these ancient theoretical arguments apply in the modern organization? Does Aristotle have anything to teach us in the context of work environments and relationships?

These questions pertain to the discipline of positive organizational scholarship, which focuses on "exceptionally positive outcomes, processes and attributes of organizations and their members" (Cameron, Dutton & Quinn, 2003; p. 4). Along with positive psychology, these relatively new fields of study are interested in what allows individuals, families and communities to thrive and be the best they can possibly be (Lyubomirsky & Abbe, 2003). The focus is on positive traits and nurturing what is best in people (Seligman & Csikszentmihalyi, 2000). My conceptual contribution here lies in considering how the positive characteristics of virtue are likely to relate to behavioural and cognitive outcomes.

Virtuousness refers to the totality of a person's character. Although individual traits and orientations, such as self-efficacy, optimism and goal orientations have established predictive and explanatory power, the virtues perspective considers the person's whole character, including their beliefs and values. A virtuous individual strives towards the ultimate goal of eudemonia, or "the good life", thereby creating an over-arching direction that defines the individual's behaviours. There is an advantage to considering the individual as a whole, both in terms of better understanding his or her behaviours and cognitions, and when considering developmental interventions. By considering the full extent of an individual's character, we can consider his or her motivations and ultimate goals when analyzing behaviour, and simultaneously provide tailored training interventions that will focus on the individual's specific strengths and weaknesses.

The evaluative consistency thesis posits that individuals with positively valenced traits are also more likely to possess other positive traits, rather than negative ones (Doris, 1998). This presents the problem of considering traits such as optimism or self-esteem independently from one another, as they may, in fact, be inter-related. By looking at virtues as products of a multitude of lower level trait-like character strengths (Peterson & Seligman, 2004), we are able to consider how such traits interact and whether they have more than a simple additive effect in predicting important criteria. Such aggregation of traits is not unheard of in the behavioural sciences. The concept of core-self-evaluation (CSE) states that the traits of self-esteem, generalized self-efficacy, neuroticism and locus of control together correlate with job satisfaction, job performance and life satisfaction (Bono & Judge, 2003; Judge, Erez, Bono & Locke, 2005). Similarly, Luthans, Avolio, Avey and Norman's (2007) construct of Psychological Capital (PsyCap) is made up of self-efficacy, hope, optimism and resiliency. Virtues are similar higher order constructs made up of individual strengths, but with the added benefit of describing the individual's motivation and desired end state: eudemonia, happiness or human flourishing.

Virtues are, fundamentally, an individual level phenomenon. Individuals can fall along a continuum on each virtue, depending on the extent to which the virtue is internalized and part of the individual's character. Such differing standings on a variety of virtues indicate that individuals can possess varying virtues profiles, which can be theoretically tied to specific workplace outcomes. To date, the research on virtues has fallen into two main categories: extensive philosophical discussions pertaining to virtue ethics, theory and expected outcomes while providing little or no empirical support for

these associations (see for example, Solomon, 1992; Whetstone, 2001, 2005); and

empirical work showing the prevalence of character strengths and virtues in various

populations and their links to life satisfaction (Biswas-Diener, 2006; Matthews, Eid,

Kelly, Bailey & Peterson, 2006; Park, Peterson & Seligman, 2004). However, this

empirical research has not tied these character strengths to specific workplace behavioural

outcomes. The current study aims to fill this gap by empirically assessing the relationship

between character strengths, categorized into strength profiles, with two specific

organizationally-relevant outcomes: associative creativity and emotion regulation.

The profiles to be developed for the current study are based on Peterson and

Seligman's (2004) classification of 24 character strengths, each subsumed under one of

six virtues (see Appendix A for a summary of this classification, adapted from Wright &

Goodstein, 2007). The profiles speak of strengths that will be related to specific

behavioural and cognitive outcomes, but it is important to note that strengths within any

given virtue are related. By keeping the relationship between strengths and virtues in

mind, a richer understanding of the structure of character is possible. For instance, it may

be possible to give individuals a choice in how to develop a given virtue, as all strengths

within a virtue category may not be necessary to be considered high on any one virtue.

Positive psychology points out that there are greater returns to developing strengths an

individual already possesses or is predisposed to, rather than only correcting weaknesses

(Clifton & Harter, 2003). Therefore the strengths level of analysis is a good starting

point, however the virtues level of analysis gives enough detail to develop specific

interventions, while giving leeway in how individuals are best able to develop the virtue

in question.   For example, although individuals who possess the strength of persistence may perform better on a task requiring associative creativity, these same results can be achieved through other strengths within the virtue of courage; bravery may act on an individual's willingness to present conceptual links between concepts that seem quite unrelated, thereby risking ridicule or embarrassment. The strengths discussed in each profile are meant to provide the most direct explanation for why a specific virtue is important to the outcome in question, but are by no means the only explanation. The important processes may very well occur at the virtue level as these are indicative of a cluster of strengths, traits or predispositions that can all have the same effect.

The focus on strength profiles has several advantages, particularly as it is difficult to justify the use of an aggregate virtues construct, without considering the breakdown of the character strengths involved. Most theorists agree that individual virtuousness, or strong character, consists of some minimum standing on a variety of virtues, not simply a high standing on one or two. Therefore, we must consider the various facets of a virtuous individual rather than some overall score on an aggregate scale. Conversely, a focus on individual virtues or character strengths ignores the inter-related nature of character. Fowers (2008) argues that we cannot tease out individual character traits and treat them as independent constructs; there is some inherent intra-individual interaction. For that reason, the creation of strength profiles allows us to break down the virtue construct into theoretically meaningful dimensions, but to also consider how these dimensions may interact to produce specific behavioural outcomes. When approaching the study of overall good character, it is imperative to ensure that the taxonomy in question

encompasses all the constructs of interest. Haslam, Bain and Neal (2004) found that the instrument developed to measure Peterson and Seligman's (2004) character strengths and virtues, the Value-in-Action or VIA, was more comprehensive than both the Five Factor Model and the taxonomy of values in covering the domain of positive characteristics, although substantial overlap did exist among the three. Therefore virtue profiles arising from Peterson and Seligman's (2004) classification provide the opportunity to study how positive traits can interact, while encompassing a larger array of positive characteristics than would be possible using existing taxonomies. Finally, strength profiles allow for multiple virtues to work together towards a given outcome, so individuals can focus on the strengths they feel they lack or that they consider as most important.

The two organizationally-relevant outcomes that will serve as criterion variables in the current study both relate to the changing nature of work in the 21st century: creativity and emotion regulation. These variables will be discussed in detail below. They were selected given their importance in workplaces that increasingly demand creativity to bolster competitiveness (particularly in the high technology sector) and because of the increasing interpersonal demand characteristic of much work today. The current research set out to identify clusters of strengths, or profiles as defined above, which could help inform human resource selection, training and development programs.

Creativity

Although there has been much research on creativity, there is still no clear consensus on how the construct should be defined and/or measured (Furnham & Bachtiar,

2008). Batey and Furnham (2006) urge researchers to consider a multi-facet approach, rather than relying on one criterion, such as divergent thinking, to define creativity. In that vein, the construct of interest in this study is a specific type of creativity, termed "associative creativity". Mednick (1962) believed that individuals with flatter associative hierarchies will be able to connect conceptually distant concepts in a novel manner, so that associative creativity entails the ability to make connections among seemingly unrelated or far-fetched concepts (Ansburg & Hill, 2003). Such broadened thinking allows an individual to utilize their previous skills, knowledge and experiences in novel situations. As organizations rely more on broader job descriptions, flatter hierarchies and skill based, rather than task based, compensation, individuals who can identify and combine concepts and ideas from various knowledge domains in an original manner are valuable as employees, managers and entrepreneurs.

Personality has long been of interest as a predictor of creativity, especially the Five Factor Model (Batey & Furnham, 2006; Feist, 1998; Furnham & Bachtiar, 2008). However, the results of this line of research have been mixed. Feist (1998) found that openness to experience (O), extroversion (E) and conscientiousness (C) differentiated creativity in three comparisons of populations: scientists versus non-scientists, creative scientists versus less-creative scientists and artists versus non artists. The interesting result is that each paired comparison was found to be differentiated by a different combination of the three significant personality dimensions, implying that differing personality traits are beneficial in different situational contexts. For example, conscientiousness positively correlated with creativity in a scientific context, but not in an

artistic one. In general, openness to experience, and, to a lesser extent, extroversion, positively relate to creativity across a variety of contexts, samples and outcome measures (Batey & Furnham, 2006; Feist, 1998; Furnham & Bachtiar, 2008; Shalley, Zhou & Oldham, 2004).   However, despite these results, Furnham and Bachtiar (2008) found that the big five personality factors accounted for between as little as 3% and as much as 47% of the variance in creativity, depending on the creativity measure used.

Evidently, the relationship between personality traits and creativity is far from clear. Openness to experience and extroversion seem to be fairly consistently related to creativity, but the question of why this is has not been satisfactorily answered. Several scholars believe that creativity may be associated with the positivity, curiosity and risk-taking associated with extroversion and open-mindedness and reduced cognitive inhibition associated with openness to experience (Furnham & Bachtiar, 2008; Batey & Furnham, 2006). These traits are also seen within Peterson and Seligman's (2004) listing of character strengths (i.e., optimism, curiosity and open-mindedness), as well as additional traits that can be theoretically tied to creativity (i.e., perseverance). Additionally, Haslam et al., (2004) found that the VIA-IS is more comprehensive than the five factor model when looking at people's understanding of the domain of positive characteristics, although there is substantial overlap between the two, with some strengths related to combinations of the five factor traits (Macdonald, Bore & Munro, 2008). Haslam et al., (2004) also point out that strengths and virtues can provide new theoretical perspectives, while being studied similarly to traits. A virtues approach allows us to consider the totality of an individual's character, integrating their moral motivation and

overall goal of a good life into the study of behaviour and cognition.   The fact that character strengths can be developed over time provides a further benefit to the strengths and virtues approach to personality.   Along with virtue theory's over-arching goal of eudemonia and explanation of an individual's motivation, these results point to character strengths and virtue and their attending profiles as a promising approach to further explore the personality-creativity relationship.

Creativity is a necessary skill in environments where individuals must pull together knowledge from their previous experiences and education, particularly where innovation and change is necessary (Shalley, Gilson & Blum, 2009; Amabile, Conti, Coon, Lazenby & Herron, 1996; Woodman, Sawyer & Griffin, 1993). Therefore, the construct of associative creativity will be presented as an important criterion variable, with an attending strength profile. The strengths within the Creativity Strength Profile (CSP) may inform the development of the strengths helpful to searching for, and integrating information from, seemingly unrelated content domains to arrive at creative solutions to workplace problems.   Stated alternatively, the CSP may provide direction for employee training and development.

Emotion Regulation

Emotion regulation has attracted much attention, especially as it relates to service contexts (Giardini & Frese, 2006, Grandey, 2000; Grandey, 2003; Grandey, Dickter & Sin, 2004). However, the ability to regulate the emotions one experiences and/or displays is a vital skill in any interpersonal interaction. As employees are exceedingly required to

interact with colleagues, customers and suppliers in varying functional areas, geographic locations and cultures, it is important that they be able to reassess situations and perceived slights in order to maintain collegial working relationships. Accordingly, the predictive power of character strengths relative to emotion regulation will be investigated.

Emotion regulation is one of four facets of the ability model of emotional intelligence, along with emotional perception, understanding and facilitation (Mayer, Salovey & Caruso, 2008). Joseph and Newman (2010) present a sequential model of emotional intelligence, where emotional perception and understanding precede emotion regulation. That is, in order to effectively regulate one's emotions, one must be aware of the emotion he/she is experiencing, identify the relevance of that emotion to the current situation and decide whether there is anything he/she can do to influence the experienced emotion. This final decision entails understanding how emotional expression is likely to affect oneself and/or others and deciding to change the emotion experienced or displayed. Drawing on meta-analytic data, Joseph and Newman (2010) showed that the perception and understanding facets of emotional intelligence predicted successful emotion regulation, which in turn predicted job performance, although this latter relationship was moderated by the extent of emotional labour required by the job. These results show that the various facets of emotional intelligence warrant individual attention (with the exception of emotional facilitation, which has shown conceptual redundancy with emotion regulation; Joseph & Newman, 2010). Accordingly, the current study is interested in the specific process of emotion regulation rather than the construct of emotional intelligence as a whole.

Similarly, self-monitoring surely entails an element of emotion regulation, as it is concerned with the image one projects to the outside world. However, self-monitoring concerns the entire social image that one projects (Gangestad & Snyder, 2000), a construct encompassing a wider content domain than just the emotions one displays relative to experienced emotions. Therefore, emotion regulation may be one example of self-monitoring behavior.

There has been little research to date on how personality traits affect the choice of emotion regulation strategy. John and Gross (2007) put forth hypothesized relationships between the traits in the five factor model and the five main types of emotion regulation strategies found in the process model of emotion regulation. Some preliminary research has shown that personality traits that fall along the positive end of the spectrum are associated with cognitive reappraisal, an antecedent focused strategy that affects the emotions one experiences. Cognitive reappraisal is widely believed to be a more beneficial regulation strategy than emotional suppression, a response focused strategy where the emotion displayed externally is different from that experienced internally (Gross, 2002; Gross & John, 2003; John & Gross, 2004). Haga, Kraft and Corby (2009) found that private self-consciousness, consisting of insight and self-reflection, predicted a greater use of reappraisal rather than suppression emotion regulation strategies, particularly in women. Ng and Diener (2009) found that individuals high on extroversion were more likely to savour positive emotions (akin to up-regulating positive emotions) while individuals high on neuroticism were less likely to attempt to alleviate negative emotions. Hemenover, Augustine, Shulman, Tran and Barlett (2008) found that the traits

of negative mood regulation expectancy, affect monitoring (attention) and labelling

(clarity) predicted the ability to use positive memories to repair negative affect.

However, there is little consensus on the effects of personality on emotion regulation

processes, partly because of the breadth of terms used to define the process (Gross, 1998).

Augustine and Hemenover (2009) conclude in their meta-analysis that more focus is

needed on personality and affect, as such an approach can strengthen our understanding

of both personality itself, as well as the processes underlying the effectiveness of emotion

regulation strategies. Rather than focus on personality traits that do not change over time,

the focus on character strengths and virtues provides the opportunity to use a more

nuanced measure of an individual's disposition to further investigate these relationships

and possibly provide individual's with training interventions to encourage them to

habitually use a more beneficial emotion regulation strategy.

Traditionally, emotion regulation research has focused on downplaying negative

emotions in order to conform to display rules or offset the negative physical,

psychological and social effects of such emotions (Gross & Thompson, 2007;

Lowenstein, 2007). The current study presents two emotion regulation profiles, one to

predict the ability to overcome negative emotions, and the other, in the spirit of positive

psychology, to predict the ability to experience enhanced positive emotions in response to

positive stimuli. There are a multitude of social, psychological and physiological benefits

to experiencing positive emotions (Lyubomirsky, King, & Diener, 2005); however,

research on the heightening and maintenance of positive emotions is lacking (Augustine

& Hemenover, 2009). Selecting or developing individuals with a profile of character

strengths predictive of the inclination to experience positive emotions in response to positive stimuli, or a profile of character strengths that help overcome negative emotions, is likely to pay dividends to the employing organization. Specifically, such employees are likely to experience higher satisfaction and more effectively regulate their emotions.

Strength Profiles

The study of strength profiles presents a unique field of research in the area of positive psychology and its application to human resource practices. The field of positive psychology is concerned with positive qualities, individual fulfilment and thriving (Seligman & Csikszentmihalyi, 2000). This line of research will allow organizations to not only identify potential positive traits in their employees, but also how these strengths come together to form profiles most constructive in their chosen work environments or fields. The three profiles developed here, and future development of additional profiles, hold promise for selecting and developing employees best suited for a variety of jobs and their accompanying work contexts.

The profiles developed in this study focus on the level of character strengths and their relationships with each other. However, these strengths represent a higher-order construct of one of six virtues. Although the strengths are being treated individually in this study, those representing the same virtue are interrelated. As the next section will illustrate, many of the strengths within a profile come from the same virtue category, implicitly linking some of the virtues to the outcomes in question. The majority of the

discussion to come will focus on the strengths level of analysis, however at times

consideration will be given to the greater virtue and/or virtuous individual.

The profiles were developed from theory linking individual strengths to creativity,

emotion regulation and affect. An empirically driven factor analytic approach to deriving

the profiles was deemed inappropriate as the strengths within each profile were not

expected to comprise a single homogeneous higher-order construct. Rather, any one

strength profile can be considered, in the aggregate, as a compound or composite variable

compiled to predict the criterion of interest. In particular, each individual strength may

actually represent a different construct related to the criterion. For example, a personality

profile predicting procrastination includes low scores on the traits of conscientiousness

and extroversion (Schouwenburg & Lay, 1995).

The remainder of the manuscript will define three strength profiles: the Creativity

Strength Profile (CSP), the Overcoming Negativity Strength Profile (ONSP) and the

Positive Emotionality Strength Profile (PESP).   The hypotheses to follow address

whether these profiles predict the effects of positive and negative emotions on creativity,

and associations between character strengths, affect and satisfaction with life. These

hypotheses were tested using an experimental and cross sectional study design allowing

for an exploration of differential effects of the proposed profiles and Peterson and

Seligman's (2004) virtues. Data analyses are then presented, followed by a discussion of

results and theoretical and practical implications.

CHAPTER II

LITERATURE REVIEW AND STRENGTH PROFILE DEVELOPMENT

Virtues Theory and Background

Aristotle defined virtues as excellences, aspects of human character that point towards the ultimate goal of eudemonia, often translated as happiness or human flourishing (Arjoon, 2008). Others have defined virtues or virtuousness as a "psychological state created by habitual action" (Devettere, 2002; p.67); a "qualitative characteristic, generally considered part of a person's character…although neither materially or biologically identifiable…closer to an internal value, something of the spiritual essence of the person" (Whetstone, 2001, p. 104); "the character strengths that are necessary to pursue what is good." (Fowers, 2008; p. 631); "the qualities that make a life admirable or excellent..." (Mintz, 1996; p. 828); or simply as "doing one's best, excelling…" (Solomon, 1992; p. 327); or "the difference between doing something and doing it well or virtuously" (Arjoon, 2000; p. 102). However, to be considered virtuous, it is not enough that an individual simply think of or recognize the virtuous course of action, but he or she must act upon it, voluntarily and for the right reasons, with the behaviour arising from a character state that has become a part of the individual (Devettere, 2002). The ancient Greeks even had a term for those who could recognize the correct behaviour but had to fight against their desires in order to act accordingly (enkratic), as well as for those who could recognize the correct behaviour but were not able to override their desires (akratic; Arjoon, 2008). The first term refers to continence,

or self-mastery, where the individual is able to override their desires and motivations to nevertheless act according to what they know they should believe to be good or admirable (Fowers, 2008). The second scenario, the incontinent character is one who lacks this mastery over his/her desires and cannot bring him or herself to act in accordance with expected values. On the other hand, the virtuous individual has no such internal debate, as his/her emotions and desires are in line with self perceptions of duty and morality, therefore eliminating the need to struggle between emotions and reason (Colle & Werhane, 2007; Fowers, 2008; Hartman, 2008). A truly virtuous individual is one who does not see acting virtuously as a sacrifice or selfless act as such behaviour is inherent in their character and therefore intrinsically rewarding. The virtuous individual acts according to virtue because it is the right way to act, and experiences pleasure from acting in accordance with their virtues, rather than from the results of such behaviour (Arjoon, 2008; Colle & Werhane, 2007). Put simply, there is a difference between acting from virtue versus acting in accordance with virtue (Arjoon, 2008): the former is true virtuousness, while the latter represents the enkratic, or continent, character.

Many scholars agree that some virtues come more naturally to some people than others, but there is general agreement that strengths and virtues must be practiced in order to become embedded as a natural response. Natural virtues are those dispositions that individuals are born with, but are not consciously enacted. They can serve as a basis for authentic virtues to develop, however the latter requires continuous and free choice to fully develop (Devettere, 2002). Virtues ethics is concerned with the development of good character, which then directs virtuous behaviour (Arjoon, 2008). Good character, in

general, is defined as both the presence of virtue and absence of vices (Whetstone, 2001);

however the latter is not enough, as the absence of a vice is insufficient to render an

individual virtuous. For example, a cowardly individual does not possess the vice of

recklessness, however he cannot be said to possess the virtue of courage. It is not enough

to resist or avoid vice or temptation, virtue requires engaging in good or virtuous

behaviour and ends (Solomon, 1992). To this point, Aristotle spoke of a "golden mean",

the balance between the two extremes of a given virtue: deficit and vice (for example, see

Arjoon, 2008; Mintz, 1996). The virtuous individual must actively pursue the virtue so as

not to be in deficit, however must also avoid the extreme vice associated with each virtue.

Such balance defines the core of virtues theory: "we must respond to a particular situation

in the right time, in the right way, in the right amount and for the right reasons" (Arjoon,

2000; p. 163)

　　　　Virtues are by their nature proactive in that they require active development,

practice and habituation (Arjoon, 2008). Devettere (2002) speaks of character virtue as a

decision-making state expressed in feelings and actions, implying an orientation towards

decisiveness and acting, rather than passiveness.　　It is not enough to simply possess the

skills and knowledge commensurate with virtue, but true virtuousness also requires

habits, desires and, most importantly, action (Solomon, 2003) The individual must not

only speak in the language of a virtue and think in terms of that virtue, but continually

(and at first consciously) act in accordance with the virtue. The virtuous individual does

not act on virtue because he feels he should, but because he wants to: he possesses the

virtue in question, and his desires, thoughts, emotions and behaviours are in congruence

(Hartman, 2008). Character is a constantly evolving, developing, malleable construct (Solomon, 2003) and the continuous developing and striving towards improvement of one's character is an acknowledgment of one's limitations and itself a virtuous pursuit.

In order to understand the moral motivation of the virtuous individual, it is imperative to understand what the goal of such an individual is. It is generally agreed that the goal of virtues ethics is to live a good life or eudemonia.   This term has been defined and translated as "happiness", (Mintz, 1996; Whetstone, 2005), "human flourishing" (Arjoon, 2000; Fowers, 2008), or "promotion of the common good" (Arjoon, 2000). All these definitions share the concept of individuals aspiring to be the best they can be. Unlike other moral traditions that prescribe specific rules or guidelines to follow, virtues ethics focuses on the development of a person's character and answering the question "What kind of person should I be" (Arjoon, 2008), thus focusing on aspirational values rather than philosophical justifications (Chun, 2005).   The virtuous individual strives to be the best he/she can be, and this mindset towards the ultimate goal of flourishing or happiness creates a motivation to be good, as being good will lead to living a good life (Colle & Werhane, 2007). The virtuous individual faces no psychological conflict between the correct course of action and their own desires, as these are perfectly aligned to reach the greater goal of eudemonia (Arjoon, 2008; Colle & Werhane, 2007; Fowers, 2008).

However, as virtues are culturally defined (Whetstone, 2001), then our best qualities are defined by our community, thereby creating an indelible connection between our self-interests and the societal common good (Solomon, 1992). In fact, throughout

much of the writing on Aristotle's theories of virtues, the concept of community shows up repeatedly (see for example: Arjoon, 2000; Cameron, Bright & Caza, 2004; Mintz, 1996; Moberg, 2000; Solomon, 1992). Cameron et al., (2004) point out that something can only be defined as virtuous or non- virtuous in so far as it has an impact (positive or negative) on human beings. Solomon (1999) states that the individual embedded within the community is one of two central concepts in Aristotelian ethics (the second being happiness as the criterion for success). A focus on virtues, then, by definition requires the consideration of the community within which the individual operates. Mintz (1996) and Solomon (1992) argue that the organization can be treated as a community within a greater society, thereby making a clear case for the use of virtues theory and ethics in the corporate realm. Solomon (1999) goes to great lengths to describe, and discredit, many of the antagonistic views of business and to show how a more collaborative and positive approach can be beneficial to individual employees, organizational effectiveness and the greater society. Aristotle spoke of virtues that can build up the community as a whole (Solomon, 1992), which represents a win-win situation in contrast to the traditional views of "business as war" or "a jungle" (see Solomon, 1999 for an in depth discussion of these and other common business myths and metaphors).

Of course, there is much debate about some of the finer points of virtue theory and how it is defined in various academic realms. Arjoon (2008) believes that virtues don't predict behaviour as much as they represent a disposition to decide to act in a certain way: "…virtue is a disposition to decide in a way that has been built up through both experience and intelligent habits of choosing and coming to understand the values

involved" (Arjoon, 2008; p. 227). Arguing for the reconciliation of virtue ethics and situationist theories, this brings him to the conclusion that in order to predict behaviour and develop employees, we need to get to know them because behaviour based on a virtuous disposition necessarily includes influences from personal values and beliefs. Solomon (2003) supports this line of reasoning when he notes that how a person perceives their situation is a product of their individual history and background. Fowers (2008) disagrees with the way positive psychology has approached the study of virtues and character strengths as he points to psychology's reluctance to commit to a substantive definition of "good". He argues that in order to define virtues, we must define the ends we seek to achieve. Academic psychologists have long attempted to remove the presence of values or ideals in research, as they fear it will undermine the perceived objectivity of the work or make them appear to be advocating a certain style of living (Fowers, 2008). However, as the author points out, our values and ideals are built into everything we do. Widely accepted guidelines for ethical regulation of experiments, classroom decorum and professional courtesies reflect what is valued in a society. Therefore, it is important to recognize that the discussion of virtues and strengths pertains to culturally valued aspects of character.

Virtue Classifications

There have been various proposed classifications and lists of virtues. Some authors have tried to develop a list of "core virtues" according to the writings of Aristotle and his students. Aristotle spoke of four cardinal virtues (practical wisdom, justice, fortitude and temperance), with practical wisdom held up as a master or guiding virtue

(see for example: Arjoon, 2008; Dyck & Kleysen, 2001; Fowers, 2008). Others have combed through religious texts to determine those virtues that are held up as most honourable (for example, The Virtues Project; Popov, 1997). Others still have developed lists of virtues based on history, popular culture and other readings (Peterson & Seligman, 2004; Solomon, 1999), with much overlap among these approaches. Peterson and Seligman (2004), by surveying historical, religious, sociological, anthropological and popular culture sources, have created the most comprehensive classification to date: they identified what they believe to be six core virtues, which are observable through 24 human strengths, each aligned with one of the virtues. They argue that we cannot directly observe the individual virtues (wisdom and knowledge, courage, humanity, justice, temperance, and transcendence); however we can observe specific behaviours, which are indicative of these virtues. For example, the virtue of temperance contains the human strengths of forgiveness, humility, prudence and self-regulation. In essence, Peterson and Seligman (2004) are proposing that the six virtues they have identified are latent constructs, operationalized as the 24 character strengths. Although they are careful to point out that their list of virtues and character strengths is by no means exhaustive, I believe that it provides a good starting point for the study of how virtues can affect behaviour and provide benefits in the workplace. As virtues have been determined to be culturally and arguably temporally defined, the more recent attempts to define important virtues should be more applicable to current societal standards than those originally identified by Aristotle and his colleagues. Peterson and Seligman's (2004) classification

not only fulfills this criterion, but it is also the most parsimonious and structured, as it distinguishes strengths from virtues and categorizes them accordingly.

Peterson and Seligman (2004) state that a given individual will rarely display all of the characters strengths associated with a virtue, and can be deemed high on a virtue by displaying one or two relevant strengths. Therefore, it seems the authors are arguing that strengths are compensatory within a virtue category. As the strengths have been chosen and categorized to act as operationalizations of the individual virtues, they are related by some common thread and therefore one strength can make up for the lack of another. Peterson and Seligman (2004) also speak of "signature strengths" which are individual strengths a person feels reflect his/her true self, that he/she practices most frequently and are intrinsically motivated to engage in. So it follows that two individuals may be high on the virtue of wisdom, but one may choose to display their wisdom through creativity while the other does so through curiosity. Although it is unclear whether it is possible for an individual to be completely low on all strengths except for one within a virtue category, it is feasible that different individuals can demonstrate the same virtue through different means.

The authors also note that being low on one strength does not remove the possibility of being high on others. This statement leads to the conclusion that, in the extreme, we can imagine a situation where an individual is low on all strengths pertaining to a particular virtue, therefore low on that virtue, and high on other strengths thereby scoring high on those other virtues. It is quite plausible that an individual could be very high on wisdom and transcendence, however quite low on courage. Admittedly, there

will most likely be some minimal level of correlation within individuals across the six virtues. Virtues are believed to be the tools necessary for living a good-life, or eudemonia, an assumption that Peterson and Seligman (2004) share. Such a commonality would imply that the goal of eudemonia cannot be reached by ignoring any of the six fundamental building blocks: all six virtues contribute to the over-arching construct of "good character", and one could even argue that ignoring one virtue at the expense of others is in itself non-virtuous behaviour as the virtuous individual strives to be a well-rounded person. Similarly, Doris (1998) refers to "evaluative consistency" which argues that traits with similar evaluative valences will be more likely to co-occur. He provides the example of a generous individual who is also expected to be compassionate rather than callous, as generosity and compassion are both indicative of positive character strengths and therefore represent consistency within the individual.

One of Fowers' (2008) main criticisms of positive psychology's treatment of virtue theory is the "pick and choose" approach he believes Peterson and Seligman's (2004) classification utilizes by parsing out individual character strengths and virtues. Fowers (2008) argues for the unity of character, and that in order to truly identify good character, all strengths and virtues must be present and interrelated. However, this argument does not hold up when we consider "character" to refer to one's pattern of thought and action (Hartman, 2008), rather than reflecting "good" or "bad" character. The present study seeks to make no such value judgment, as it is interested in how individual strengths and virtues can predict specific outcomes, not whether or not a person of good or bad character would experience these outcomes. By aggregating the

virtues into one overall "character score", we would be assuming that the virtues are compensatory, much like the strengths are within virtue categories. But, there is no good argument to be made for why virtues should compensate for each other. In fact, Fowers' (2008) argument for the unity of character is actually similar to Peterson and Seligman's (2004) argument that an individual must have some minimum level of all six virtues in order to be considered of "good" character. If we combined all six virtues into one score, an individual could appear to be of good character even if he or she had an extremely high virtue compensating for an exceptionally low virtue. Therefore, this discussion purposely does not refer to an aggregate virtue score, as there seems to be little theoretical support for doing so. Instead, individual strengths are assumed compensatory within a virtues category; however the virtues themselves cannot compensate for each other and are therefore presented as independent constructs. The use of profiles allows for theoretical discussion of interrelationships among individual strengths and virtues. As Fowers (2008) argues, there is a complex interplay amongst virtues as they all come together to make up the higher-order latent construct of "character". However, by teasing out specific strengths, and by extension virtues, that best predict a given outcome, it may be possible to narrow down (theoretically and empirically) some of these complex relationships into more manageable clusters.

For the purposes of this discussion, the strengths and virtues have been treated as distinct constructs in order to investigate the differential effects of each virtue on each outcome of interest. However, if future research shows that all the virtues have similar relationships with the outcomes in question, it may make sense in future research to

combine these scores, leading to an aggregate virtue score which could presumably be the same for individuals with differing virtue profiles. However, any judgements of "good" character would still be inappropriate. Peterson and Seligman (2004) do not specify the minimum level of each virtue necessary to identify someone as having a "good character", nor do they state whether this level would be the same for all virtues, or if each would have a different minimal threshold. What this minimum level (or levels) is could very well be cultural or time specific, in that different cultures in different points in history would value different virtues, and even different strengths. Biswas-Diener (2006) found that three very different cultures recognized all the character strengths included in the VIA-IS, however their ratings of how prevalent and desirable each strength was differed. Matthews et al., (2006) compared the VIA-IS scores of Norwegian military cadets, American military cadets and American civilians. Interestingly, they found that the rank ordering of strength importance was more similar between the two groups of cadets than the two groups of Americans, indicating that occupational culture may also play a role in defining important strengths and virtues. Therefore, it would be difficult to successfully argue for a minimum threshold of each virtue that would hold across time periods, cultures and occupations.

Virtues are considered to be trait-like, in that they are relatively stable over time and across situations (Park & Peterson, 2009). The 24 strengths in the VIA-IS have been found to be related to the traits in the five factor model of personality, although the relationships are not clearly one-to-one (Macdonald et al., 2008). This result implies that the VIA classification is consistent with the five factor model, however it is also more

specific as the five traits are quite broad and encompass many of the individual strengths (Peterson & Seligman, 2004).   Additionally, the character strengths encompass the positive spectrum of personality characteristics. Unlike the big Five which attempts to classify all personality traits, the study of character strengths allows for a more focused examination of the predictive power of socially valued elements of character. Finally, Haslam, Bain and Neal (2004) found that the strengths in Peterson and Seligman's (2004) classification were a better fit to how a sample of undergraduate students conceptualized positive characteristics. Potentially, the study of character strengths may result in the development of strength-criterion associations and strength-development interventions with wide acceptance from the lay population.

There is also evidence that the strengths are malleable. For example, Luthans et al., (2007) cite studies that have successfully increased individual levels of hope and optimism, while two independent studies found that individual levels of gratitude could be manipulated by altering the participants' belief as to the source of their good fortune or benefit (Bartlett & DeSteno, 2006; Tsang, 2006). A study comparing the character strengths in Peterson and Seligman's (2004) classification in identical and fraternal twins found that although each strength did have a hereditary component, there was also a significant effect of non-shared family environment (Steger, Hicks, Kashdan, Krueger & Bouchard, 2007), pointing to the possibility of additional influences, such as school, peers and community (Park & Peterson, 2009). A recent meta-analysis found that positive psychology interventions aimed at many of the strengths in the VIA classification, such as hope, gratitude, forgiveness, optimism and kindness were successful in enhancing well-

being and decreasing depressive symptoms (Sin & Lyubomirsky, 2009). Seligman's

series of books on learned optimism further point to evidence and methods for developing

this particular character strength (i.e., Seligman, 2006). Although in the short term these

interventions may represent only state effects, repeated practice and habituation can lead

to more stable changes leading to the integration of the strength in question into the

individual's overall character. Furthermore, individuals can be given a choice in how

they develop a specific virtue, allowing their signature strengths to be utilized more

efficiently.

Strength Profile Development

This section will develop three strength profiles: the Creative Strength Profile

(CSP), designed to predict performance on a task requiring associative creativity; the

Overcoming Negativity Strength Profile (ONSP), to predict the ease with which an

individual can overcome negative emotions; and the Positive Emotionality Strength

Profile (PESP), to predict experiencing of enhanced positive emotions as a response to

positive stimuli. All three profiles are based on the VIA-IS instrument, which was

designed to measure individual standing on Peterson and Seligman's (2004) six virtues

and 24 character strengths.

Creative Strength Profile (CSP)

The outcome variable of interest for this profile is creative problem solving. As

work environments and job tasks are becoming broader in scope and entail rapid and

constantly changing technology, individual problem-solving and innovation skills are

becoming increasingly important workplace abilities.   Specifically, individuals are expected to be able to pull together knowledge, skills and their capacity for learning to problem solve and respond quickly and effectively to the demands of ever changing situations.   Individuals are selected on their work related knowledge, skills and abilities, so it is essential to study what combination of strengths and virtues can enhance productivity on tasks requiring creativity, innovation and/or strong problem-solving ability. Individuals who are able to utilize their past knowledge, skills and experience in novel situations will be advantageous in today's ever changing work environment.

Creativity usually refers to the generation of novel ideas, processes, procedures or connections among ideas/objects that are also useful and/or valuable (Amabile, Barsade, Mueller & Staw, 2005; Shalley et al., 2004; Woodman et al,1993). Creativity is necessary for adaptation to changing work processes, as well as the ability to perform current tasks better or more efficiently (Treffinger, Isaksen & Stead- Dorval, 2004). It is also seen as a key component of innovation (Shalley et al., 2009), which is in turn necessary for organizational change (Amabile et al., 1996; Woodman et al., 1993).   Creativity, therefore, is an important characteristic for organizations to seek out and/or encourage in their employees.

Most conceptualizations of the creative problem solving process involve some combination of problem identification, ideation (finding ideas, making connections among disparate concepts) and analysis or testing of possible solutions (Brophy, 2006; Isaksen & Treffinger, 2004; Shalley et al., 2004). One example of such a process is Creative Problem Solving (CPS). Consisting of four components and eight stages, CPS is

defined as a balance between generating ideas and focusing on viable options (Treffinger et al., 2004). Similarly, Gabora (2002) cites theorists who believe that the creative process can be represented by two stages: brainstorming, where ideas and possible solutions are generated by pulling together concepts from different spheres of knowledge; and the focusing stage, where such ideas and solutions are evaluated and analyzed. Others have proposed that creativity is a four step process: Problem/opportunity identification, gathering of information and/or resources, generation of ideas and the evaluation, modification and communication of ideas (Shalley et al., 2004).

Another definition of creativity focuses on the capacity for associative thinking (Glazer, 2009). Mednick (1962) proposed that more creative individuals have flatter associative hierarchies, so that they can more easily make connections amongst seemingly unrelated constructs. For example, an individual with a steep associative hierarchy, when presented with the term "table" would think of the obvious relations such as "chair" or "cloth". However, once such proximal associates are exhausted these individuals typically have trouble thinking of more distal constructs. The individual with a flatter hierarchy, on the other hand, continues to make connections between "table" and constructs that conceptually lie further away from the stimuli term, such as "elbow" (Gabora, 2002). To further support this conceptualization of creativity, Gabora (2002) discusses the distribution and activation of memory. She explains that individuals with a flatter "activation function" access memories that are further away from the primary memory location that has been activated. Such flatter activation leads to associative richness, which is similar to Mednick's (1962) flat associative hierarchies: individuals

whose memories are more widely distributed within the brain, with greater overlap among concepts, will experience thought processes that are less related to the focal memory. The brainstorming or problem identification/ideation and information gathering stages are best served by associative creativity, as the ability to make connections among seemingly disparate concepts will result in a greater pool of options to choose from (Brophy, 2006; Isaksen & Treffinger, 2004).

Ansburg and Hill (2003) expanded on the concept of divergent thinking and looked at attentional focus among creative and analytical problem solvers. They found that individuals who allocate their attention in a broader fashion were able to make more unusual connections and performed better on a measure of creativity (the remote associates test, or RAT to be used in the present study). The authors concluded that different processes are necessary for creative problem solving than other types of problem solving, in that creativity requires the ability to cast a wider net when considering information from a larger variety of sources and content domains.

In an organizational context, the ability to make connections across a wide range of knowledge domains is necessary in many areas. As global competition expands, job descriptions change and organizations utilize flatter hierarchies (Shalley et al., 2009), thought processes that draw knowledge from a variety of sources and domains will be beneficial. For example, organizations have shown a willingness to shift towards skill based, rather than job based compensation systems (Dierdorff & Surface, 2008; Shaw, Gupta, Mitra & Ledford Jr., 2005). In work environments where individuals are selected and rewarded for their breadth of knowledge and experience, presumably their

performance is dependent on their ability to pull this information and experience together

and apply it to current problems and processes. The adaptation of new technology,

seeking out new uses for existing procedures, products or technologies, as well as

interacting with colleagues, suppliers and customers from varying functional areas,

industries and even cultures are all examples of areas where making connections among

broad-ranging skills and knowledge could lead to creative and novel solutions.

The first strength profile is termed the Creative Strength Profile (CSP) and

concerns the ability to make connections among information from a variety of sources,

knowledge domains and experiences.   Not surprisingly, the majority of the strengths

making up this profile are associated with the virtue of wisdom and knowledge, such as

creativity, curiosity, open-mindedness and love of learning. The virtue of courage is also

represented by the strength of persistence. Mapping of character strengths and their

corresponding virtues onto the three strengths profiles -- CSP, ONSP and PESP -- are

shown in Appendix B. It should prove helpful to regularly refer to Appendix B while

reading through the following sections.

Creativity: The strength of creativity requires ideas and/or behaviours that are original

as well as beneficial, either to the individual or to others, thereby excluding ingenious acts

of evil or hatred (Peterson & Seligman, 2004). The outcomes of this strength can fall into

the more-traditionally conceived domains of visual arts; however this is not a

requirement. The strength of creativity can manifest itself in many different domains,

including visual, verbal, problem-solving, or even work processes. One theory is that

highly creative individuals are more likely to multi-task, thereby resulting in an

intrapersonal exchange of ideas leading to more creative solutions (Peterson & Seligman, 2004). An individual high on the strength of creativity would be capable of looking at problems from different angles, be able to think in original terms and come up with novel solutions that are not obvious to everyone. Therefore, such abilities will aid performance on a creative task in several ways. First, the creative individual is able to consider various solutions which may at first seem irrelevant. The same individual, given that he/she has had experience with creative solutions in the past, will have greater resources to draw on in terms of "out of the ordinary" solutions. This should make them more willing to attempt different approaches to the task at hand. This individual will have cultivated the virtue of creativity, but also selected themselves into situations that allowed this strength to show, which would further motivate the development of creativity and preference for such situations (Solomon, 2003). On the other hand, individuals low on this strength may only have experience with succeeding using standard solutions, or may only have experienced failure with creative solutions in the past, so they would be less willing to apply novel approaches to the task at hand.

Peterson and Seligman (2004) distinguish between "big C" and "little c" creativity. Big C creativity refers to the exceptional works of art, music or other creative outlets that are associated with prodigies of this strength, such as classical painters or renowned musicians. Little c, on the other hand, refers to something like ingenuity, which average individuals can possess. This represents a midpoint along the continuum of creativity, so that an individual can display creativity in their everyday life without the requirement of producing celebrated works of art. Therefore, an individual scoring high

on creativity may be more ingenious than average, but not necessarily a prolific artist. Such ingenuity will allow the individual to consider novel approaches to a problem and tap into their internal database of knowledge and previous experiences in order to bring together seemingly unrelated information to bear on the problem at hand.

Curiosity: Peterson and Seligman (2004) define the strength of curiosity as the "active recognition, pursuit and regulation of one's experience in response to challenging opportunities" (Peterson & Seligman, 2004; p. 125). This definition includes the *active* pursuit of experiences relating to challenging opportunities, implying that the curious individual will not only react favourably to novel or challenging situations, but actively seek them out if they are not readily available. Such behaviour will mean that the curious individual will approach tasks with the goal of learning something for their own intrinsic benefits. Peterson and Seligman (2004) also point out that this strength is associated with absorption with something (i.e., a given task), creativity and a preference for challenges. Therefore, a curious individual given a problem that requires a creative solution will be more likely to actively search out a new solution, attempt to learn from it and consider the challenging task as an opportunity for novelty and increased knowledge, rather than a burden. Curiosity will allow an individual to be intrinsically motivated to solve a complex task or problem.

The strength of curiosity applies to a general approach to life and new experiences. The curious individual will be more likely to seek out new experiences or sources of knowledge, as these hold an intrinsic value in and of themselves. Similarly to the argument made for creativity, such novelty and information seeking will allow the

curious individual to have built up an extensive information resource that they can draw

on when faced with a task that requires an original or innovative solution. The individual

may have encountered a similar task in the past, or be able to recall situations with similar

underlying themes which can be extrapolated to the current situation. Intrinsic motivation

is a key component of creativity as it controls where the individual focuses his/her

attention (Woodman et al., 1993). The curious individual will be intrinsically motivated

to seek out a solution to a novel problem, and therefore more likely to pursue it.

Open-Mindedness: In Peterson and Seligman's (2004) classification, the strength of

open-mindedness relates to judgment and critical thinking, mostly in the domain of

cognitive processes. They speak of the active pursuit of contradictory evidence, and open-

mindedness as a corrective strength which offsets the "my side" bias. Open-mindedness

requires the consideration of and openness to new and contradictory information and the

willingness to change one's original beliefs, plans and/or goals in light of this new

evidence. Although this definition speaks to plans and goals, it is mostly focused on the

cognitive processes of evaluating one's opinions and beliefs in light of contradictory

information.

However, despite the definitional focus on cognitive processes, there is still reason

to believe the strength of open-mindedness will be related to success on a task requiring

associative creativity. Success on such a task requires the ability to consider multiple,

possibly conflicting approaches. The individual may find that his/her first alternative is

not appropriate. The individual must then be willing to consider this as contradictory

evidence (the original approach was incorrect), use the feedback gained from the failure

(what result occurred, what is lacking in terms of the final goal to be achieved) and be willing to change or broaden his/her thinking in light of this information and feedback. Although this is a slight deviation from the original definition, the cognitive process of being open to accepting and considering contradictory evidence and the ability to change one's original beliefs or assumptions is still relevant.

Love of Learning: This strength requires cognitive engagement and a positive affective reaction to the process of acquiring new skills and knowledge. Woodman et al., (1993) point out that the possession of broad interests has been linked to creativity, which would be a manifestation of a love of learning as the individual would willingly seek out new skills and information on a variety of topics, as the learning process itself is seen as a benefit. Therefore, love of learning represents the intrinsic motivation an individual experiences when confronted with a new or challenging situation (Peterson & Seligman, 2004). Love of learning fuels persistence in the face of setbacks and negative feedback, making it a vital strength for successful task performance. A problem or task with a creative solution will most likely provide more setbacks than a more generic task, making love of learning important to success. Individuals high on this strength will be more likely to persevere, make connections between current content and past experiences, generate strategies and take time to understand and reconsider their selection (Peterson & Seligman, 2004). These individuals will take a more systematic approach to the problem and experience more positive emotions as a result of the process, not just the eventual success. This intrinsic motivation will ensure they persist on the task, thereby increasing their chances of completing the task successfully. Additionally, an individual who is

intrinsically motivated in general to experience and learn new things will have built up a greater store of knowledge and experience. When the individual is required to seek a solution in a non-related area, he/she will have access to a greater database of information, increasing the probability of finding a connection that others may have overlooked, or taken to be irrelevant.

Love of learning requires a mastery goal orientation, where the individual aims to learn the skill or master the task, rather than to avoid embarrassment (Peterson & Seligman, 2004). This orientation will enable individuals to take risks as they are not afraid of failure. Individuals high on love of learning are therefore more likely to consider failure as a part of the learning process and not a source of embarrassment. Willingness to take risks in applying novel techniques will allow the individual to try a broader range of approaches in order to arrive at the correct solution. Conversely, fear of embarrassment or failure impedes this process, as the individual will only be willing to try solutions that they are reasonably sure will work or that do not appear unusual, in the fear that this may cause others to think negatively of them.

Persistence: This strength requires an individual to voluntarily continue with goal-directed action in spite of difficulties, setbacks or negative feedback. This obstructive aspect is important, as persistence is not measured simply by time spent on a task (Peterson & Seligman, 2004). Individuals must believe they will achieve the desired outcome and be willing to continually act towards it, regardless of discouragement. Persistence is associated with self-efficacy, optimism, belief in positive outcomes and self-esteem (Peterson & Seligman, 2004). Individuals must believe that the preferred

outcome is possible and that they are able to cause it to occur. In terms of a creative task, the individuals must believe that there is a solution to the task and that they will be able to come up with that solution. Persistence may also be tied to the time invested in a task, in that the longer an individual spends on the task, the more likely he/she may be to believe she/she is close to a solution and therefore be willing to continue working on it. As discussed, an individual who experiences intrinsic motivation will be more likely to persevere at a difficult task, making the strength of persistence closely tied to love of learning and curiosity. Therefore, individuals who are high on the strength of persistence will be better able to control their behaviour and focus their attention to continue working on a task that has become unpleasant and tap into their intrinsic motivation to complete the task (especially if the task is relevant to their self-identity or enjoyable; Peterson & Seligman, 2004). They will also be more likely to believe that a solution is forthcoming and that they are capable of arriving at this solution.

Given the above discussion, it is possible to create a strength profile of an individual who will be more likely to succeed on a problem or task requiring associative creativity. As depicted in Appendix B, such individuals will possess the virtue of wisdom and knowledge (including creativity, curiosity, open-mindedness and love of learning) and, to a lesser extent, courage (including the strength of persistence). Individual CSP scores will be calculated as the composite of scores on the strengths making up the CSP.

Hypothesis 1 (H1): CSP will positively predict performance on a task assessing associative creativity.

Overcoming Negativity Strength Profile (ONSP)

Two profiles related to emotion regulation will be proposed: the Overcoming Negativity Strength Profile (ONSP) serves to downplay negative emotions, while the Positive Emotionality Strength Profile (PESP) will serve to up-regulate positive emotions. Traditionally, most emotion regulation research focuses on the downplaying of negative emotions (Gross & Thompson, 2007; Lowenstein, 2007). However, emotion regulation strategies can be used to increase, decrease or maintain both positive and negative emotions (Gross & Thompson, 2007). Although the ability to down-regulate one's negative emotions is important, it is also vital to understand how individuals experience enhanced positive reactions to positive stimuli. Understanding how individuals up-regulate positive emotions can bring greater returns to workplace interventions designed to increase morale or positive culture, as well as subject individuals to the well-documented benefits of increased positive affect.

Given that emotion regulation can serve to increase, decrease or maintain either a negative or positive state, there are six possible outcomes. Upgrading negative emotions would be counter-productive in most situations, as it would serve to exacerbate possible detrimental effects. Downgrading positive emotions would have the opposite result, where many of the possible benefits of positive emotions would be forfeited as the individual denies their positive emotions. The maintenance of positive emotions may represent a weakened form of PESP, where the individual attempts to savour the positive emotion they are experiencing. However, the focus of this study will be on upregulating rather than simple maintenance in order to study the process in a more extreme context.

Finally, it is difficult to imagine a situation where the maintenance of negative emotions would be beneficial, as this represents the individual holding on to a negative reaction. The two most beneficial outcomes are to downgrade negative emotions and upgrade positive ones, which are represented by the ONSP and PESP, respectively.

The Overcoming Negativity Strength Profile (ONSP) will allow an individual to more easily overcome negative emotions, through the strengths of zest, prudence, self-regulation, gratitude, hope, and humour, representing the virtues of courage, temperance and transcendence.   It is important to note that this discussion pertains to negative emotions arising from negative stimuli that do not generally justify a prolonged, intense negative reaction. In the work environment, much negative emotion arises from perceived slights, inequities or building on the negative moods of others. In situations requiring prolonged negative emotions, such as bereavement, character strengths and virtues may still be beneficial however the process would be quite different.

There has been much detrimental behaviour associated with negative emotions, including counterproductive work behaviours, turnover intentions, and diminished physical health (Fredrickson, 1998; Kaplan, Bradley, Luchman & Haynes, 2009; Spector & Fox, 2005). Fredrickson (1998, 2001), in developing her broaden-and-build theory of positive emotions notes that negative emotions constrict action repertoires as the individual focuses on resolving the negative affective state. Experiencing of negative emotions is expected to be detrimental to creativity and innovation, and task performance in general, as the individual does not have the cognitive processing resources available to contemplate novel approaches, process negative feedback or setbacks and formulate a

new plan of action.   Individuals with the following strength profile will find it easier to override such negative emotions (See Appendix B).

Zest: Zest, or vitality, refers to positive energy, spirit or feeling "alive". This strength is associated with low anxiety, low depressive symptoms, high levels of happiness and a sense of personal mastery (Peterson & Seligman, 2004). There is also a negative correlation with fatigue and illness, implying that zest is somehow tied to physical and mental well being. In fact, zest is most likely to be experienced when an individual feels physically well, mentally integrated and is experiencing meaning, purpose and enthusiasm (Peterson & Seligman, 2004).

Zest, vitality or spirit relates to the emotion of enthusiasm. Individuals high on this strength approach all areas of their life with greater enthusiasm, so they likely frame situations in a positive light to begin with. Therefore, even though the individual has been exposed to negative stimuli, their natural enthusiasm will most likely serve to prevent negative emotions from being fully realized, either by reframing the situation or focusing their energy on something more pleasant. Zest is correlated with both physical and mental well-being, as well as low levels of anxiety and depressive symptoms and high levels of reported happiness, while stress and psychological conflicts can decrease feelings of zest and vitality (Peterson & Seligman, 2004). In fact, zest is one of five strengths strongly and positively correlated with life satisfaction across a variety of samples (Peterson, Ruch, Beerman, Park & Seligman, 2007; Park et al., 2004). As life satisfaction is negatively correlated with negative affect and negative mood states (Heller, Judge & Watson, 2002), zest should be similarly inversely correlated with negative

emotions.   Therefore, individuals who are naturally predisposed to enthusiasm are most

likely to revert back to their natural, positive affective state when encountering negative

stimuli, both sooner and more easily than someone low on "zest".

Fredrickson's (1998, 2001) broaden-and-build theory of positive emotions posits

several benefits to experiencing positive emotions. She explains that while negative

emotions limit the action repertoires available for escaping or managing negative stimuli,

positive emotions have no such restricting effect. In fact, Fredrickson argues that positive

emotions expand action and thought repertoires, as the individual is not trying to escape

their current affective state, and therefore is free to engage in a wider range of behaviours

and/or broader thinking styles.   Zest, representing the positive emotion of enthusiasm,

will allow the individual to engage in such broader action and thought repertories and

more easily frame their circumstances in a positive light, or consider new approaches to a

seemingly negative situation.

Prudence: Devettere (2002) explains that in order for an act to be virtuous it must

meet three conditions: a) it must arise from the relevant character state; b) it must be

reasonable; and c) it must be performed for the right reasons. Prudence helps to

determine these last two conditions. Although the current discussion does not require all

individuals to be high on prudence in order to be considered high on other strengths, the

presence of the strength of prudence will allow an individual to use their strengths more

effectively. Prudence refers to a form of reasoning or wisdom, which considers long term

goals and outcomes, resulting in the ability to resist impulses with short term gains but

that may be detrimental in the long run. Prudence differs from self-denial as it involves

planning and foresight on the part of the individual, so that he/she voluntarily chooses the option that best serves his/her long term goals rather than merely satisfying short term desires (Peterson & Seligman, 2004).

Prudence requires an individual to consider his or her current state, behaviour and future goals. Prudent individuals engage in behaviours that help them reach their long term goals, even if this means sacrificing short term gains or pleasures. The prudent individual should recognize that emotions such as anger or disgust may seem fitting at the time, but they do not contribute to their long term well-being. By utilizing some self-control to reign in the initial, automatic negative emotional reaction, the individual can cognitively reappraise the situation, whether it is worth the consequences of negative emotions (stress, elevated heart rate, modelling a negative mood for others) and choose to see the situation in a different light. The individual may also reconsider whether the energy spent on negative emotions is a prudent use of this limited resource and can then choose to direct their energy elsewhere. In leadership positions, the prudent individual may realize that their negative mood will negatively impact their subordinates, so that they can choose to portray a positive mood in order to avoid further conflict or inefficiencies. The important point to note is that the prudent individual will realize that *experiencing* the emotion is non-conducive to their future goals, rather than simply trying to mask their true feelings with surface acting. The strength of prudence, by definition, requires a true reappraisal of one's momentary feelings and desires, so that the decision to act in the best interest of future goals is not self-denial, but a well thought out, voluntary choice.

Self-Regulation: An individual high on self-regulation is able to temporarily stall their automatic emotional reaction and reconsider what is most appropriate in the given situation. Although this strength may not require a deep re-appraisal of emotions, the control exhibited initially can give the individual time to reconsider emotions and/or behaviour they may otherwise regret. For example, if an employee has an unpleasant encounter with a co-worker, their first reaction may be to lash out at a subordinate. However, self-control will allow the employee to take a pause before acting out and re-consider what is appropriate. If this individual is also high on prudence, he/she may realize that lashing out at their subordinate will only cause problems within the team, and lead to personal feelings of guilt and possibly shame. However, even if the individual does not come to this conclusion, the simple act of temporary self-control may allow the negative emotions of the unpleasant interaction to dissipate. The employee can then re-evaluate the severity of the initial interaction, its significance and whether there is a better way to deal with the co-worker directly which may be more constructive to all parties involved. Thus, self-regulation is an example of a more conscious reappraisal approach, similar to Ashforth and Humphrey's (1993) comparison of deep acting with an actor preparing oneself for a role: the actor attempts to truly experience the emotions required by his/her role, rather than only expressing them. The strength of self-regulation provides individuals the ability to step away from the situation and consciously consider the most appropriate response to any given situation.

Gratitude: Gratitude helps overcome negative emotions through an individual's pre-disposition to see opportunities for gratitude in everyday situations.   The grateful

individual is more likely to see things to be grateful and happy for throughout his/her day, thereby leading to higher instances of positive emotions. Fredrickson (1998) reports that positive emotions can help override the experience of negative emotions. Therefore the strength of gratitude provides individuals more opportunities than people low on this strength to experience positive emotions, making it easier to override negative emotions.

The repeated exposure to things to be grateful for may also lead to rumination on the things one is grateful for. Such repeated rumination will lead to a more prolonged, steady positive emotional state. Journaling studies have found that individuals who are asked to consciously recall things they are grateful for report higher states of positive affect (Emmons & McCullough, 2003). These positive emotions serve to override negative emotions, either because as individuals experience the positive emotions the negative ones dissipate, or because the individual naturally reframes their circumstances with a focus on the many things he/she has to be grateful for, leading to positive affect.

Hope: The strength of hope requires belief in, and effort towards, positive future outcomes. The hopeful individual believes that positive future states are possible, and that he/she can do something to bring about this positive future state, and so hope requires a future orientation (Peterson & Seligman, 2004). Optimism is very much individual, or culture, specific as it depends on what the individual considers to be a favourable or desirable outcome (Peterson, 2000). There are differing approaches to individual differences in optimism, and the explanatory style is most relevant to this discussion. This approach considers how individuals ascribe causality to events around them. Optimists see specific, unstable external causes as the reason for negative events

occurring around them (Peterson, 2000), making them more likely to believe in the possibility of positive occurrences in the future. On the other hand, individuals who believe the causes of negative events are internal, stable or global in nature will experience more learned helplessness and expect the negative events to repeat in the future (Peterson & Seligman, 2004). Therefore, hopeful individuals have reason to believe their current negative state is transitory and unlikely to reoccur or persist into the future.

Explanatory style can also be considered an antecedent-focused emotion regulation strategy (Peterson & Park, 2007). An optimistic explanatory style is one where, as described above, individuals ascribe unstable, specific and external causes for negative events. In terms of emotion regulation, the optimistic individual is more likely to believe a negative event will not repeat in the future and therefore may find it easier to move beyond the negative emotions. Additionally, an optimistic explanatory style is associated with having a richer social network (Peterson & Park, 2007), which positively predicts efficient coping behaviour (Brisette, Scheier & Carver, 2002; Wood, Joseph & Linley, 2007).

Phasic strengths are observable only in relevant situations, such as bravery. Tonic strengths, on the other hand (such as hope) are more cognitive in nature and permeate across situations. Hope therefore represents a pre-disposition towards optimism in everyday life. Optimism is closely related to positive affectivity (Lyubomirsky et al., 2005) so that optimistic individuals are more likely to be high on positive affectivity. Therefore, hope is associated with a greater incidence of positive emotions, which can

cancel out (i.e., neutralize) negative emotions (Fredrickson, 1998). Hopeful individuals

are more likely to re-frame situations around them to lead to possible positive, rather than

negative, outcomes. Finally, Larsen, Hemenover, Norris and Cacioppo (2003) argue that

optimal coping in stressful situations requires a balance of both positive and negative

emotions. The presence of the tonic strength of hope increases the probability of

individuals experiencing positive emotions, thereby helping them cope with negative

stimuli.

Humour: Peterson and Seligman's (2004) discussion of the strength of humour or

playfulness focuses on positive humour, not negativity such as sarcasm and ridicule.

They provide a three part definition: " (a) the playful recognition, enjoyment, and/or

creation of incongruity; (b) a composed and cheerful view on adversity that allows one to

see its light side and thereby sustain a good mood; and (c) the ability to make others smile

or laugh" (Peterson & Seligman, 2004; p. 584). Part (b) of this definition concerns

adversity, where the individual high on the strength of humour is able to see a brighter

side of the situation and sustain a good mood, which is a form of cognitive reappraisal.

As discussed, such a sustained positive affective state overrides negative emotions. The

humorous individual finds it easier to re-appraise situations, possibly by seeing humour in

them, by making others smile or laugh, or by being receptive to the humorous behaviour

of others. Humour also buffers against the effects of stress and daily hassles, possibly by

giving the individual a sense of mastery over the stressor (Romero & Cruthirds, 2006).

Cheerfulness predisposes individuals to prolonged and more intense and frequent states of

cheerfulness, which are then harder to break (Peterson & Seligman, 2004). In the event

that the individual does experience negative emotions, this natural disposition towards a

cheerful state will force the individual back to their more "natural" affective state more

easily since individuals tend to prefer to act in accordance with their natural traits and

personalities (Tett & Burnett, 2003)

Virtuousness has a buffering effect, shielding individuals from negative effects of

dysfunction, illness and personal trauma (Seligman & Csikszentmihalyi, 2000). At a

more macro level, organizational virtues such as organizational forgiveness and integrity

are associated with experiencing lower negative effects following downsizing (Cameron

et al., 2004). Although all the virtues are seemingly related to overcoming negativity in

the workplace, the above discussion shows that strengths related to the virtues of courage,

temperance and transcendence are most relevant. Individual ONSP scores will be

calculated as the composite of the scores on the strengths making up the ONSP.

> *Hypothesis 2 (H2): ONSP will be negatively related to negative emotions*
>
> *following exposure to stimuli designed to elicit negative emotions.*

Positive Emotionality Strength Profile (PESP)

Positive affectivity, and by extension positive emotions, are associated with a

multitude of positive outcomes, including prosocial behaviour, task performance, physical

and mental well-being and life and work satisfaction (Heller et al., 2002; see

Lyubomirsky et al., 2005 for a thorough review of these findings). By identifying the

strengths that can enhance the effects of positive stimuli it may be possible to create

training interventions that can produce more positive, and by extension, healthier and more productive employees.

Fredrickson (1998, 2001) posits a broaden-and-build theory of positive emotions that explains how positive emotions free up cognitive resources that can then be used to build up an individual's psychological, emotional and social resources. She explains that negative emotions constrict action repertoires, as a negative affective state is one that is unpleasant. Therefore, cognitive resources become focused on the behaviours that will allow the individual to escape and/or resolve this unpleasant state. Positive emotions, however, have no such restricting effect because they produce a pleasant affective state that does not require escape or resolution. The individual's cognitive resources are therefore free to explore a broader range of behaviour and broader thinking, allowing one to see broader and more positive meaning in stimuli they experience. Such broader behaviours and thinking can lead to new resources that the individual can later use in novel or uncertain situations. For example, an employee experiencing a positive affective state may be more willing to collaborate with a colleague from a different department. Such collaboration will not only create a new link in the individual's social network, but also expose this individual to new skills, processes and the like, which can later be applied to new problems that the individual may encounter. Such resolution of novel situations may create further positive affective experiences, thereby leading to an upward spiral of positive emotions.   So we can see how this expansion in action and thought repertoires allows individuals to expand and strengthen their psychological, emotional and social resources, which can be called upon in future novel or uncertain situations.

There are four strengths in Peterson and Seligman's (2004) classification that relate closely to positive emotion: zest, appreciation of beauty (awe), gratitude and humour[1]. These four strengths, along with hope, represent the virtues of Transcendence (appreciation of beauty, gratitude, hope and humour), and courage (zest), making up the Positive Emotionality Strength Profile, or PESP. As discussed, the strength of hope is one of looking forward and expecting positive future outcomes partly as a result of ascribing unstable, specific and external causes for unpleasant events or outcomes. Luthans et al., (2007) discuss two separate constructs, hope and optimism, with the former being a motivational state while the latter is more of an attribution style in their development of the construct of Psychological Capital (PsyCap). Despite the common terminology, it appears that Peterson and Seligman's (2004) definition of hope encompasses Luthans et al.,'s (2007) constructs of hope and optimism. Hope as a disposition indicates optimism, which is closely related to positive affectivity. Therefore individuals who are pre-disposed to feelings of hope and optimism will experience greater positive affect in general. This increased base level of positive affect arising from a future oriented, optimistic point of view will be instrumental in enhancing reactions to positive stimuli.

The four emotion related strengths plus hope all utilize the mechanism of trait activation to enhance the positive affective state arising from contact with positive

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[1] The virtue of Humanity also includes the strength of Love, which is also related to a positive emotion. However, Peterson and Seligman's (2004) discussion of this strength relates mostly to attachment styles, thereby focusing on a different definition of love than what we generally refer to as affection or devotion.

stimuli.   Trait activation occurs when situations are trait relevant so that the trait in question becomes easily observable in behaviours that are a response to that situation (Tett & Gutterman, 2000).   When an individual is exposed to positive stimuli, such as a pleasant interaction with a co-worker, reaching a performance goal or receiving some reward or recognition, this situation activates traits, or in this case strengths, associated with positive emotions. Therefore an individual's natural predisposition to experience positive emotions interacts with the positive emotional stimuli to produce a heightened positive affective state. Stated alternatively, individual highs on these strengths will have a higher base-level of positive affect than others who are low on these strengths. Therefore, the increase in positive emotions that occurs as a result of the positive stimuli starts from a higher base point, thereby leading to higher resultant levels of positive affect. Individual PESP scores will be calculated as the composite of their scores on the strengths making up the PESP.

> *Hypothesis 3 (H3): PESP will be positively related to positive emotions reported as a result of exposure to positive stimuli.*

Positive emotions also exhibit an upward spiralling effect where experiencing positive emotions in the present increases the probability that the individual will feel positive emotions in the future as well (Fredrickson & Joiner, 2002). The beneficial outcomes arising from positive emotions compound over time, enabling one to better handle adversity (Fredrickson & Joiner, 2002; Myers, 2000). For example, Fredrickson, Tugade, Waugh and Larkin (2003) found that positive emotions buffered individuals against depression following the terrorist attacks of September 11, 2001 and allowed

them to more easily thrive after the crisis. All else being equal, we would expect that individuals who possess the emotion-related strengths in Peterson and Seligman's (2004) classification would experience more frequent positive affect (see hypothesis 8). Davis (2009) points out that individuals experiencing positive affect should have access to a fuller and more diverse assortment of information. When comparing intuitive performance on a task requiring associative creativity (the RAT, developed by Mednick & Mednick, 1967), Bolte, Goschke and Kuhl (2003) found that participants in the positive emotion condition performed significantly better than chance when asked to intuitively answer whether or not a word triad was coherent. Combining these results suggest that the PESP should be an asset for associative creativity.

Hypothesis 4 (H4): PESP will positively predict performance on a task assessing associative creativity.

Organizational scholars have long recognized the importance of emotions in the workplace (Brief & Weiss, 2002). Interactions with colleagues, leaders and subordinates can produce varying moods and emotions. Positive emotions are associated with beneficial outcomes, such as prosocial behaviour and increased reports of life and work satisfaction (Heller et al., 2002; Lyubomirsky et al., 2005), while negative emotions are associated with negative outcomes such as counterproductive work behaviours, turnover intentions, and diminished physical health (Spector & Fox, 2005; Fredrickson, 1998; Kaplan et al., 2009). Therefore, the organization that ignores employees' emotional states does so at its own peril.

Fredrickson's (1998, 2001) "broaden-and-build" theory of positive emotions explains how positive emotions can free up cognitive resources that can then be used to build up an individual's psychological, emotional and social resources. The author explains that negative emotions constrict action repertoires, as a negative affective state is one that is unpleasant. Therefore, cognitive resources become focused on the behaviours that will allow the individual to escape and/or resolve this unpleasant state. Positive emotions, however, have no such restricting effect because they produce a pleasant affective state that does not need to be escaped from or resolved. This positive affective state allows the individual to consider broader behaviours and thinking, as the state signals that all is well and no specific problems require attention. Such broader behaviours and thinking can lead to new resources that the individual can later use in novel or uncertain situations. Empirical research has borne out this relationship between positive affect and creative performance (see for example Amabile et al., 2005; Isen, 2001 provides an overview of these results). Two recent meta-analyses have also confirmed that positive affect increases creative performance on a variety of tasks (Baas, DeDreu & Nijstad, 2008; Davis, 2009).

> *Hypothesis 5 (H5): Individual performance on a task assessing associative creativity will be higher for individuals in a positive emotion priming condition compared to individuals in a negative emotion priming condition.*

Some theorists have proposed that negative moods enhance creative performance (Friedman, Forster & Denzler, 2007; George & Zhou, 2002). The mood-as-input theory posits that a negative mood signals to the individual that something is wrong in the

environment and requires correction, thereby putting the individual into a state that is more conducive to problem-solving (see for example Baas et al., 2008; George & Zhou, 2002; George & Zhou, 2007). George and Zhou (2002) found that negative affect increased creativity, but only in conditions where reward and recognition and clarity of feelings were high. Friedman et al., (2007) found that negative, compared to positive, mood enhanced creativity in tasks considered serious and important, rather than fun or silly. George and Zhou (2007) found that positive and negative mood interacted with a supportive context to enhance creative performance. Additionally, there has long been a theorized positive relationship between affective disorders, such as depression and bi-polar disorder, and artistic creativity (Glazer, 2009), with recent evidence confirming this thesis (Akinola & Mendes, 2008).   However, these results all occurred in very specific circumstances. In general, meta-analytic evidence does not support these hypotheses, as there appears to be little difference on creative performance for negative versus neutral moods (Davis, 2009; Baas et al., 2008). Given the lack of evidence supporting a relationship between negative mood and creativity, and the fact that this study will not incorporate participants' mental health into the control conditions, no hypothesis for the negative mood manipulation and creative performance is advanced.

Emotion Regulation and Affect

In many industries, it is commonly accepted that employees will be required to express socially desired emotions when interacting with customers, particularly in service contexts (Ashforth & Humphrey, 1993). However, such emotion regulation is also necessary in many interactions, both within and outside of the work context. For

example, most employees are not free to express their disgust to their boss at being assigned a new project, or in the interest of maintaining a harmonious working environment cannot express their true feelings about an incompetent colleague. The ability to regulate one's emotions is an important survival technique in the workplace.

One conceptualization of emotion regulation is the distinction between surface acting – when the individual suppresses his/her true emotions and exhibits those emotions required by the situation; and deep acting – where the individual attempts to experience the emotions that are expected of him/her (Ashforth & Humphrey, 2003). Surface acting may lead to stress and emotional burnout, as the suppression of negative emotions is taxing on cognitive resources and may contribute to feelings of emotional dissonance (Grandey, 2003).

The process model of emotion regulation categorizes emotion regulation strategies based on a temporal distinction of whether they are antecedent or response focused. Antecedent focused strategies, such as cognitive reappraisal are implemented prior to the emotion fully taking hold, thereby affecting the experience and expression of the emotions. In contrast, response focused strategies are utilized once the emotion has been experienced and therefore only affect emotional expression (Gross & John, 2003). There are four antecedent focused strategies: situation selection, situation modification, attentional deployment and cognitive reappraisal, along with response modulation as a response focused strategy (Gross & Thompson, 2007). In terms of the current study and antecedent focused strategies, I expect that cognitive reappraisal and, to a lesser extent, attentional deployment would be most relevant. Situational selection and modification

assumes that there is some control over the emotional situation. However, many such instances in the workplace are involuntary, where the individual has no control over the emotional stimuli, such as an unpleasant interaction with a co-worker. Although attentional deployment can entail some aspect of focusing on the positive rather than the negative (similar to cognitive reappraisal), there is an aspect of selective attention to this strategy, making it a non-viable option in the workplace where situations cannot be avoided or ignored. Therefore, cognitive reappraisal is the most appropriate antecedent-focused strategy for analysis. Gross and John (2003) state that while these strategies may be consciously engaged they are often unconscious and can become learned behaviours over time so that individuals tend to consistently engage in one strategy over another. As expected, cognitive reappraisal and suppression strategies differ in their affective, cognitive, social and well-being consequences.

Similar to the differential results for surface versus deep acting, it appears that cognitive reappraisal strategies are more beneficial to the individual than suppression strategies. Cognitive reappraisal leads to a decreased experience and expression of negative emotions, but the experience and expression of positive emotions is actually heightened over the long term. Conversely, suppression strategies are associated with lower expression of both positive and negative emotions, as well as lower experiencing of positive emotions, and no change or even an increase in the experience of negative emotions (Gross, 2002; Gross & John 2003).

In terms of cognitive consequences, suppression requires an ongoing process of self-monitoring and corrective action, which taxes cognitive resources. Cognitive

reappraisal, on the other hand does not seem to affect cognitive functioning when measured on verbal memory tasks (Gross, 2002). Similarly, in social situations, suppression leads to an impaired understanding of emotional cues and therefore causes more stress on the partner interacting with the suppressor; cognitive reappraisal has no such effects (Gross, 2002). Gross and John (2003) found cognitive reappraisal to be negatively associated with several measures of depression and positively associated with life satisfaction, self-esteem, optimism and a multitude of well-being measures; suppression showed the opposite relationships. This same study also found that suppression was related to feelings of inauthenticity (due to the discrepancy between emotions felt and expressed) and excessive rumination, both of which can foster further negative emotions. Finally, in terms of long term social consequences, individuals who habitually engaged in cognitive reappraisal were better liked by their friends, and tended to form closer emotional relationships and to be more comfortable expressing both positive and negative emotions. Gross and John (2003) believe this is due to the reappraiser's more optimistic approach to situations, attempts to reframe situations in the positive and repair bad moods when they do occur. On the other hand, suppressors were more reluctant to share both positive and negative emotions, had less emotionally close relationships and engendered more neutral impressions from peers (versus the more positive impressions held by peers of cognitive reappraisers). Interestingly, this line of research also shows that although both reappraisers and suppressors are fairly confident of the efficacy of their customary emotion regulation strategy, peers of suppressors could often detect that true emotions were not being expressed.

As the above research illustrates, cognitive reappraisal is more beneficial to the individual than suppression strategies. A recent meta-analysis found reappraisal, along with distraction, to be the most effective emotion regulation strategies when looking at the magnitude of the change in affective state (Augustine & Hemenover, 2009). Therefore, in situations where emotion regulation will be required, there is a benefit to choosing reappraisers rather than suppressors. There are several arguments for why character strengths and virtues would point to cognitive reappraisal strategies, rather than suppression. Virtues are assumed to be ingrained ways of thinking, feeling and acting that are in accordance with the individual's overarching goal to live the good life, to flourish and to contribute to the betterment of his/her community. Virtuous individuals, therefore, will be predisposed to see the positive in a situation and frame it in a way that is beneficial to themselves and others. Further, virtues in general represent positive characteristics such as courage, humanity, temperance and transcendence, which would be related to positive outlooks and optimism through the evaluative consistency argument presented earlier. Virtuous individuals are expected to be aware of their impact on their environment, and therefore more likely to 1) consider how their reaction to a situation will affect others and 2) what they can do to improve the situation if at first it appears to be a negative one. Gross and John (2003) found that a tendency towards cognitive reappraisal is positively related to environmental mastery, indicating that reappraisers are more confident of their ability to take charge and change their circumstances, including their approach to problematic or novel situations. Finally, suppression is associated with inauthenticity, which is by definition against the very nature of virtuousness: virtuous

individuals act in accordance with their beliefs, principles and emotions. Of course, this is not to say that the virtuous individual may not choose to suppress their emotions in situations where this is the best course of action, however this discussion pertains to the individual's preferred strategy; individuals of differing levels of virtue can periodically engage in both types of emotion regulation.

> *Hypothesis 6a (H6a): PESP will predict use of cognitive reappraisal as an emotion regulation strategy*

> *Hypothesis 6b (H6b): ONSP will predict use of cognitive reappraisal more than the use of emotional suppression as an emotion regulation strategy.*

> *Hypothesis 6c (H6c): PESP will predict the use of cognitive reappraisal more than the use of emotional suppression as an emotion regulation strategy.*

> *Hypothesis 6d (H6d): ONSP will predict use of cognitive reappraisal as an emotion regulation strategy*

While the PESP is largely embedded within the ONSP, the latter contains two additional strengths pertaining to the virtue of temperance: prudence and self-regulation. Temperance represents the strengths that buffer against excess, and allow for restraint of one's potentially hurtful behaviours, such as revenge or arrogance (Peterson & Seligman, 2004). Both the ONSP and PESP are expected to allow individuals to experience heightened positive emotions when exposed to positive stimuli compared to individuals with neither of these profiles, but the added influence of temperance through prudence and self-regulation allows individuals to also experience such positive affect more easily

in *negative* situations. As both of these profiles relate to emotion regulation, this similarity is not unexpected.

Although the effects of ONSP are posited with respect to the presentation of negative stimuli, it should have similar effects in the presence of positive stimuli. The strengths within the virtue of temperance are likely to work on both positive and negative emotions. The reasoning and self-control associated with prudence and self-regulation leads individuals to down-play or restrain their positive emotions as well as negative ones. For example, when experiencing a negative interaction with a colleague, an individual with the ONSP would realize that lashing out at the co-worker, or anyone else, would not be the prudent course of action; however, even if the interaction were exceptionally pleasant (i.e., the co-worker has offered the individual some exceptionally good news), the individual may still realize that their initial reaction, such as crying out in joy or grabbing the co-worker in a hug is also not prudent. Such realizations may encourage the individual to reconsider the emotion they are experiencing to prevent such inappropriate behaviour (assuming individuals desire to express the emotion they are feeling, rather than suppress it). Therefore the ONSP is likely to temper emotional experience on both the positive and negative ends.

> *Hypothesis 7 (H7): When positive emotions have been primed, individuals with the ONSP will show less of a positive emotional reaction than will individuals with the PESP.*

Peterson and Seligman (2004) speak of phasic and tonic strengths. These tonic strengths, such as hope or humour, are likely to influence the level of positive and/or negative affectivity experienced, as they constitute an individual's pre-disposition or base-line emotional state. For example, an individual high on the strength of gratitude is likely to experience gratitude in various situations, while someone high on bravery can only demonstrate this strength in situations that activate such bravery (Tett & Gutterman, 2000).

Both profiles, the ONSP and PESP, contain several tonic strengths, which may contribute to the overall level of positive and/or negative affectivity experienced. Positive and negative affectivity refers to an individual's disposition to certain mood states. High positive affect is defined as enthusiasm, energy and positive engagement with one's environment. High negative affect, on the other hand, is defined by frequent experiences of subjective distress and unpleasant engagement (Crawford & Henry, 2004; Watson, Clark & Tellegen, 1988). Low levels of negative and positive affect are represented by the lack of these defining emotions. Therefore, positive and negative affect is characterized by specific emotional states, and the low end of both dimensions is the absence of these emotional states (Watson, Wiese, Vaidya & Tellegen, 1999). Enthusiasm and engagement within the definition of positive affect are closely related to some of the strengths that make up the Positive Emotionality Strength Profile (PESP), such as zest, optimism and humour. These strengths are tonic in that they point to a predisposition towards positive mood states, or positive affect.

Hypothesis 8 (H8): PESP will positively predict positive affect.

Similarly, these same strengths related to positive emotion are present in the Overcoming Negativity Strength Profile (ONSP), serving to override negative mood states and minimize stress and anxiety. Low negative affect is characterized by a lack of such distress, as well as with feelings of being at rest, or calm (Watson et al., 1999). Individuals who are able to overcome negative emotions or look at the positive side of a situation are likely to feel calm and relaxed in a given situation, rather than agitated.

Hypothesis 9 (H9): ONSP will negatively predict negative affect.

CHAPTER III

METHOD

Participants

Participants were Canadian university students enrolled in a mandatory 3rd year commerce course. They were given the opportunity to participate in the research study for a 2% bonus mark added to their course grade. A total of 205 students chose to participate in the study, representing 79.1% of the potential participant pool. The average age of participants was 20.5 years with males making up approximately half of the sample (49.7%). The majority of participants, 70.2% reported English as their first language. The sample had a mean Wonderlic Personnel Test (WPT) score of 23.45, which is close to the average WPT score of 24 for college freshmen (Wonderlic Inc., 2002). Participants reported being enrolled in several commerce related majors:

accounting (41%), general commerce (11.2%), marketing (20.5%), finance (23.4) and

human resource management (10.2%).[2]

Emotional Manipulation

Emotional Manipulation: Gerrrards-Hesse, Spies and Hesse (1994) conducted an

extensive review of mood induction procedures (MIP) that showed the film/story

manipulation as being highly effective in the induction of both positive and negative

mood states. Westermann, Spies, Stahl and Hesse (1996) confirmed this result with a

meta-analysis that showed that movie/story manipulations without instructions are

superior for eliciting the desired emotions, second only to movie/story manipulations with

instructions to the participant to experience the desired emotion. However, the latter

method is not appropriate to this study, as the aim is to investigate how the profiles affect

performance under emotional conditions that may arise normally in day-to-day

interactions. Individuals generally do not consciously elicit an emotion, but experience it

as an automatic reaction to events around them.

The emotional manipulation therefore consisted of two short video clips, chosen

to elicit the desired emotional state. Eight video clips were found on youtube.com, four

for each of the positive and negative emotion conditions. A pilot test using a convenience

sample of English speaking adults was conducted using the same scale used in the actual

study. This scale was adapted from Gross and Levenson's (1995) (see Appendix E).

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[2] These percentages sum to a value greater than 100% as some participants reported more than one major.

Their original scale contained 16 emotions (amusement, anger, arousal, confusion, contempt, contentment, disgust, embarrassment, fear, happiness, interest, pain, relief, sadness, surprise and tensions) as they had chosen movie clips to elicit each of these emotions. For the present study, a similar 9 point scale was used; however participants were only questioned on 6 emotions: amusement, happiness, confusion, interest, sadness and disgust. The first two and last two represent the positive and negative emotions desired of the manipulation. Confusion and interest are included as milder versions of the negative and positive emotions, respectively, to allow participants to express more neutral emotions to each clip, rather than feeling they must choose between two extremes.

The pilot test showed that the "Tribute to Haiti Victims" clip elicited the strongest negative emotions. For the positive emotion condition, a slide show of funny animal pictures proved to elicit the strongest positive emotions. Please see Appendix D for a description of all 8 videos used in the pilot tests; two were chosen for the actual study as indicated with an asterisk. Participants were given a choice of four videos, where each of the chosen videos indicated in Appendix D was represented twice. The choices all had generic labels (Video 1, Video 2, Video 3, Video 4) so participants were unaware of the content prior to making their choice. Choosing Video 1 or 3 gave participants a link to the video of funny animal pictures (positive condition), while choosing Video 2 or 4 gave participants a link to the "Tribute to Haiti Victims" video (negative condition).

Measures   All of the measures described, except for the Virtues in Action Inventory of Strengths (VIA) and WPT were administered using LimeSurvey software (Carsten Schmitz, 2003 LimeSurvey; Version 1.87); available from http://www.limesurvey.org/.

The researcher compiled the necessary measures, creativity assessments and demographic questionnaires and formatted them to fit the survey format. Instructions were kept the same as the original scale in all cases.

Character Strengths and Virtues: Participant standing on the character strengths making up the strength profiles was assessed using the Virtues in Action Survey (VIA-IS). This survey consists of 240 questions, (sample items: "I have taken frequent stands in the face of strong opposition." and "I always identify the reasons for my actions"), ten items per character strength. Participants are asked to rate how self descriptive the statements were using a 5 point scale (ranging from "5 - Very much like me" to "1 - Very much unlike me"). Scores were averaged across the ten questions for each character strength to yield twenty-four character strength scores. Virtues and strength profile scores were calculated by summing the strengths within each virtue and profile respectively (Appendix A). For example, the composite CSP score was derived by summing individual scores on the strengths of creativity, curiosity, open-mindedness, love of learning and persistence.

Associative Creativity: Associative creativity was assessed using the Remote Associates Test (RAT). The RAT was developed by Mednick and Mednick (1967) to measure the associative basis of the creative process (Mednick, 1962). Each item on the RAT consists of 3 words and a blank space. Participants must fill in the fourth word that ties the other three words together. For example, for the words FALLING, ACTOR and DUST, the solution is the word STAR. The RAT has been used in numerous studies looking at associative creativity, creative thinking, problem solving and insight (see for example,

Ansburg & Hill, 2003; Beeman & Bowden, 2000; Bolte et al., 2003; Bowden & Beeman, 1998; Ivcevic, Brackett & Mayer, 2007; Probst, Stewart, Gruys, & Tierney, 2007).

The RAT has been criticized for being a measure of verbal ability rather than creativity (Ansburg, 2000). Although many RAT items do involve forming words, they also require a measure of convergent thinking as the words to be compiled do not all fall within the same subject area. In the above mentioned example, falling, star and stardust form words, however actor and star are synonyms. This solution requires the individual to identify various meanings for the word star. Worthen and Clark (1971) contrasts functional and structural RAT items, where the latter is a test of verbal ability while the former assesses convergent thinking. Bowden and Jung-Beenan (2003) provide normative data for 144 RAT-type items; however they are all of the structural form. The items used in this study have been chosen so that at least one of the words in the stem is not related structurally to the solution word. For example, the item SWISS, CAKE and COTTAGE (solution CHEESE) would be rejected as the solution entails three compound words (Swiss cheese, cheesecake and cottage cheese). However, the item MOUSE, SHARP, and BLUE (solution is also CHEESE) would be acceptable as the connection between MOUSE and CHEESE is a functional one. Please see appendix C for a full list of the RAT terms used, as well as item difficulty scores, taken from Shames (1994). The 30 items have been divided into two sub-sets (form a and b) of 15 items each, ensuring that the average difficulty and distribution of difficulty is similar across the two sets. Form a and b represent the pre- and post-manipulation administrations of the assessment, RAT1 and RAT2, respectively.   A five minute time limit was imposed on both creativity

assessments. Based on feedback of a pilot study of RAT items, participants were given a short, 5-item practice test to get used to answering the RAT items. The responses to the practice test were also timed, but were not used for any analysis.

The two administrations of the RAT were scored by comparing participants' responses to each item with the correct solution. Some leeway was given for obvious synonyms, for example "present" and "gift". Missing or incorrect responses were scored zero, with one point given for every correct answer. The average score on RAT1 was 2.01, with scores ranging from 0 to 8 items correct. The mean for RAT 2 was 2.78, with a range from 0 to14 items correct. There is no indication that participants had experience with this type of task before therefore this difference in mean scores is indicative of a learning effect; as it is presumed that all participants experienced this effect, it should not affect the results.

Emotional Manipulation: Gerrrards-Hesse, Spies and Hesse (1994) conducted an extensive review of mood induction procedures (MIP) that showed the film/story manipulation as being highly effective in the induction of both positive and negative mood states. Westermann, Spies, Stahl and Hesse (1996) confirmed this result with a meta-analysis that showed that movie/story manipulations without instructions are superior for eliciting the desired emotions, second only to movie/story manipulations with instructions to the participant to attempt to experience the desired emotion. However, the latter method is not appropriate to this study, as the aim is to investigate how the profiles affect performance under emotional conditions that may normally arise in day-to-day

interactions. Individuals generally do not consciously elicit an emotion, but experience it as an automatic reaction to events around them.

The emotional manipulation therefore consisted of two short video clips, chosen to elicit the desired emotional state. Eight video clips were found on youtube.com, four for each of the positive and negative emotion conditions. These clips were pilot tested using the same scale used in the actual study. This scale was adapted from Gross and Levenson's (1995) study (see Appendix E). Their original scale contained 16 emotions (amusement, anger, arousal, confusion, contempt, contentment, disgust, embarrassment, fear, happiness, interest, pain, relief, sadness, surprise and tensions) as they had chosen movie clips to elicit each of these emotions. For the present study, a similar 9 point scale was used; however participants were only questioned on 6 emotions: amusement, happiness, confusion, interest, sadness and disgust. The first two and last two represent the positive and negative emotions desired of the manipulation. Confusion and interest are included as milder versions of the negative and positive emotions, respectively, in order to allow participants to express more neutral emotions to each clip, rather than feeling they must choose between two extremes.

The pilot test showed that the "Tribute to Haiti Victims" clip elicited the strongest negative emotions. For the positive emotion condition, a slide show of funny animal pictures proved to elicit the strongest positive emotions. Please see Appendix D for a description of all 8 videos used in the pilot tests; two were chosen for the actual study as indicated with an asterisk. Participants were given a choice of four videos, where each of the chosen videos indicated in Appendix D was represented twice. The choices all had

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generic labels (Video 1, Video 2, Video 3, Video 4) so participants were unaware of the content prior to making their choice. Choosing Video 1 or 3 gave participants a link to the video of funny animal pictures (positive condition), while choosing Video 2 or 4 gave participants a link to the "Tribute to Haiti Victims" video (negative condition).

Positive and Negative Affect: Positive and negative affect was measured using the Positive and Negative Affectivity Scale (PANAS; Watson et al., 1988). This scale is well established and has been found to be valid across a variety of samples (Crawford & Henry, 2004; Terracciano, McCrae & Costa, 2003; Thompson, 2007). The PANAS consists of 20 terms, each naming an emotional state such as "interested", "hostile", "enthusiastic" or "inspired. Participants are asked to indicate the extent to which they experience each emotion in the given time period, using a scale ranging from 1 (very slightly or not at all) to 5 (extremely). The PANAS can be administered with various time instructions such as in the moment, today, past few days, week, past few weeks, year or general; the present study utilized the "in general" time instructions as the hypotheses are related to strength profiles, which are assumed to be fairly stable across time.

Emotion Regulation: Emotion regulation strategy was measured using Gross and John's (2003) Emotion Regulation Questionnaire (ERQ). The ERQ consists of 10 statements, six measuring cognitive reappraisal and four measuring emotional suppression. Participants are asked to rate each statement on a scale of 1 (strongly disagree) to 7 (strongly agree). A sample item for cognitive reappraisal is: "When I want to feel less negative emotions, I change the way I'm thinking about the situation." The researcher contacted the lead author and was assured that this is the most recent version of the ERQ.

Cognitive Ability: The Wonderlic Personnel Test was used to control for cognitive ability. The WPT is an eight minute timed test, administered on a secure server. The WPT has been validated across a variety of samples and is widely accepted as a valid and reliable measure of cognitive ability.

Emotional Reaction Score: Participants were asked to complete the same measure used in the pilot study (shown in Appendix E) after viewing one of two video clips which had been determined to elicit the desired positive or negative emotions. The scores on the positive and negative emotions were added to determine, respectively, a positive and negative emotion score for each participant. A meta-analysis found that the most effective emotion regulation strategies work quite quickly, with effectiveness decreasing as the length of the emotion regulation attempt increases (Augustine & Hemenover, 2009). Therefore, the ERS was assessed shortly after the emotional manipulation had been administered.

Satisfaction with Life: Satisfaction with life was measured using Diener, Emmons, Larsen and Griffin's (1985) 5-item Satisfaction with Life Survey. Sample items include "In most ways my life is close to my ideal", rated on a 7 point scale where 1(strongly disagree) and 7 (strongly agree). This scale was chosen for its brevity, and also has been used in past research looking at character strengths and satisfaction with life (Park et al., 2004; Peterson et al., 2007) allowing for a comparison of the results of the current research to previous, published studies.

Language Ability: Participants were asked to state what they considered to be their first language. English was coded as 1, while all other responses were coded as 0. This information was used to control for the verbal element of the creativity measure. Out of 205 participants, 144, or 70.2%, considered English to be their first language.

Additional Control Variables: Participants were asked to provide their age and gender (Male=1, Female=0), along with their major area of study. This information was coded into five binary variables: Accounting, Marketing, Finance, Human Resource Management and Commerce; a value of 1 was assigned if the student indicated that area as their major area of study, and a value of 0 otherwise. This last category included participants pursuing a general Commerce degree as well as those who had not yet decided on a major, unless they indicated a strong preference to one of the other areas of study. Students choose majors presumably by considering what areas they excel at and/or enjoy. As it is possible that certain majors, such as marketing, require more creativity than others, such as accounting, area of study was included as a control variable to examine if there are any differences in associative creativity amongst participants who have self-selected themselves into the above-mentioned commerce-related majors.

Procedure

An earlier pilot study showed significant problems with administering a survey of this size online (i.e., remotely). Therefore, participants were asked to book a time to come into an on-campus computer lab to complete the three elements of the survey (the VIA, the WPT and the main survey created by the researcher).

Participants were provided with a letter of information and consent outlining the purpose of the study and the measures to be used. Once consent was received, participants were first instructed to complete the VIA-IS. A research assistant monitored the time it took participants to complete the survey to ensure they were answering the items honestly. No participants were asked to re-take any component of the survey. Once the research assistant signed off on their VIA results, participants were asked to take the WPT. This was an eight minute timed test. Participants were given scrap paper, and headphones to cancel out any noise in the room.

The final component of the study was the researcher-created survey. Participants completed the first administration of the RAT and were then told they had to watch a short video to clear their minds before taking the RAT again. Participants were asked to choose a video from a list of 4 videos, labelled Video 1-4, representing the two videos indicated by the pilot study to be most effective in eliciting positive and negative emotions. Participants were given a choice of four videos to make them feel that they had full control over their video choice, and therefore not suspect the emotional manipulation. It was expected that participants would assign themselves fairly equally across the two emotional manipulation conditions although this was not the case. Of 205 participants, only 55 or 26.8% chose the negative video despite the generic labels. A frequency analysis shows that participants tended to simply chose the first video (45.37%), which happened to be the positive one. Participants did not have the option of returning and choosing a different video, therefore participants were not able to remove themselves from the negative condition by searching for a more positive video to watch.

Once participants had watched their chosen video, they were asked to complete the nine item emotion reaction measure, and then the second RAT test was administered. Lastly, participants completed the ERQ, PANAS, SWLS and demographic information. The entire study took approximately 90 minutes.

CHAPTER IV

RESULTS

Tables 1 and 2 present means, standard deviations, scale reliabilities and frequencies for all study variables, and correlations are shown in Table 3. A summary of the hypothesis tests and results is provided in Table 22.

In general, Cronbach's α was well above the recommended minimum threshold of 0.7 (Gliem & Gliem, 2003; Pallant, 2004) except for Temperance (α=0.60) and Negative Emotions (α=0.51). It is unclear why the alpha for Temperance was lower, especially given that this is an established scale used in previous research; nevertheless an alpha of 0.60 is considered "acceptable" (George & Mallery, 2003 as cited in Gliem & Gliem, 2003). Additionally, an alpha of 0.6 is considered satisfactory in preliminary research (research not used to make distinctions among groups or to select individuals) according to Peterson (1994).

Low reliability coefficients as those mentioned above suggest that all items within the same scale do not measure the same construct. With regards to the negative emotion scale, it is possible that the three discrete emotions measured (confusion, sadness and

disgust) are not as similar as originally assumed. Confusion, although considered

negative in this instance, may simply represent a misunderstanding of information, but

this may not lead to any specific emotional reaction. Accordingly, the scale reliability

increases to 0.63 when this confusion item is removed. The remaining items, sadness and

disgust are obviously correlated, but again may represent some differences in the

construct measured. Negative emotions generally are considered to be more numerous

and dispersed than positive emotions (Fredrickson, 1998), which may partly explain the

lower reliability of this scale: the positive emotion items may overlap more with each

other than the negative emotion items do. Cooper and Richardson (1986) caution of the

danger of unfair comparisons, in this case the possibility that the positive emotion scale

better captures the construct of a positive mood than the negative emotion scale captures

negative mood. The analysis was run using both scales, as well as the individual discrete

negative emotions.

The low alpha for the temperance scale is more puzzling. This scale has been

used in previous research (see for example http://www.viacharacter.org/ for a listing of

studies that have used the VIA-IS). However, as the following results will show, the four

strengths making up the virtue of temperance seem to operate quite differently. One of

the strength profiles, the overcoming negativity strength profile (ONSP), contains two of

the four strengths making up the virtue of temperance, and in several of the analyses

below, temperance and the ONSP show different relationships with the same criterion

variable. It is possible that there are two separate, but related, constructs subsumed under

the virtue of temperance and this is leading to a lower than expected scale reliability. An

exploratory factor analysis extracted one factor. However, when the analysis was

restricted to 2 factors, the strengths within the virtue of temperance paired up as expected:

Factor 1 consisted of forgiveness and modesty, neither of which is in the ONSP; Factor 2

consisted of prudence and self-regulation, both of which are included in the ONSP.

Manipulation Check for Emotion Eliciting Videos. An independent samples t-test

(Tables 4 and 5) comparing positive and negative emotions across the emotion eliciting

conditions showed that mean ratings of positive emotion differed between conditions

(positive condition: mean = 14.62, s.d. = 6.42; negative condition: mean = 6.02 , s.d. =

2.37; t = 9.68 , p < 0.01), as did mean ratings of negative emotion (positive condition:

mean = 6.21, s.d. = 5.61; negative condition: mean = 10.75 , s.d. = 3.66; t = -5.28, p <

0.01).   The correlations between reported emotions and emotion condition provided

further support for the effectiveness of the emotion manipulation. That is, participants

who watched the positive video reported significantly higher positive emotions (r = .56, p

< .01), while the participants who watched the negative video reported significantly

higher negative emotions (r = .35, p < 0.01; Table 3).

Distributional Characteristics of the Strength Profile Composite Scores. Figures 1-3

show the distribution of the three strength profiles. CSP and ONSP appear to conform

fairly closely to the normal distribution. PESP appears to have several data points outside

of the normal distribution, however its skewness statistic of -0.36 (Table 6) is within the

acceptable skewness index of +/- 1 (Meyers, Gamst & Guarino, 2006). Similarly, PESP

shows the highest kurtosis statistic of 0.73 but still within the acceptable limits.

Therefore, all three profiles substantiate the assumption of normality.

Testing of Hypotheses Involving Creativity

Hypothesis 1: Creativity and CSP. Hypothesis 1 held that a composite score of the five strengths comprising the creativity strength profile (CSP: creativity, curiosity, open-mindedness, love of learning and persistence) would positively predict performance on a task requiring associative creativity, the Remote Associates Test (RAT). H1 was tested by regressing the RAT1 scores on CSP, while controlling for cognitive ability (i.e., WPT scores), language ability (English as a First Language; EFL), age, Marketing and Human Resource Management as area of study, emotional suppression and negative affect (variables that had significant zero-order correlations with the dependent measure, RAT1 scores; See Table 3). Specifically, the control variables were entered into the regression as a block, followed by the CSP composite scores. Only RAT1 scores were used to test H1 because RAT2 was administered after the emotional manipulation, which was likely to have influenced RAT2 performance. Indeed, RAT2 scores were higher than RAT1 scores (as reported in detail later), probably due to a practice effect. Accordingly, RAT1 scores were assumed to be a purer (uncontaminated) measure of creativity.

As shown in Table 7 (column 1), H1 was not supported, because CSP did not predict RAT1. However, both WPT and English as a first language were significant predictors (WPT: $\beta = 0.18$, $p < 0.05$, EFL: $\beta = 0.36$, $p < 0.01$, N=199). These results suggest that the RAT measures not only creativity, but also general mental ability, specifically verbal ability.

An additional analysis was performed wherein RAT1 scores of zero were removed. Responses to the RAT1 items were given a zero if they were incorrect or not completed. Zero scores on all fifteen items were considered outliers as they suggest that the individual made no effort to derive a correct answer or was unable to answer even one item correctly. The RAT1 scores had a mean of 2.01 and a standard deviation of 1.72, so a score of 0.29 would indicate a score one standard deviation below the mean. However, as RAT scores had to be whole numbers (there were no partial scores given on the fifteen items), scores of zero fall outside of this range and therefore indicate an outlier. Removing these outliers eliminates those participants who either had great difficulty with the task, or had very low motivation. The remaining data should be more representative of the general population, reflecting among participants an ability and willingness to engage in the associative creativity task.

Removing the outliers yielded a final sample size of 144 and did not result in statistical support for H1. However, English as a first language remained as a significant predictor ($\beta = 0.28$, $p < 0.01$; Table 7, column 3) but not WPT. It appears that general mental ability predicts performance on the RAT1 when extremely low RAT1 values are included in the regression but not when they have been excluded. This result implies that there is a difference in general cognitive ability between those participants who were able and motivated to perform the task and those who were not. Moreover, English as first language clearly and positively predicted RAT1 performance.

Hypothesis 4: Creativity and PESP. Hypothesis 4 held that a composite score of the five strengths comprising the Positive Emotionality Strength Profile (PESP: zest, appreciation

of beauty, gratitude, hope and humour) would positively predict RAT1 performance.

Hypothesis 4 was not supported. For reasons stated above, only RAT1 (not RAT2) scores

were used in this analysis. Once again, EFL and WPT predicted RAT1 scores (EFL: β =

0.33, $p < 0.01$; WPT: $\beta = 0.15$, $p < 0.05$; Table 7, column 2). The analysis with outliers

removed (Table 7, column 4) showed results similar to those obtained with CSP, in that

EFL remained a significant predictor (EFL: $\beta = 0.27$, $p < 0.01$), while WPT did not.

Hypothesis 5: Creativity and Positive Emotions. Hypothesis 5 predicted that participants

in the positive emotion condition would show higher creativity scores on the RAT2

assessment than those in the negative emotion condition. H5 was tested using ANOVA

to compare the means of the pre- and post-manipulation creativity scores (RAT1 and

RAT2, respectively; a within participants analysis) and across the two emotional

conditions (positive and negative; a between participants analysis). As Figure 4

illustrates, participants in the two emotional conditions showed essentially identical mean

RAT2 scores, even though the participants in the positive emotion condition scored lower

on RAT1 then did participants in the negative emotion condition (i.e., prior to the

emotion manipulation). Given that participants chose the emotional condition by clicking

a generic label such as "Video 1", "Video 2", "Video 3" or "Video 4", these lower initial

RAT1 scores appear coincidental. As Tables 8 and 9 show, the within-participants

component of the ANOVA revealed a significant difference between RAT1 and RAT2

scores (RAT 1 mean: 2.01, s.d. = 1.72; RAT2 mean: 2.78, s.d. = 2.30; F [1, 203] = 17.16,

$p < 0.01$) not considering (i.e., holding constant) the emotion condition manipulation.

Therefore, there was an improvement in mean RAT scores (i.e., from RAT1 to RAT2)

when the means are calculated from participants of both the negative and positive

emotion condition combined. The interaction term of Table 8 (RAT x emotion condition)

was not statistically significant (F [1, 203] = 0.46, p = 0.50), suggesting that the higher

RAT2 scores over RAT1 scores were unaffected by the emotion manipulation.

Moreover, as shown in Table 3, there were no significant correlations between RAT2

scores and emotion condition assignment, or between RAT2 scores and the experience of

positive or negative emotions. It appears that the higher RAT2 scores relative to RAT1

scores reflect a practice effect. Although Figure 1 appears to show more positive change

in RAT performance in the positive rather than negative condition, this difference is not

statistically significant (Table 9).

The above results were similar to those found when conducting the analyses on a

data set that excluded cases wherein RAT1 or RAT2 scores equalled zero. While Figure 5

would suggest that participants in the positive emotion condition outperformed those in

the negative emotion condition on RAT2, the difference in means was statistically non

significant (3.53 versus 3.37, respectively, $p > 0.05$; Table 11).   Table 10 also shows,

with respect to the between participant analysis, that there was no statistically significant

difference in RAT scores between participants assigned to the positive or negative

emotion conditions (i.e., no mean difference between conditions on RAT scores

calculated across RAT1 and RAT2). Additionally, Table 10 shows a significant within-

participant effect (RAT 1: mean = 2.62, s.d. = 1.56; RAT2: mean = 3.48, s.d. = 2.06; F

[1, 145] = 16.62, $p < 0.01$), with improvement in RAT scores from RAT administration 1

to RAT administration 2 (for the combined pool of participants in both the negative and

positive emotion conditions). Finally, the interaction term of the within-participant

analysis of Table 10 (RAT score x emotion condition) was statistically non-significant (F

[1, 145] = 0.90, $p. > 0.05$), which suggests that the improvement in RAT scores from

administration 1 to 2 was unaffected by the emotion condition manipulation.

Testing Hypotheses Involving Emotion Regulation

Hypothesis 2: Negative Emotions and ONSP. Hypothesis 2 held that high composite

scores on the Overcoming Negativity Strength Profile (ONSP: zeal, prudence, self-

regulation, gratitude, hope and humour) would predict less severe negative emotions in

response to the negative emotion manipulation. To test H2, "negative emotions" in the

negative condition was regressed on ONSP while controlling for cognitive reappraisal

and gender. As table 7 (column 5) shows, ONSP predicted negative emotions in the

negative condition ($\beta = -0.27$, $p = 0.05$). The negative beta coefficient confirms H2 in

that ONSP was associated with lower negative emotions in the negative conditions.

However, given the relatively small sample size (N = 55) and the low reliability of the

negative emotion scale ($\alpha = 0.51$; Table 1), these results may need to be recreated on a

larger sample in order to determine their stability and robustness.

Interestingly, hypothesis 2 was only supported when all three negative emotion

items were included. When the analysis was run using a 2-item negative emotion scale

(with the "confusion "item removed), or using the individual discrete emotions,

hypothesis 2 was unsupported (Table 12). It appears that even with lower scale

reliability, and possibly an inferior measure of the construct, the results are sufficiently

robust to overcome this deficit, or that the effects of the ONSP are only significant when considering overall affective state, rather than discrete emotions.

Hypothesis 3: Positive Emotions and PESP. Hypothesis 3 held that PESP composite scores would positively predict emotions resulting from the positive emotion manipulation. The regression to test H3 included age, English as a first language, WPT and cognitive reappraisal as control variables, with PESP as the main predictor and positive emotions in the positive condition as the criterion variable.

Contrary to H3, PESP did not predict positive emotions associated with the positive emotion manipulation. The only significant predictor was cognitive reappraisal ($\beta = 0.28$, $p < 0.01$; Table 7; column 6), underscoring the role of cognitive reappraisal in up-regulating positive emotions. Furthermore, it appears that cognitive reappraisal mediates the relationship between positive emotions and PESP. As Table 13 shows, all three conditions for mediation are met (Baron & Kenny, 1986): when cognitive reappraisal is left out of the regression, PESP shows a significant relationship with positive emotions in the positive condition ($\beta = 0.18$, $p < 0.05$; Step 1); PESP also significantly predicts cognitive reappraisal ($\beta = 0.30$, $p < 0.01$; Step 2). However, when both PESP and cognitive reappraisal are entered into the regression, PESP is no longer significant ($\beta = 0.08$, $p > 0.05$), with cognitive reappraisal as the sole predictor of positive emotions in the negative condition ($\beta = 0.28$, $p < 0.01$; Step 3). As Table 14 shows, this mediating relationship did not hold for ONSP as Step 1 shows no significant relationship between ONSP and positive emotions experienced in the positive condition ($\beta = 0.13$, $p > 0.05$).

Hypotheses 6a-d: Emotion Regulation Strategy, PESP and ONSP.   Hypotheses

6a-d predicted that individuals with high composite scores on ONSP and PESP will be

more likely to engage in cognitive reappraisal than emotional suppression as an emotion

regulation strategy. This was tested by running a series of regressions with cognitive

reappraisal or emotional suppression as the criterion variable and ONSP or PESP as the

main predictor (4 regressions in total; see Table 7). For the regressions where cognitive

reappraisal was the criterion variable, emotional suppression and positive affect were

included as control variables. Control variables for emotional suppression as the criterion

variable included gender, English as a first language, negative affect, cognitive

reappraisal and finance and human resource management as major areas of study. Recall

that control variables were selected for each regression based on significant zero-order

correlations with the criterion variable, as reported in Table 3.

As Table 7 (columns 8 & 9) shows, individual scores on ONSP and PESP

predicted the use of cognitive reappraisal (ONSP $\beta = 0.30$, $p < 0.01$; PESP $\beta = 0.24$, $p <$

0.01), but neither profile predicted the use of emotional suppression (Table 7, columns 10

& 11). These results support H6a-d: both profiles predicted the use of cognitive

reappraisal, while neither predicted the use of emotional suppression.

Hypothesis 7: Positive emotions and ONSP vs. PESP. Hypothesis 7 predicted that while

priming positive emotions, individuals with the ONSP profile will show less of a positive

emotional reaction than will individuals with a PESP profile. As Table 7 (columns 6 & 7)

shows, H7 was not supported. Specifically, neither profile predicted positive emotions in

either the positive (Table 7, columns 6 & 7) or negative conditions (Table 15, columns 1 & 2).

Hypothesis 8: Positive Affect and PESP. Hypothesis 8 held that PESP will positively predict positive affect. This hypothesis was tested by regressing PA onto PESP, while controlling for gender, negative affect, cognitive reappraisal and satisfaction with life (all of which correlated significantly with PESP; Table 3). As Table 7 (column 12) shows, PESP predicted PA ($\beta = 0.36$, $p < 0.01$).

Hypothesis 9: Negative Affect and ONSP. Hypothesis 9 held that ONSP negatively predicts negative affect. This was tested by regressing NA on ONSP scores, while controlling for English as a first language, WPT, positive affect, emotional suppression and satisfaction with life. In support of H9, ONSP negatively predicted NA ($\beta = -0.34$, $p < 0.01$; Table 7, column 13).

Supplemental Analysis

In addition to the hypothesized relationships reported above, other relationships were explored among the strength profiles and the outcome measures, including negative emotions, positive affect, negative affect and satisfaction with life. Positive affect is associated with success and adaptive behaviours that can lead to further successes (Lyubomirsky et al., 2005) while negative affect is inversely related to happiness (Diener, Sandvik & Pavot, 2009) and predicts abandoning goal pursuits (Aarts, Custers & Holland, 2007). Therefore, it is important to investigate in more detail how character strength profiles relate to positive and negative affect. Moreover, positive associations between

individual character strengths (per Peterson & Seligman's, 2004 classification) and life

satisfaction have been reported elsewhere (Park et al., 2004; Peterson et al., 2007), so the

following analyses were guided by these earlier results.

ONSP versus PESP as Predictors of Negative Emotions. Individuals with the ONSP

(zeal, prudence, self-regulation, gratitude, hope and humour) experienced less severe

negative emotions in response to the negative emotion manipulation (H2).   However,

Table 15 (column 1) shows that PESP individuals do not experience any lesser negative

emotion in the condition in which negative emotions were primed (i.e., PESP does not

seem to act as a "buffer" from negative emotion; $\beta = -0.17$, $p > 0.05$). The strengths

captured in the ONSP and PESP profiles are quite similar: ONSP includes all PESP

character strengths (excepting appreciation of beauty) plus prudence and self-regulation.

The above contrasting results suggest that prudence and self-regulation play an important

role in down-regulating negative emotions. Similarly, ONSP and PESP did not predict

negative emotions in the positive condition (Table 15; column 4 & 5).

ONSP versus PESP and Emotions. As table 15 shows, neither ONSP or PESP predicted

negative emotions or positive emotions in general (i.e., in the full sample regardless of

emotional condition; Table 15 columns 6-9)

PESP and ONSP as Predictors of Positive Affect and Negative Affect. As shown in

Table 16, ONSP positively predicts PA ($\beta = 0.41$, $p < 0.01$; column 1) and PESP

negatively predicts NA ($\beta = -0.26$, $p < 0.01$; column 2). These results underscore further

the association between virtues and leading a productive, happy life, although causality is

still unclear. It's possible that individuals high on these character strengths experience more instances of positive affect and fewer instances of negative affect; conversely, it is possible that these increased positive and decreased negative moods allow for the development of character strengths.

Strength Profiles as Predictors of Satisfaction with Life. Although not formally hypothesized, relationships between the strength profiles and satisfaction with life (SWLS) were examined, while controlling for English as a first language, negative affect and positive affect. Both the emotion regulatory profiles positively predicted satisfaction with life (PESP $\beta = 0.21$, $p < 0.01$; Table 16, column 4; ONSP $\beta = 0.30$, $p < 0.01$; column 5). There was no significant relationship between CSP and SWLS.

The Six Virtues as Predictors

The strength profiles utilized to this point in the analysis were derived from Peterson and Seligman's (2004) classification of 24 strengths. These strengths were originally classified into six virtues: Wisdom and Knowledge, Courage, Humanity, Justice, Temperance and Transcendence. The following analysis re-examines the hypotheses supported in the current study through using the original six virtues as predictors rather than the derived character profiles. These results were aimed at ascertaining whether the strength profiles or virtues best predict the criterion variables of interest: positive affect, negative affect, emotion regulation strategy and satisfaction with life. As above, all analyses were performed using hierarchical regression.

Including all six virtues into the same regression raises possible issues of multi-collinearity due to their relatively high correlations ($r = 0.44 - 0.66$). Conceptually, by having several variables that are this highly correlated, the unique effect of any one variable may be masked. Regression evaluates the effect of one variable while accounting for all others entered into the equation. When the analysis considers any one predictor among highly correlated predictors, much of its explanatory power may already be accounted for by the other variables in the equation. This can lead to an underestimation of that predictor's influence on the criterion variable (Meyers et al., 2006).

In some cases, the intercorrelation between predictors can be so high as to raise concerns with multicollinearity, which makes it difficult to obtain reliable estimates. The Variance Inflation Factor (VIF) gives an idea of how much collinearity is present. Rules of thumb for detecting collinearity differ greatly. O'Brien (2007) cites VIF values of 4 or 10 as being indicative of collinearity issues. Allison (1999) states that VIF values as low as 2.5 may be cause for concern. VIF values are listed in parentheses beneath each beta coefficient in Table 21. As this table shows, many of the VIF values approach Allison's (1999) more conservative limit of 2.5, but none breach O'Brien's (2007) higher VIF values of 4-10, so multi-collinearity is not a significant concern.

However, there is still substantial correlation between predictors, which may cloud the unique effects of each variable in the regression. Given that virtues are assumed to be indicative of the greater construct of "character", it's not surprising that these variables would correlate significantly. The purpose of running these analyses

using the original six virtues is to provide a preliminary idea of how well the proposed

profiles predict the criterion variables as compared to the original six virtues.

Accordingly, two sets of regressions were run. In the first set, each virtue was

added in step 2 (following controls) of a separate hierarchical regression, and the

statistical significance of incremental variance explained was assessed. This allowed for

the evaluation of each virtue's independent relationship with the criterion variable. In the

second set, all six virtues were entered together after having entered the control variables.

Hypothesis 6: Virtues as Predictors of Emotion Regulation. When considering

cognitive reappraisal as the criterion variable, only courage did not predict cognitive

reappraisal when each virtue was entered into a separate regression (Wisdom &

Knowledge: $\beta = 0.24$, $p < 0.01$; Humanity: $\beta = 0.29$, $p < 0.01$; Justice: $\beta = 0.29$, $p < 0.01$;

Temperance: $\beta = 0.28$, $p < 0.01$; Transcendence: $\beta = 0.24$, $p < 0.01$; Table 17). When

entered collectively, none of the virtues were significant predictors (Table 21; column 1).

The VIF values for all six virtues were in the range of 2.1-2.7, which is centered on 2.5,

(Allison's, 1999 conservative limit). It appears that each virtue, singly, does predict

cognitive reappraisal, however when entered collectively, the relatively high correlation

among the variables "hides" their unique individual effects. That is, although all the

virtues show zero-order correlations with cognitive reappraisal, when entered

collectively, none exhibits unique predictive power.

The difference between these analyses (i.e., entering predictors simultaneously

versus separately) is not quite as pronounced when we consider emotional suppression as

the criterion variable. When virtues are entered individually, humanity ($\beta = -0.18$, $p <$

0.05) and temperance ($\beta = 0.19$, $p < 0.01$; Table 17) emerged as significant predictors, although the negative association between humanity and emotional suppression is somewhat counterintuitive. When entered collectively (VIF 2.0-2.7; Table 21; column 2), the results were the same, with only humanity ($\beta = -0.45$, $p < 0.01$) and temperance ($\beta = 0.26$, $p < 0.01$) remaining significant.

The comparison between the results of these analysis using virtues and strength profiles is inconclusive. In support of H6a-d, both strength profiles (ONSP and PESP) positively predicted cognitive reappraisal, and neither predicted emotional suppression. Given that five of the six virtues significantly related to cognitive reappraisal it appears that the virtues and profiles are similarly predictive of cognitive reappraisal. Additionally, two of the six virtues also predicted emotional suppression (albeit Humanity did so negatively).

Hypothesis 8: Virtues as Predictor of Positive Affect. When the virtues were considered individually, temperance was the only virtue not predictive of positive affect ($\beta = 0.10$, $p > 0.05$; Table 18, column 5). These results were similar to the profiles, both of which positively predicted positive affect. However, when all six virtues were entered simultaneously with positive affect as the criterion variable (VIF 2.0-2.8; Table 21, column 3), only courage showed a significant unique effect ($\beta = 0.47$, $p < 0.01$). Once again, it appears that the unique effect of the virtues is being masked by their higher inter-correlations.

Hypothesis 9: Virtues as Predictors of Negative Affect. Analyzed separately, all of the virtues negatively predicted negative affect (Wisdom and Knowledge: $\beta = -0.30$, $p < 0.01$; Courage: $\beta = -0.40$, $p < 0.01$; Humanity: $\beta = -0.15$, $p < 0.05$; Justice: $\beta = -0.20$, $p < 0.01$; Temperance: $\beta = -0.18$, $p < 0.01$; Transcendence: $\beta = -0.16$, $p < 0.01$; Table 19). These results were similar to the profiles, both of which negatively predicted negative affect. When entered together (VIF 2.1-3.2; Table 21, column 4), wisdom and knowledge ($\beta = -0.19$, $p < 0.05$), courage ($\beta = -0.38$, $p < 0.01$), and humanity ($\beta = 0.21$, $p < 0.05$), predicted NA. The VIF values for four of the virtues were over Allison's (1999) acceptable 2.5 threshold, indicating that this analysis showed fairly high multi-collinearity.

Virtues as Predictors of Satisfaction with Life. The regression equations treating satisfaction with life as the criterion variable with the virtues entered individually, rather than as a set, showed that courage ($\beta = 0.21$, $p < 0.05$), humanity ($\beta = 0.34$, $p < 0.01$), temperance ($\beta = 0.19$, $p < 0.01$) and transcendence ($\beta = 0.18$, $p < 0.05$) positively predicted satisfaction with life (Table 20). When all six virtues as predictors were entered simultaneously (VIF 2.0-2.7; Table 21; column 5) humanity ($\beta = 0.44$, $p < 0.01$) and temperance ($\beta = 0.18$, $p < 0.05$) emerged as positive predictors and justice as a negative predictor ($\beta = -0.26$, $p < 0.01$). It appears that only two virtues (Humanity and Temperance) were as strong predictors of satisfaction with life as the two strength profiles.

CHAPTER V

DISCUSSION, CONCLUSION AND FUTURE RESEARCH DIRECTIONS

General Overview

Virtues are defined as those characteristics of an individual that allow him/her to pursue eudemonia, or "the good life". This study provided a glance into the processes linking virtuousness and eudemonia, namely emotion regulation, positive and negative affect and satisfaction with life. The data suggest that virtues facilitate the living of a happy, productive life, given their associations with core variables comprising well-being: enhanced positive affect, decreased negative affect and satisfaction with life. The present study also showed that the character strengths in Peterson and Seligman's (2004) model could be re-arranged into profiles conceptually and empirically associated with associative creativity, emotional regulation, positive and negative affect and satisfaction with life. While the strength profiles predicted emotion regulation and affect, they were not predictive of associative creativity. Accordingly, the discussion that follows focuses on the two emotion regulation profiles, overcoming negativity strength profile (ONSP) and positive emotionality strength profile (PESP).

ONSP and PESP each predicted the use of cognitive reappraisal but not emotional suppression. Moreover, they positively predicted positive affect and satisfaction with life and negatively predicted negative affect. Additionally, the ONSP profile appears to buffer against negative emotions when participants are exposed to negative stimuli. Comparisons of the original six virtues and the hypothesized profiles showed that they

operated similarly, but not identically. Overall, the results of this study support the potential utility of virtues theory in suggesting interventions for increasing individual subjective and emotional well-being. The results also show that the use of emotion regulation may be one important process through which character strengths and virtues affect positive and negative affect and satisfaction with life. This study is an important first step in understanding how character strengths and virtues contribute to individual flourishing and happiness.

The practical significance of these results lies in the possibilities for developing profiles predictive of individual or professional outcomes that could then selected for, or developed. Additionally, the results indicate that emotion regulation may be key to understanding the relationship between character strengths and hedonic and eudemonic well-being.

Character Strengths and Negative Emotions

In the condition where participants were exposed to negative stimuli, scores on the strengths making up the ONSP predicted lower negative emotions, showing that the strengths in this profile seemingly temper the effect of negative experiences. Interestingly, this result held only when all three negative emotions: sadness, disgust and confusion, were included in the analysis; when discrete emotions were considered, this profile had no effect. The study of discrete emotions is appropriate when interest is with identifying specific antecedents and behavioural consequences (Izard, 2007). In the present study, however, focus was on an individual's immediate response to stimuli

designed to elicit a negative affective state in general. It appears that the ONSP profile is activated when overall mood, rather than discrete emotions, is the focus. Interestingly, the parallel result did not hold for PESP in the positive emotion condition.

Neither profile affected positive emotions.   Fredrickson (1998) argues that negative affective states are unpleasant and problematic and therefore must be overcome, while positive affective states do not command such attention. Therefore, in the negative emotion condition participants' character strengths may have been activated to temper the experienced negative state while the positive emotion condition did not elicit the need to regulate emotions. Positive emotional states allow an individual to build further resources (Fredrickson, 1998, 2001), and possibly also the development of character strengths. Therefore, positive emotions may be an antecedent to character strengths, which in turn serve to overcome negative emotions, allowing further building of social, psychological and emotional resources.

Alternatively, the explanation for this result may lie in the idea of positivity offsets and negativity biases. People tend to experience greater positive than negative reactions to mild stimuli, but greater negative responses to strong negative stimuli (relative to the positive responses to strong positive stimuli; Norris, Larsen, Crawford & Cacioppo, 2011). It is possible that the negative emotions experienced in the negative condition were strong enough to activate the emotion-regulation strengths in the ONSP; however the mild positive emotions experienced as a result of the positive condition were not strong enough, or did not necessitate, the activation of the up-regulating strengths in the PESP. Finally, the ONSP contains two traits from the virtue of temperance (self-

regulation and prudence), which are expected to temper against excess (Peterson & Seligman, 2004). Individuals high on the ONSP may therefore temper their emotions on both ends of the scale, experiencing lower negative emotions but also not allowing excessive positive emotions to take hold, either

Character Strengths and Emotion Regulation Strategy

Much research has focused on the uses and effects of various emotion regulation strategies (see for example Cote, 2005; Grandey, 2003; Gross & John, 2003), but few have considered individual level antecedents of emotion regulation strategy. The current study is the first to consider the relationship between character strengths, virtues and emotion regulation. Given the acknowledged role of emotions in the workplace (Barsade & Gibson, 2007; Brief & Weiss, 2002) and specifically the necessity and benefit of positive moods (see Lyubomirsky et al., 2005 for a thorough review of the benefits of frequent positive affect; Seo, Barrett & Bartunek, 2004; Tsai, Chen & Liu, 2007), these results offer insights into how individual character strengths are related to emotion regulation strategy.

Both ONSP and PESP predicted the use of cognitive reappraisal, but not emotional suppression. It is widely accepted that cognitive reappraisal is a more adaptive emotion regulation strategy than emotional suppression (for example, Aldao, Nolen-Hoeksema & Schweizer, 2010; Chambers, Gullone & Allen, 2009; Gross, 2002; Gross & John, 2003; Richards, 2004). Emotional suppression uses more cognitive resources, leads to memory impairment when recalling the content of conversations, and causes increases

in indicators of physiological stress (Richards, 2004). Cognitive reappraisal, by altering

the actual emotions experienced has been shown to result in larger hedonic shifts than

emotion suppression (Augustine & Hemenover, 2009). Dennis (2007) found that

reappraisal reduced the risk of depressed mood while suppression increased the risk of

anxiety in a non-clinical sample. Finally, emotional suppression has negative effects on

those interacting with the individual engaged in emotional suppression (Gross, 2002;

Richards, 2004) and arouses dissonance associated with experiencing one emotion while

displaying another (Grandey, 2003; Gross & John, 2003), which has been associated with

work strain (Cheung & Tang, 2010), emotional burnout (Bakker & Heuven, 2006) and

emotional exhaustion (Grandey, 2003; Lewig, & Dollard, 2003). Character strengths, as

expected, were associated with habitual use of cognitive reappraisal (the more beneficial

of emotion regulation strategies), a promising finding given that Aldao et al., (2010)

concluded that the presence of a maladaptive emotion regulation strategy may be more

harmful than the absence of an adaptive one. Job satisfaction has been associated with

deep acting rather than surface acting (Grandey, 2003). It is possible that individuals who

experience more states of positive affect (which those high on character strengths do, as

per the results of this study), are more likely to naturally engage in deep acting, or a

reappraisal of the situation to arrive at more positive interpretations of the facts. We can

see how such habitual use of cognitive reappraisal, by avoiding the negative pitfalls of

emotional suppression, will lead to further positive affect, health and flourishing.

    Additionally, cognitive reappraisal mediated the relationship between PESP and

positive emotions. Several of the strengths within the PESP, such as gratitude,

appreciation of beauty, hope and humour relate to how one views the world around them: gratitude and appreciation of beauty, or awe, entail one identifying things to be grateful for, or that they find beautiful, respectively; hope refers to one's positive view of the future; humour is partly defined as "a composed and cheerful view on adversity that allows one to see its light side and thereby sustain a good mood" (Peterson & Seligman, 2004; p. 584). Although the PESP itself does not lead to higher positive emotions in happy or positive situations, the strengths within the profile cause an individual to interpret the situation around him/her in a more positive light, thereby upregulating positive emotions.

When considering the original virtues from Peterson and Seligman's (2004) classification, it appears that the virtue of courage has no effect on emotion regulation strategy in general, as it was not a significant predictor of either cognitive reappraisal or emotional suppression. The virtue of courage contains the strength of integrity, also defined as authenticity or honesty (Peterson & Seligman, 2004), which may be related to the feelings of inauthenticity associated with emotional suppression. The additional courage strengths of bravery and persistence may point to the individual holding strong in their initial emotional reactions, rather than believing them to be wrong and reconsidering them. Therefore, the courageous may have a tendency to believe that their instinctual emotional reaction is correct or warranted, and possess the personal fortitude to express them as such, regardless of the consequences.

On the other hand, temperance served to predict both emotion regulation strategies. This is a reasonable result as temperance contains those strengths that protect

from excess behaviours and prevent future regret or disappointment (Peterson & Seligman, 2004). Individuals high on the strengths of temperance may be able to identify the benefit of regulating their emotions regardless of which strategy they choose to use, or at the least see the benefit of emotional suppression when cognitive reappraisal is not possible/appropriate, irrespective of the long term negative effects of suppression..

Two of the strengths of temperance, self-regulation and prudence are also present in the ONSP, which predicted the use of cognitive reappraisal, but not emotional suppression. Perhaps the strengths of prudence and self-regulation are more closely aligned with a more controlled and rational appraisal of the situation, rather than simply experiencing the emotions that arise and suppressing them. The remaining strengths of temperance, forgiveness and modesty play a role in tempering the emotions one displays, possibly by recognizing they may be harmful or inappropriate. Further research is needed to parcel out the effects of these individual strengths in real world contexts requiring the use of emotion regulation. Although character is a multi-dimensional construct, preliminary research should build theoretical models around these two clusters of character strengths (prudence and self-control vs. forgiveness and modesty) to tease out how each is expected to differentially lead to either of these emotion regulation strategies. The major contribution of such an approach would be to more narrowly identify the strengths that lead to a more beneficial emotion regulation strategy, cognitive reappraisal, further elucidating the path towards individual well-being and living a good life.

An unexpected result is that humanity negatively predicted the use of emotional suppression, so individuals high on this virtue would be more likely to display so-called

inappropriate emotions (i.e. inappropriate to the given situation, not necessarily negative); rather than mask those feelings and conform to relevant display rules. Humanity, in drawing upon character strengths such as love, kindness and social intelligence, helps cultivate interpersonal relationships (Peterson & Seligman, 2004). Perhaps these strengths cause an individual to choose to not suppress their emotions in the short term. By being aware of some of the social consequences of emotional suppression, such as stress for the individual interacting with the emotional suppressor (Gross, 2002), lower and/or slower responsiveness during conversations (Richards, 2004), and perceptions of inauthenticity (Gross & John, 2003), individuals high on the virtue of humanity may realize that the momentary discomfort of expressing a negative or inappropriate emotion will be less damaging than the possible unseen, long-term effects on their peers. The social interaction model of emotion regulation proposes that the respondent's reaction affects the emotion regulator's experiences of work strain (Cote, 2005). Given that even untrained observers can distinguish between authentic and inauthentic displays of emotion, which in turn affects the quality of the interaction (Grandey, Fisk, Mattila, Jansen & Sideman, 2005), the virtue of Humanity, with its focus on interpersonal relationship may cause individuals to be aware of the effects of emotional suppression will have on their peers, their peers' opinion of them and themselves. The virtue of Humanity includes the strength of social intelligence, defined as a confluence of emotional, personal and social intelligence (Peterson & Seligman, 2004). Individuals high on this strength would be particularly adept at understanding emotions, social interactions and responding appropriately, thereby resulting in a higher self-

efficacy in their ability to display inappropriate or unpleasant emotions with greater sensitivity and/or fewer repercussions.

Emotional suppression relies on controlling one's response, rather than changing the actual emotions experienced (Dennis, 2007).   However, in some contexts, the expression of emotions is considered healthy (King & Emmons, 1990), as it can lead to better acceptance and understanding of distress, as well as improve clarity and interpersonal relationships (Kennedy-Moore & Watson, 2001). Moreover, studies have shown that the wilful suppression of negative emotions, in particular, can lead to a variety of detrimental health outcomes, such as depression, anxiety, substance abuse (Aldao et al., 2010), cardiovascular activities, impaired recall of social information, and increased rumination on negative mood and self image (Chambers et al., 2009). Individuals high on humanity-related strengths may be more in tune to the negative effects of emotional suppression, possibly through heightened observation and understanding of other's emotion regulation attempts. When unable to reappraise the situation, the individual may recognize that expressing their emotions, or engaging in other forms of emotion regulation besides emotional suppression such as distraction or venting, is a healthier choice than suppressing them, both for themselves and those around them. Another explanation may lie in the inauthenticity inherent in emotional suppression. Cognitive reappraisal entails altering one's attention (selecting certain information to pay attention to) or knowledge related to an emotion-eliciting event (for example, attributions of importance or issues of controllability; Koole, 2009), which occurs prior to the actual emotion being experienced. Emotional suppression is used when the actual experience of

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the emotion can't be helped, but the individual desires to physically display a different emotion. Virtues in general point towards the authenticity of the individual, an agreement between thoughts, feelings and actions (Arjoon, 2008; Colle & Werhane, 2007; Fowers, 2008; Hartman, 2008). Individuals high on Humanity may be especially sensitive to how they are viewed by others, thereby heightening their reluctance to act in a manner incongruent with their true emotions.

In general, it appears that emotion regulation may shine a light on the processes linking character strengths and a life well lived. The current study did find that cognitive reappraisal mediated the relationship between PESP and positive emotions in the positive condition. It appears that the character strengths did not affect the experiencing of positive emotions directly, but caused the individual to engage in cognitive reappraisal which led to up-regulating of positive emotions in response to positive stimuli. Peterson et al., (2007) found that the character strengths most associated with life satisfaction (love, hope, gratitude, curiosity and zest) were associated with three orientations towards happiness (pleasure or hedonism; engagement or flow; meaning or eudemonia), but these relationships only partially explained the relationship between character strengths and life satisfaction. They pose the further question of "Why good character is satisfying" and one possible answer may be that good character allows for beneficial emotion regulation strategies, that in turn lead to better relationships and less internal dissonance regarding moods displayed vs. experienced. Peterson and colleagues (Peterson, Park & Seligman, 2006; Peterson, Park, Pole, D'Andrea & Seligman, 2008) found that the experience of a variety of physical and/or psychological disorders and traumatic events resulted in a small

increase in individual scores on multiple character strengths. They framed these findings within the context of traditional assumptions that such negative experiences are psychologically damaging to individuals. The reappraisal of such negative events may work together with spiralling effects to further enhance individuals' character strengths as they reconsider the situation they are in and focus on a positive rather than negative approach, thereby increasing their psychological resources that can contribute to their resilience in the future. Such a building of resources may result in an increase in specific character strengths as the individual is open to positive outcomes of a negative situation, rather than wallowing in the negative consequences of these events.

Additionally, the focus of positive psychology is not only to correct problems and weaknesses, but to enhance individual functioning and experience: "moving people from -3 to +5" (Peterson, 2006, p. 45). It appears that character strengths contribute to this enhancement by encouraging the reappraisal of negative situations and emotions, allowing individuals to form more healthy and beneficial interpretations of the events around them

Character Strengths and Affect

Positive and negative affect are included in accepted measures of subjective well being (Diener, 2000) and emotional well being (Keyes, 2002). Meta-analytic results have found positive affect to be positively correlated with task performance and organizational citizenship behaviours, while negative affect is negatively correlated with task performance (Kaplan et al., 2009). Positive affect is also related to psychological

resilience (Fredrickson et al., 2003; Salovey, Rothman, Detweiler & Steward, 2000), physical health (Diener & Chan, 2011; Salovey et al., 2000), helping behaviours (Brief & Weiss, 2002), human flourishing (Fredrickson & Losada, 2005), and emotional and subjective well being (Diener, 2000; Keyes, 2002). An extensive review by Lyubomirsky et al., (2005) showed positive affect to be related to a multitude of beneficial constructs, including social relationships, various health measures, positive perceptions of self and others, sociability, activity, likeability, cooperation, prosocial behaviour, physical well being and coping.

Both the ONSP and PESP positively predicted the experience of positive affect and negatively predicted the experience of negative affect. These results are consistent with the assumptions underlying the theory of character as something that allows individuals to live the best life possible. Fowers (2008) defines virtues as "the character strengths that are necessary to pursue what is good" (p. 631), further explaining that what is good is defined by what society considers to be noble goals of pursuit. That is, societal values will in part define what is considered a "good life", such as altruism or sacrifice. Aristotle's identification of eudemonia (or happiness or flourishing) as the overall good provides a goal for individuals to strive for; namely living a happy life. Wood, Linley, Maltby, Kashdan and Hurling (2011) refer to personal strengths as those characteristics that allow a person to "perform well or at their personal best" (p. 15). It appears that character strengths contribute to these beneficial outcomes by increasing the experience of positive affective states.

There are several processes through which positive emotions are believed to relate to beneficial outcomes. Consistent with Fredrickson's (1998, 2001) broaden-and-build theory, Lyubomirsky et al., (2005) propose that the relationship between positive affect and success is a causal one, with positive emotions enabling individuals to "think, feel and act in ways that promote resource building and involvement with approach goals (Lyubomirsky et al., 2005; p. 804). Fredrickson's broaden-and-build theory (1998, 2001) predicts that positive states allow for self-development, exploration and prosocial behaviours while negative states focus cognitive resources on resolving the negative state. Such resource building not only leads to successful outcomes in the present, but also better equips the individual to tackle future problems and adversity, predicting future positive emotions (Fredrickson & Joiner, 2002) and trauma recovery (Fredrickson et al., 2003).

Another approach is to consider positive emotions as informational sources. The "affect-as-information" hypothesis argues that mood influences judgments about the value of an object of judgment, as well as the individual's own thoughts and opinions (Clore & Huntsinger, 2007). Positive emotional states convey certain information to the individual, including feedback regarding their overall state in life and progress towards goals (Lyubomirsky et al., 2005). Additionally, positive affect has been found to be associated with better situational and long term assessments, leading to the completion of necessary, but not intrinsically motivating, work, even when more intrinsically motivating tasks are available (Isen & Reeve, 2005). At the same time, positive affect increases the enjoyment of intrinsically motivating activities (Isen & Reeve, 2005). Seo et al.,(2004) propose a

model where more pleasant core affective experiences shape the direction, intensity and persistence of behavioural outcomes. Positive affect, therefore, can contribute to the overall goal of eudemonia by directing individual behaviour towards tasks that need to be accomplished, increasing the intensity and perseverance of these behaviours, thereby increasing the probability of goal achievement, leading to feelings of accomplishment and success; additionally, positive affect makes intrinsically rewarding tasks more enjoyable, thereby enhancing their positive impact. Finally, positive affect provides feedback regarding the judgments an individual makes about objects and situations around them, and their own internal cognitions and attitudes, leading them to feel more positive and confident in themselves.

Finally, Fredrickson and colleagues have found evidence for the undoing effects of positive emotions (Fredrickson, Mancuso, Branigan & Tugade, 2000; Fredrickson et al., 2003). Rather than simply replacing negative emotions with positive ones, inducing positive emotions appears to aid in the recovery from negative emotions. Additionally, positive emotions experienced in the aftermath of the terrorist attacks of September 11, 2001 (for example, gratitude for one's safety and that of loved ones) predicted lower depressive symptoms and post-crisis increases in satisfaction with life, optimism and resilience (Fredrickson et al., 2003). Character strengths that predict greater instances of positive affect can not only aid individuals in overcoming the negative events in their lives, but also allow them to recover with greater psychological resources, thereby aiding in future coping.

By enhancing such positive emotions and functioning, character strengths may also contribute to mental health and flourishing. Keyes (2002) proposes an operationalization of mental health that includes positive feelings and functioning in life, rather than simply the absence of mental illness. Positive emotions also affect mindsets and broaden the range of cognitions and behavioural repertoires an individual engages in (Fredrickson & Losada, 2005); individuals high on character strengths will experience greater positive affect and be more open to new behaviours, ideas and experiences. Positive moods have been shown to affect physical health through various avenues. Physiological effects, such as boosting the immune system directly improve health, making the individual less susceptible to illness and disease (Salovey et al., 2000). Positive moods may also make individuals more hopeful about their overall health, and less vulnerable to health risks (Salovey et al., 2000). Finally, positive moods can aid in the build up of psychological resources (Fredrickson 1998, 2001), making individuals more resilient in the face of an upsetting medical diagnosis. Apparently, character strengths that serve to increase the experience of positive affective states can move an individual towards living the good life in terms of both physical and mental health indicators.

Similarly, a separate but related strain of research shows the detrimental effects of negative affect, including physiological disease, violence, anxiety and depression (see Fredrickson, 1998 for a review). As Fredrickson (1998, 2001) elucidates in her broaden-and-build theory of positive emotions, negative affective states narrow cognitive resources as the individual focuses on removing the source of the unpleasant state.

Therefore, negative affect precludes the experience of novel experiences, or the ability of individuals to reassess their current situation. Negative events, such as a personal trauma or health diagnosis, will not be reappraised while the individual is in this negative state, and will engender negative emotions. On the other hand, positive emotive states will allow the individual to consider their situation in a different light, leading to a more positive outlook as the individual brings their affective state in line with the more pleasant positive states. Therefore, identifying and developing character strengths that can both increase positive affect and decrease negative affect would not only contribute to individual well being, but would also be advantageous in a variety of workplace and clinical interventions.

Unfortunately, the present study is not able to distinguish which strengths best predict positive and negative affect. The analysis using the six virtues revealed that five of the six virtues related positively to positive affect (only temperance did not) and all six related negatively to negative affect. Accordingly, most of the character strengths appear useful in predicting both positive and negative affect, regardless of how they are arranged. Further research employing an experimental design may be able to better ascertain which combinations of strengths produce the most potent affect profile. In general, character is considered to be a composite construct, where multiple strengths must be considered concurrently rather than as operating independently (Fowers, 2008). However, all the strengths and virtues in Peterson and Seligman's (2004) classification tend to skew towards the positive spectrum of traits. Via this broadening effect of positive emotions outlined by Fredrickson (1998, 2001) and explained above, individuals

high on character strengths will not only experience more positive emotional states, but also experience the further spiralling effects of building social, emotional and psychological resources that aid in overcoming adversity and negative experiences in the future, leading to further positive emotional states (Fredrickson & Joiner, 2002). Therefore, character strengths serve to broaden cognition and behaviours and build social, emotional and psychological resources that aid in future coping, thereby further increasing instances of positive affect and decreasing instances of negative affect.

Moreover, not all groupings of character strengths predict emotion regulation, though most of them are predictive of positive and negative affect. It is possible that we are seeing the result of a temporal, reciprocal relationship between affective states and character strengths. Although character strengths lead to enhanced positive affect, as discussed above, it is also likely that frequent positive affective states and infrequent negative affective states are necessary for the development of many of the strengths and virtues. Such a reciprocal relationship may cause any of the character strengths to be independently related to positive and negative affect, regardless of the virtue or profile grouping the strength is included in. On the other hand, emotion regulation is one tool that can lead to more frequent positive and less frequent negative affect. It is not the only tool to achieve these affective ends and therefore not all character strengths are equally related to emotion regulation.

Once again, the virtue of temperance provides a result different from that of the other virtues: it was the only virtue that was not related to positive affect. It is possible that the buffering effect of temperance works to temper positive as well as negative

affect, leading to positive affective states of lesser intensity. Looking at the difference

between the strengths making up temperance and the ONSP (which did predict positive

affect) suggests that the strengths of forgiveness and modesty (the two temperance

strengths not included in the ONSP) operate differently than those of self-regulation and

prudence. In general, it appears that the strengths within the virtue of temperance operate

differently from one another and warrant further research.

Character Strengths and Satisfaction with Life

Satisfaction with life has been found to be affected by both internal, personality

factors as well as external, situational judgments and satisfaction with other life domains

(Pavot & Diener, 2008). Additionally, the specific character strength of gratitude

(measured using the GQ6 scale rather than the VIA-IS) predicts satisfaction with life

beyond the traditionally studied personality characteristics of the big five model (Wood,

Joseph & Maltby, 2008). The results of the present study underscore the importance of

internal factors on judgments of life satisfaction.

Satisfaction with life was most strongly associated with the character strengths of

hope, zest, love, gratitude and curiosity (Park et al., 2004; in Peterson et al., 2007,

gratitude was replaced by perseverance in the Swiss sample of their study). Of these five,

only love and curiosity were not present in the ONSP and/or PESP profiles. Consistent

with this past research, both strength profiles positively predicted satisfaction with life, as

did four of the six virtues: Courage, Humanity, Temperance and Transcendence. Only

Wisdom and Knowledge and Justice failed to predict satisfaction with life. Park and

Peterson often distinguish between strengths of the head and strengths of the heart (see for example Park & Peterson, 2010). Pavot and Diener (1993), in reviewing the satisfaction with life scale, noted that satisfaction with life is a judgment based on the individual's own standards, so the individual is free to assign his/her own weight values to various areas of his/her life that he/she judges to be important to his/her overall satisfaction. A later review reiterates this point, emphasizing that this allows an individual to judge what is important in his/her life and what weights various life domains are given in this overall assessment (Pavot & Diener, 2008). The scale is designed to capture both cognitive and emotional evaluations of satisfaction. It is unclear why strengths of the head, such as those found in the virtue of wisdom and knowledge would fail to predict satisfaction with life. Possibly, given the general nature of the items in the scale, individuals may have made a general judgment based on their affective state rather than consciously focusing on specific achievements or achievement-oriented activities (as those that would be associated with creativity, curiosity and love of learning). Another explanation may be that the more logical approach of some of these "strengths of the head" may lead individuals to become more aware of the negative aspects of their life, thereby tempering their overall satisfaction.

The failure of Justice to predict satisfaction with life may be related to the interpersonal nature of the virtue itself. Peterson and Seligman (2004) identify the virtue of justice as being relevant to the interactions between individuals with each other and their communities. Possibly strengths such as citizenship, fairness and leadership are

"other" focused so that they do not contribute to the assessment of one's own experience as much as the self relative to others.

Satisfaction with life, along with positive and negative affect, underlies emotional well-being (Keyes, 2002), and along with satisfaction with important domains, also makes up the construct of subjective well-being (Diener, 2000). In their review of the literature, Diener and Chan (2011) found subjective well-being to be positively associated with longevity and quality of life. Finally, Aristotle considered happiness as the ultimate criterion of an individual's success, and virtues as an integral component of both individual and collective happiness (Solomon, 1999). The present results show that character strengths and virtues are related to the factors that comprise subjective well-being (satisfaction with life, positive affect, low levels of negative affect), thereby contributing to an individual's happiness.

Factor Structure of Character Strengths and Virtues

Shryack, Steger, Krueger and Kallie (2010) reviewed past attempts at factor analysis and found that a three or four factor structure best explained the 24 character strengths of Peterson and Seligman's classification of virtues. Humanity and Justice collapsed into one factor in many of these analyses, while distinct factors for intellect and temperance emerge. Although the strength profiles examined in the current study were not developed using factor analysis, the significance of the ONSP and PESP when considering various criterion variables (emotion regulation strategy, positive and negative affect, satisfaction with life) provides an opportunity to rethink Peterson and Seligman's

(2004) original six factor structure. As shown here, various combinations of the character strengths show similar, if not stronger, prediction than the core six virtues. For example, both the ONSP and PESP predicted satisfaction with life (p. < .01). However, only two of the six virtues (humanity and temperance) were similarly predictive.

At least one character strength, zest/enthusiasm, was originally part of a different virtue. Seligman (2002) included zest as part of transcendence, however it was later placed under the virtue of courage (Peterson & Seligman, 2004).   If zest is placed under transcendence, the PESP contains all of the same strengths as the virtue of transcendence, with the exception of spirituality. It is important to consider whether the original classification of the strengths under six virtues serves a practical or purely conceptual purpose. The current study shows that profiles developed for the purpose of predicting specific outcomes do have predictive power. Therefore the original classification of virtues may be helpful conceptually, but a more practically valuable approach may be to derive profiles of character strengths that, on theoretical grounds, are most likely predictive of particular criterion measures.

Theoretical Implications

Virtues are assumed to be the personal characteristics of an individual that allow him/her to live a good life and flourish (Arjoon, 2008; Fowers, 2008; Mintz, 1996; Solomon, 1999). The major theoretical contribution of the current study lies in the support provided for this core assumption by showing that emotion regulation and positive affect may be two mechanisms that contribute to this human flourishing. In

showing that character strengths, in various combinations, relate to constructs associated with happiness, well-being and health (e.g. positive affect, negative affect and satisfaction with life), the current study underscores the importance of character strengths in experiencing "a life well lived".

Past research has shown a positive relationship between character strengths and satisfaction with life (Park et al., 2004; Peterson et al., 2007). The results of the present study serve to replicate these preliminary results, but also provide some important additional insights. For example, curiosity is one of the strengths that most strongly predicts life satisfaction (Park et al., 2004; Peterson et al., 2007), but it is included within the virtue of Wisdom and Knowledge which did not predict satisfaction with life. This result underscores the possibility that strengths behave differently when grouped with strengths from other virtues, supporting a multi-faceted approach to studying character.

Many scholars speak of the inter-related nature of character (Fowers, 2008; Peterson & Seligman, 2004). Although parcelling out individual character strengths may be tempting, the present study shows that this may not tell the whole story. For example, the strengths of prudence and self-control appear to behave differently when combined with the remaining strengths of temperance than with the strengths comprising the ONSP. The over-arching construct of character and its motivational power should not be lost in the appeal of developing links between individual strengths and cognitive and behavioural outcomes.

The relationship between character strengths and positive affect provides a fairly clear link to physical and psychological well-being: individuals high on the character strengths experience more instances of positive affect, which through various avenues produce positive consequences in the individual. Emotional regulation, on the other hand, plays a more indirect role: individuals high on character strengths are able to engage in emotion regulation to down regulate their negative emotions (and their attending negative effects) and up-regulate or increase the experiencing of positive emotions (and their attending positive affects). In addition, character strengths predict the habitual use of cognitive reappraisal, the more adaptive of the emotion regulation strategies. The current study also found that cognitive reappraisal mediated the relationship between PESP and positive emotions in the positive condition. It appears that character strengths did not affect the experiencing of positive emotions in response to positive stimuli directly, but caused the individual to engage in cognitive reappraisal which led to up-regulating of positive emotions in this situation. This link between character strengths and emotion regulation should be examined in more detail, to possibly provide insights into some of the personality-based antecedents of emotion regulation strategy choice.

The character strength profiles have also shown that the individual strengths can be combined in different ways to predict different outcomes. For example, although all the virtues and profiles were similarly predictive of negative affect, the two character strength profiles best predicted satisfaction with life. Additionally, the differences in results obtained when comparing the virtue of temperance with the ONSP as predictors

suggests that some of the strengths within a virtue may behave differently with each other, or when combined with strengths from other virtues. Once these interactions are isolated, specific profiles may then be developed to maximize prediction of outcomes of most interest to human resource specialists and clinicians.

Practical Implications

Positive psychology focuses on how to better the human experience by concentrating on and nurturing what is good in individuals and the world around them (Seligman & Csikszentmihalyi, 2000). The results reported here show that the majority of character strengths associate with higher positive affect, lower negative affect and higher life satisfaction , all of which contribute toward subjective well-being (Diener, 2000), health and longevity (Diener & Chan, 2011).

The results of the current research also suggest that there is a myriad of character strengths that may, through appropriate interventions, increase personal well-being. Peterson and Seligman (2004) defined signature strengths as those that individuals find easiest and enjoyable to express and develop. Targeting those character strengths that come most naturally to an individual is likely to be more effective than focusing exclusively on "shoring up" weaknesses (Clifton & Harter, 2003). Rust, Diessner and Reade (2009) looked at the effect on life satisfaction of focusing on two strong character strengths versus focusing on one strong and one relatively weaker character strength (i.e., focusing on signature strengths vs. also considering weaknesses). They found that both approaches resulted in a similar increase in life satisfaction. Therefore, it appears that

professional coaches and individuals may have fairly free choice in choosing which

strengths to target to increase overall well-being: either working on signature strengths to

build on natural assets, or focusing on character strengths of relative weakness. Both

approaches are likely to build character strengths, with resultant positive benefits. It also

appears that the character strengths can be combined to make various profiles tailored to

specific variables of interest. For example, satisfaction with life was best predicted by the

two strength profiles, along with humanity and temperance. With additional research,

such a "satisfaction profile" may be further refined to arrive at a constellation of strengths

most strongly predictive of satisfaction with life.

These profiles could then be used in various hiring and promotion decisions, by

identifying those individuals high on strengths necessary for effective performance in

particular contexts. For example, an organization that is aware that their employees will

be exposed to negative stimuli on a fairly regular basis (i.e., customer service

representatives in a complaint department) can select employees who have a profile

conducive to overcoming negative emotions to ensure this negativity is more easily

overcome and does not compromise their performance. It is largely accepted that

emotion regulation is required for superior performance in customer service positions

(Liu, Prati, Perrewe & Brymer, 2010), and Gross and John (2003) have shown that

cognitive reappraisal is a better choice of emotion regulation strategy with respect to

various health, cognitive and social effects. Both the ONSP and PESP, and half of the

virtues, predicted cognitive reappraisal (but not emotional suppression). Hence, character

profiles should help identify individuals most likely to use a healthy emotion regulation

strategy which could prove particularly helpful when selecting individuals for customer service jobs. Similarly, jobs that require high positive affect, such as working with children, would be well served by individuals who are prone to positive affective states, as they would more easily revert to a positive state of mind and also exhibit higher levels of positive affect than individuals who are not naturally predisposed to positive emotions. From an individual perspective, clusters of strengths could help individuals develop those character strengths facilitative of success in their chosen professional fields.

Additionally, it is possible that specific behavioural outcomes can be predicted using similar profiles. For example, positive emotions have been linked with prosocial behaviour and increased reports of life and work satisfaction (Lyubomirsky et al., 2005; Heller et al., 2002). A profile that can increase positive affective states would therefore increase the probability of displays of such positive behaviours. Positive behaviour prompts altruistic behaviour from bystanders (Schnall, Roper & Fessler, 2010) and there is evidence that individuals in work groups often show similar affective reactions, possibly through shared mood regulation norms, rules and emotional contagion (Brief & Weiss, 2002). Positive emotions, therefore, could contribute to the overall positive culture of a team, department or organization. Managers should consider interventions targeting employees' character strengths as potential morale builders and contributors to overall organizational effectiveness.

Limitations

Data were collected from a sample of university students all in a similar area of study and in about the same point of their program. This can limit the external validity of results.   The average age of the sample was 20.5 years, at which point it is expected that individuals have developed their own character and ethics (the VIA Institute on Character provides a separate instrument to measure character strengths for individuals aged 11-17, the VIA Youth Survey), making them representative of an educated young adult population. Additionally, students are often used as convenience samples, particularly in preliminary research. Results from a student sample should be validated using other samples more representative of the general population.

Another limitation is the cross-sectional and self-report nature of the data on character strengths, emotion regulation strategy, affect and satisfaction with life. Longitudinal research is required linking character development to outcomes measures (e.g. indicators of well being).   Single source method bias is problematic for data sets based on self-report measures. Hence, other reports of an individual's character strengths should be used in addition to, or in lieu of, self-report measures. Furthermore, the current study did not specifically address how to build character strengths. Although various interventions aimed at strengths such as hope, optimism, gratitude and kindness have shown to be effective (Sin & Lyubomirsky, 2009), the current results do not allow us to investigate the possible differential effects of natural vs. developed strengths. On the other hand, research at this preliminary level is interested in the effects of character strengths in general, not necessarily how these character strengths come to exist within

the individual. Future research may delve into this distinction further, however the

current study shows a promising starting point of associating character strengths with

emotion regulation strategies, positive and negative affect and satisfaction with life.

The measure of creativity used in the current study is another limitation.

Although the Remote Associates Test has been employed in numerous studies measuring

creativity (see for example, Ansburg & Hill, 2003; Ivcevic et al., 2007; Probst et al.,

2007), several problems became apparent. For one, the items seemed to be outdated for

the current sample. For example, participants included answers such as "iPod" or

"iPhone", but the test items were developed prior to 1994 (as the norms were taken from

Shames, 1994). The types of associations required by the RAT items may have been too

outdated for the current sample to be able to arrive at them.   A second and potentially

larger problem is the scoring mechanism of the test itself. Creativity is often defined as

novelty, however the RAT items require the researcher to score answers based on what

others (i.e., test developers) have determined to be "correct". By definition, it makes little

sense to speak of correct or incorrect solutions in terms of creativity. Additionally, some

of the responses participants provided were quite novel given the stem words they were

considering, but given the structure of the RAT had to be marked as incorrect, thereby

giving them a zero creativity score on that item. This marking system may have led to

creativity scores being biased downwards, thereby explaining the lack of significant

relationships between creativity and the CSP, and between PESP and positive emotions.

An in-depth content analysis of the data, although beyond the scope of this study, may be

a better method to gauge the true novelty of participant responses.

It was expected that by giving participants a choice of four videos, individuals would randomly select themselves across the two emotional manipulation conditions without being aware of the purpose of the video. However, it appears that participants were much more likely to choose the first video option (45.37% of the total participants), which corresponded with the positive emotion condition. Video 2, representing the negative emotion condition was the next most popular choice (27.8%), but still far less often chosen than video 1. It appears that allowing participants to choose their own video is not as reliable a method of random distribution as having them assigned by a third party. Participants were not able to go back and choose a second video, so it appears the overwhelming popularity of video 1 was a result of participants simply choosing the first available option.

Another potential limitation is that the profiles were not developed using a factor analytic approach. However, such an approach may not be appropriate in this case. The profiles were not expected to create a homogenous construct defined by individual strengths. Rather, the intention was to group together strengths that may together, or independently, predict the criterion variable of interest. For example, looking at the ONSP, the argument is not that zest and prudence are indicative of a homogeneous construct, but that both strengths, via different processes, may help to lower the frequency, duration and/or intensity of one's negative emotions. A similar approach was taken by Schouwenburg and Lay (1995) in relating procrastination to scores on three of the big five personality traits. The authors do not argue that these traits create a construct of "trait procrastination" but that high and/or low scores on these traits (e.g. a particular

profile) serve to predict trait procrastination. Similarly, the profiles presented in the

current study provide clusters of strengths expected to be similarly related to the outcome

variables of interest (creativity, emotion regulation and affect).

There may also be some question as to the construct and content validity of the

profiles. This work took a theoretical/rationalistic approach to construct validity in

derivation of the profiles. Reassuringly, the profiles largely related to the criterion

variables as expected. Further research is necessary to more concretely establish the

relations of these profiles to other constructs (e.g. establish a nomological network) . In

retrospect, content validity may have been better established by utilizing subject matter

experts to classify strengths under profiles expected to best predict specific outcomes (i.e.

a criterion-referenced approach to validation). Such an approach may be useful in further

refining the current profiles, and in developing new ones.

Future Research Directions

The present study has suggested trait-like antecedents of emotion regulation.

Further research should investigate the role of emotion regulation in the relationship

between character strengths and posttraumatic growth, overcoming negative emotions,

depressions and recovery from illness. Positive emotions have shown to help in

overcoming the effects of negative emotions (Fredrickson et al., 2003), while character

strengths appear to actually increase following a traumatic experience (Peterson et al.,

2006; Peterson et al., 2008). Does cognitive reappraisal help to explain some of these

relationships? For example, does cognitive reappraisal allow individuals to experience

fewer negative emotions following a trauma, thereby allowing future character strength development? Or does cognitive reappraisal directly aid in the development of strengths such as humour or gratitude? Field studies taking advantage of natural experiences would shed some much needed light on the answers to these questions.

Cognitive reappraisal, as the preferred emotion regulation strategy of individuals high on character strengths, should be examined as a vital mechanism linking character strengths, life satisfaction, and various constructs of well-being. The current results have already shown the mediating role of cognitive reappraisal on the effect of the PESP on positive emotions. These results may hold across a variety of relationships between character strengths, positive affect and satisfaction with other life domains as well. Research using a variety of samples, such as that currently underway at the VIA Institute on Character, would provide greater external validity to the current results.

Additional emotion regulation strategies should also be considered. For example, the strengths of the head, such as curiosity and creativity, may serve to assist an individual in distracting oneself from the unpleasant situation at hand. Rumination may decrease satisfaction with life and positive affect as it often requires dwelling on a situation, however character strengths that encourage forgiveness and gratitude may minimize the use of this emotion regulation strategy.

Future research may want to consider possible mediators in the virtue–emotion regulation relationship, particularly for courage and humanity. For example, mindfulness refers to the conscious attention to sensory inputs without placing value judgments on

them (Chambers et al., 2009). Virtues such as courage, and the attending belief in the appropriateness of one's emotions, and humanity, with its focus on other's relationships, may be related to this heightened awareness. Accordingly, the individual with these virtues may not engage in an automatic appraisal of a given situation as he/she is more aware of the inauthenticity that may arise in him/herself or in others' view of him/her.

Given the relationship between physical health and positive emotions, a logical extension would be to study the relationship between character strengths, cognitive reappraisal and health outcomes. Do character strengths predict physical health outcomes? Does cognitive reappraisal, or any other adaptive emotion regulation strategy such as distraction, mediate this relationship? Does it make a difference if the character strengths are signature strengths, or developed over time?

Brief and Weiss (2002) observe that the personality determinants of moods in the workplace seem fairly well established, but little work has considered the possible interactions of personality and workplace. For example do certain character strengths, such as love and kindness operate more strongly or efficiently in some workplace contexts, such as jobs involving considerable interaction with others? Congruently, future research should consider how the various character strength profiles and virtues operate in different workplace environments. For instance, conscientiousness correlated positively with creativity in scientific, but not artistic contexts (Feist, 1998).   Could the strengths proposed in the CSP similarly affect creative performance only in specific work contexts or job types? Experimental designs controlling for environmental factors and differences in participant groups would be useful in examining these possible interactions.

The organization of character strengths into clusters (profiles) other than the virtues originally proposed by Peterson and Seligman (2004) shows that the character strengths may work together in varying and interesting ways. The virtues were originally defined as latent constructs, observable only via the character strengths making up each virtue. Future research should investigate whether other constructs or profiles emerge from other combinations of the individual character strengths. Although care should be taken to not ignore the inter-related nature of character, researchers may want to consider how the individual strengths operate independently and whether their effects change when grouped with other similar and dissimilar strengths. For example, the strengths within the virtue of temperance seem to affect emotion regulation strategy differently when they are separated into two groups: self-regulation and prudence vs. forgiveness and modesty. The former pair, as part of the ONSP helped to predict cognitive reappraisal but not emotional suppression. However, these same strengths of self-regulation and prudence, when part of the virtue of temperance along with forgiveness and humility, predicted both strategies of emotion regulation. It appears that the strengths included in the virtue of courage preclude the use of either emotion regulation strategy, possibly through the desire for authenticity and standing up for what one feels. However, would the strengths under the virtue of temperance, expected to buffer against excess (possibly including excessive confidence in one's emotional reactions) and prevent future regrets, offset this mild hubris and allow the individual to recognize the benefits of emotion regulation in either form? Such possible differential effects should be examined and classified based on the cognitive or behavioural outcome(s) they predict.

Ideally, the researcher would be able to classify participants as possessing or not possessing any of the hypothesized profiles. This would allow for a comparison across groups to determine if individuals with specific profiles show the desired outcome (higher positive affect or creativity, for example). The development of a database of participants is already underway at the Via Institute of Character; however this database does not link individual's standing on the character strengths with additional variables such as those presented in the current study. The long-term development of a database that allows character strengths, virtues and profiles to be connected to variables such as positive and negative affect, emotion regulation and satisfaction with life, as well as satisfaction in other life domains, would allow for the investigation of whether individuals scoring exceptionally high on any of the character strengths experience beneficial outcomes above and beyond the linear relationships shown here.

Further analysis of the factor structure of the character strengths is necessary. Thus far, it appears that the six factor structure proposed by Peterson and Seligman (2004) is not the ideal form, although there is debate as to whether a three or even four factor model best fits the data available so far (see Shryack et al., 2010 for a list of studies). As mentioned previously, it may be possible to group strengths together differently depending on the specific outcome to be predicted.

Conclusion

The present study serves to extend our understanding of positive character strengths to consider their relationship with positive and negative affect, emotion

regulation and satisfaction with life. The profiles positively predicted positive affect,

satisfaction with life and cognitive reappraisal as the preferred emotion regulation

strategy and negatively predicted negative affect.   These results can help in developing

additional clusters of strengths that could be predictive of other outcomes of interest, as

well as create targeted interventions to allow individuals to develop aspects of their

character conducive to their personal and professional goals. Overall, it is apparent that

positive aspects of character relate to those individual level differences that are associated

with well-being, flourishing and the "good life". These results contribute to positive

psychology's goal of furthering an understanding of the positive aspects of life and work.

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APPENDIX A: CHARACTER STRENGTHS AND VIRTUES[3]

Virtue of Wisdom & Knowledge:

Cognitive strengths related to the attainment and use of information in everyday life, including:

Creativity (originality, ingenuity)
Curiosity (interest, novelty-seeking, openness to experience)
Open-Mindedness (Judgment, Critical Thinking)
Love of Learning
Perspective (Wisdom)

Virtue of Courage:
Strengths that utilize resolve to reach goals in the face of opposition, including:

Bravery (valour)
Persistence (Perseverance, Industriousness)
Integrity (Authenticity, Honesty)
Vitality (Zest, Enthusiasm, Vigour, Energy)

Virtue of Humanity:

Strengths related to caring relationships, pertaining to one-on-one interactions, including:

Love
Kindness (Generosity, Nurturance, Care, Compassion, Altruistic Love, Niceness)
Social Intelligence (Emotional Intelligence, Personal Intelligence)

Virtue of Justice:

Strengths related to broader social relationships, one-to-many relationships, including:

Citizenship (Social Responsibility, Loyalty, Teamwork)
Fairness
Leadership

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[3] Adapted from Wright & Goodstein, 2007

Virtue of Temperance:

Strengths that protect from excess by tempering behaviours, including:

> Forgiveness and Mercy
> Humility and Modesty
> Prudence
> Self-Regulation (Self-Control)

Virtue of Transcendence:

Strengths that connect to a larger universe or meaning, including:

> Appreciation of Beauty and Excellence (Awe, Wonder, Elevation)
> Gratitude
> Hope (Optimism, Future-Mindedness, Future Orientation)
> Humour (Playfulness)
> Spirituality (Religiousness, Faith, Purpose)

APPENDIX B: STRENGTH PROFILES

Virtue	Strength	CSP	ONSP	PESP
Wisdom & Knowledge	Creativity	X		
	Curiosity	X		
	Open-Mindedness	X		
	Love of Learning	X		
	Perspective			
Courage	Bravery			
	Persistence	X		
	Integrity			
	Zest		X	X
Humanity	Love			
	Kindness			
	Social Intelligence			
Justice	Citizenship			
	Fairness			
	Leadership			
Temperance	Forgiveness & Mercy			
	Humility & Modesty			
	Prudence		X	
	Self-Regulation		X	
Transcendence	Appreciation of Beauty			X
	Gratitude		X	X
	Hope		X	X
	Humour		X	X
	Spirituality			

Emotion – strengths that represent or are closely related to a positive emotion
CSP – Creativity Strength Profile
ONSP – Overcoming Negativity Strength Profile
PESP – Positive Emotionality Strength Profile

APPENDIX C: RAT ITEMS

No.	Triad	Solution	Probability of Unsolved	Normalized Item Difficulty Score	Form
42	skunk kings boiled bald screech	cabbage	0.2	-2.06	a
41	emblem	eagle	0.4	-0.81	a
18	blood music cheese square telephone	blue	0.4	-0.81	a
39	club	book	0.45	-0.5	a
7	surprise wrap care	gift	0.45	-0.5	a
64	blade witted weary	dull	0.5	-0.19	a
26	colour numbers oil	paint	0.55	0.13	a
38	silk cream even	smooth	0.55	0.13	a
35	strike same tennis	match	0.6	0.44	a
30	lapse vivid elephant	memory	0.65	0.63	a
60	puss tart spoiled	sour	0.65	0.63	a
9	stop petty sneak	thief	0.65	0.75	a
3	cotton bathtub tonic	gin	0.7	1.06	a
24	magic plus floor	carpet	0.7	1.06	a
50	stalk trainer king	lion	0.7	1.06	a
Average			0.543	0.068	
23	falling actor dust	star	0.15	-2.38	b
21	bass complex sleep	deep	0.3	-1.44	b
61	rabbit cloud house	white	0.4	-0.81	b
22	chamber staff box	music	0.45	-0.5	b
56	pure blue fall	water	0.45	-0.5	b
1	wicked bustle slicker	city	0.5	-0.19	b
28	mouse sharp blue	cheese	0.55	0.13	b
27	big leaf shade	tree	0.6	0.44	b
40	envy golf beans	green	0.6	0.44	b
37	zone still noise	quiet	0.65	0.63	b
6	thread pine pain	needle	0.65	0.75	b
2	jump kill bliss	joy	0.7	1.06	b
5	cloth sad out	sack	0.7	1.06	b
43	inch deal peg	square	0.7	1.06	b
36	bump throat sum	lump	0.75	1.34	b
Average			0.543	0.073	

APPENDIX D: EMOTIONAL MANIPULATION VIDEOS

Proposed Negative Manipulation Videos:

Title: Virginia Tech Memorial Video   Length: 3:50
Link: http://www.youtube.com/watch?v=QSOv3dE2-wU
Description: Montage of pictures set to music showing perpetrator of Virginia
Tech massacre, victims, campus during and after the shooting, memorials and
convocation.

*Title: Tribute to Haiti Earthquake Victims Length: 1:56
Link: http://www.youtube.com/watch?v=5o2eeFC77tw
Description: Series of pictures of the aftermath of the Haiti Earthquake, set to
instrumental music and audio clips from news coverage.

Title: Highway of Heroes by Bob Reid   Length: 3:45
Link: http://www.youtube.com/watch?v=PWwB9NwDpq0
Description: Picture of fallen Canadian soldiers and video of the processions
down the 401 (the "Highway of Heroes") set to a song entitled "Highway of
Heroes" by Bob Reid.

Title: FDNY Tribute – Into the Fire   Length:3:35
Link: http://www.youtube.com/watch?v=b739W3YhB6M
Description: Video and pictures of the September 11, 2001 terrorist attacks in
New York City, aftermath and pictures of firefighters who died set to "The
Rising" by Bruce Springsteen.

Proposed Positive Manipulation Videos:

Title: Funny Picture Slideshow   Length: 2:06
Link: http://www.youtube.com/watch?v=1SykY00BZ9Y
Description: Collection of funny pictures with captions, set to music.

*Title: Funny Animal Pictures   Length: 2:33
Link: http://www.youtube.com/watch?v=WPrLnCjorQU
Description: collection of pictures of various animals in funny positions, some of
which are obviously photo-shopped, also set to music.

Title: Rock Paper Scissors: The Documentary   Length: 2:33
Link: http://www.youtube.com/watch?v=I3XamIlKoVs
Description: Trailer for a documentary of the Rock-Paper-Scissors World
Championship; although this is a real event, the attitudes of some of the promoters

is very tongue-in-cheek, with odd costumers and them obviously taking themselves more seriously than warranted given the subject matter.

Title: Bananas   Length: 2:17
Link: http://www.youtube.com/watch?v=4_nTlsTK7qo
Description: Cartoon of a monkey in a skinner box who discovers that pushing the red button results In a banana, however he gets frustrated when this effect does not continue.

APPENDIX E: EMOTIONAL RESPONSE QUSTIONNAIRE

Please circle the number on each scale that best represents the amount of each emotion you experienced while watching the film clip:

	Not at all									Strongest in My Life
Amusement	0	1	2	3	4	5	6	7	8	9
Happiness	0	1	2	3	4	5	6	7	8	9
Interest	0	1	2	3	4	5	6	7	8	9
Confusion	0	1	2	3	4	5	6	7	8	9
Sadness	0	1	2	3	4	5	6	7	8	9
Disgust	0	1	2	3	4	5	6	7	8	9

APPENDIX F: TABLES AND FIGURES

Table 1: Means, Standard Deviations and Scale Reliabilities

Variable	N	M	SD	Cronbach α
Age	183	20.50	1.016	
Wonderlic	205	23.45	7.401	
RAT1	205	2.01	1.724	
RAT2	205	2.78	2.296	
Cognitive Reappraisal	205	29.66	5.676	0.790
Emotional Suppression	205	15.67	4.826	0.755
Positive Affect	205	32.67	4.917	0.834
Negative Affect	205	24.14	6.621	0.834
Satisfaction with Life	205	22.13	6.235	0.867
Positive Emotions	205	12.31	6.799	0.762
Negative Emotions	205	7.43	5.792	0.514
Negative Emotions 2[a]	205	5.454	4.116	0.629
Wisdom & Knowledge	199	3.690	.403	0.810
Courage	199	3.709	.411	0.792
Humanity	199	3.888	.418	0.733
Justice	199	3.871	.440	0.868
Temperance	199	3.502	.390	0.602
Transcendence	199	3.641	.427	0.739
CSP	199	18.39	1.968	0.755
ONSP	199	22.115	2.176	0.775
PESP	199	18.487	1.963	0.762

[a] Negative Emotion 2 is Negative Emotion scale with "confusion" removed.

Table 2: Frequencies of Binary Variables

Variable	N	Frequency	Percent	Missing
Male	199	99	48.3	6
English as a First Language	205	144	70.2	0
Accounting	205	84	41	0
Commerce	205	23	11.2	0
Marketing	205	42	20.5	0
Finance	205	48	23.4	0
Human Resources	205	21	10.2	0
Positive Condition	205	150	73.2	0
Negative Condition	204	55	26.8	1
Video 1	205	93	45.37	0
Video 2	205	57	27.80	0
Video 3	205	45	21.95	0
Video 4	205	10	4.88	0

Note: Sum of percentages of area of study may be greater than 100 as some participants listed more than one major.

Table 3: Correlation Matrix for Study Variables

	1	2	3	4	5	6	7	8
1 Age	1.00	0.11	-.286**	-0.09	0.07	-0.08	-.170*	0.08
2 Male		1.00	0.05	0.14	0.10	0.02	-.234**	.245**
3 English as First Language			1.00	.225**	-0.11	0.10	.145*	-.169*
4 Wonderlic				1.00	0.07	-0.08	-0.02	-0.03
5 Accounting					1.00	-.296**	-.398**	-.297**
6 Commerce						1.00	-.180**	-.197**
7 Marketing							1.00	-.252**
8 Finance								1.00
9 Human Resources								
10 RAT1								
11 RAT2								
12 Cognitive Reappraisal								
13 Emotional Suppression								
14 Positive Affect								
15 Negative Affect								
16 Satisfaction with Life								
17 Positive Emotions								
18 Negative Emotions								
19 Positive Condition								
20 Negative Condition								
21 Negative Emotions in Negative Condition								
22 Positive Emotions in Positive Condition								
23 Wisdom & Knowledge								
24 Courage								
25 Humanity								
26 Justice								
27 Temperance								
28 Transcendence								
29 CSP								
30 ONSP								
31 PESP								

a Cannot be computed because at least one of the variables is a constant   *p<.05   **p<.01

Table 3 (Continued): Correlation Matrix for Study Variables

	9	10	11	12	13	14	15	16
1 Age	-0.06	**-.183**[*]	**-.235**[**]	0.01	0.03	-0.06	0.01	-0.06
2 Male	**-.266**[**]	0.05	-0.09	0.07	**.166**[*]	**.173**[*]	-0.07	0.02
3 English as First Language	0.11	**.395**[**]	**.273**[**]	-0.06	**-.182**[**]	0.10	**-.222**[**]	**.211**[**]
4 Wonderlic	0.01	**.261**[**]	**.206**[**]	-0.06	-0.04	-0.08	**-.162**[*]	0.01
5 Accounting	**-.281**[**]	-0.03	-0.10	0.01	0.05	-0.01	0.10	-0.11
6 Commerce	-0.12	-0.04	-0.11	0.00	0.07	0.01	-0.10	0.06
7 Marketing	**.147**[*]	**.138**[*]	**.159**[*]	-0.03	-0.10	0.00	0.01	0.00
8 Finance	**-.187**[**]	-0.01	0.06	0.08	**.169**[*]	0.06	0.00	0.05
9 Human Resources	1.00	**.176**[*]	**.194**[**]	0.08	**-.161**[*]	-0.07	-0.06	0.06
10 RAT1		1.00	**.434**[**]	-0.07	**-.166**[*]	0.00	**-.147**[*]	0.11
11 RAT2			1.00	-0.03	-0.06	-0.06	-0.02	0.01
12 Cognitive Reappraisal				1.00	**.290**[**]	**.262**[**]	-0.03	0.13
13 Emotional Suppression					1.00	0.11	**.192**[**]	-0.09
14 Positive Affect						1.00	**.233**[**]	**.218**[**]
15 Negative Affect							1.00	**-.296**[**]
16 Satisfaction with Life								1.00
17 Positive Emotions								
18 Negative Emotions								
19 Positive Condition								
20 Negative Condition								
21 Negative Emotions in Negative Condition								
22 Positive Emotions in Positive Condition								
23 Wisdom & Knowledge								
24 Courage								
25 Humanity								
26 Justice								
27 Temperance								
28 Transcendence								
29 CSP								
30 ONSP								
31 PESP								

[a] Cannot be computed because at least one of the variables is a constant   *p<.05   **p<.01

Table 3 (Continued): Correlation Matrix for Study Variables

	17	18	19	20	21	22	23	24
1 Age	.208**	-0.06	0.04	-0.04	-0.22	.245**	-0.01	-0.01
2 Male	0.00	-0.11	-0.01	0.01	-.356**	0.02	0.11	0.05
3 English as First Language	-0.10	0.01	0.04	-0.04	0.15	-.176*	0.02	.167*
4 Wonderlic	-.214**	-0.01	-.137*	.137*	-0.09	-.263**	-0.01	-0.08
5 Accounting	-0.01	0.07	0.01	-0.01	0.08	0.00	-.150*	-0.10
6 Commerce	-0.05	-0.07	0.01	-0.01	0.14	-0.09	0.03	0.09
7 Marketing	-0.04	0.03	-0.05	0.05	-0.04	-0.03	0.10	0.04
8 Finance	0.12	-0.06	0.02	-0.02	0.01	0.15	0.11	-0.01
9 Human Resources	0.04	0.02	0.02	-0.02	-0.05	0.04	0.00	0.02
10 RAT1	-0.12	-0.02	-0.06	0.06	0.08	-0.13	0.09	-0.01
11 RAT2	-0.05	-0.02	0.00	0.00	0.04	-0.06	0.06	0.02
12 Cognitive Reappraisal	.186**	0.04	0.00	0.00	-.286*	.287**	.329**	.218**
13 Emotional Suppression	0.05	0.07	-0.02	0.02	-0.22	0.11	0.14	0.02
14 Positive Affect	0.09	0.14	0.00	0.00	-0.03	0.10	.388**	.471**
15 Negative Affect	0.07	.146*	0.05	-0.05	0.20	0.09	-.189**	-.270**
16 Satisfaction with Life	-0.07	0.11	-0.06	0.06	-0.04	-0.07	.263**	.385**
17 Positive Emotions	1.00	-.316**	.562**	-.562**	0.25	1.000**	0.01	0.04
18 Negative Emotions		1.00	-.348**	.348**	1.000**	-.190*	0.05	-0.03
19 Positive Condition			1.00	-1.000**.a	.a		-0.01	0.01
20 Negative Condition				1.00 .a	.a		0.01	-0.01
21 Negative Emotions in Negative Condition					1.00 .a		-0.23	-0.18
22 Positive Emotions in Positive Condition						1.00	0.01	0.04
23 Wisdom & Knowledge							1.00	.662**
24 Courage								1.00
25 Humanity								
26 Justice								
27 Temperance								
28 Transcendence								
29 CSP								
30 ONSP								
31 PESP								

a Cannot be computed because at least one of the variables is a constant　　　*p<.05　　**p<.01

Table 3 (Continued): Correlation Matrix for Study Variables

	25	26	27	28	29	30	31
1 Age	-0.08	0.05	.175*	0.08	-0.01	0.07	0.05
2 Male	-0.10	-0.06	0.05	-0.01	0.10	0.04	-0.01
3 English as First Language	.225**	0.09	-0.04	0.02	0.03	0.09	0.07
4 Wonderlic	0.07	-0.06	-0.05	-0.13	-0.06	-0.07	-0.09
5 Accounting	-.178*	-0.05	0.10	-0.11	-0.11	-0.08	-.148*
6 Commerce	0.09	0.03	-0.07	0.05	0.00	-0.01	0.03
7 Marketing	0.11	0.05	-0.06	0.10	0.09	0.07	0.13
8 Finance	-0.04	-0.06	0.04	-0.03	0.11	0.02	0.01
9 Human Resources	.170*	.144*	0.03	0.02	-0.03	0.04	0.04
10 RAT1	0.07	-0.04	-.174*	-0.08	0.07	-0.06	-0.03
11 RAT2	0.11	0.04	-0.08	-0.07	0.05	-0.06	-0.02
12 Cognitive Reappraisal	.273**	.354**	.366**	.305**	.294**	.377**	.296**
13 Emotional Suppression	-.170*	0.10	.246**	0.05	0.13	0.12	0.02
14 Positive Affect	.323**	.218**	.194**	.343**	.423**	.414**	.376**
15 Negative Affect	-.216**	-.185**	-.145*	-0.11	-.201**	-.241**	-.206**
16 Satisfaction with Life	.466**	.220**	.276**	.294**	.281**	.434**	.358**
17 Positive Emotions	0.04	0.12	.162*	.164*	0.04	0.11	0.14
18 Negative Emotions	-0.03	0.11	0.00	0.11	0.04	0.03	0.07
19 Positive Condition	-0.05	-0.01	0.03	-0.01	0.03	0.01	-0.01
20 Negative Condition	0.05	0.01	-0.03	0.01	-0.03	-0.01	0.01
21 Negative Emotions in Negative Condition	-0.14	-0.17	-.394**	-0.26	-0.26	-.369**	-0.24
22 Positive Emotions in Positive Condition	0.06	0.15	.207*	.209*	0.01	0.13	.178*
23 Wisdom & Knowledge	.571**	.524**	.442**	.660**	.952**	.693**	.723**
24 Courage	.643**	.495**	.464**	.628**	.768**	.800**	.737**
25 Humanity	1.00	.648**	.466**	.638**	.540**	.684**	.665**
26 Justice		1.00	.650**	.624**	.491**	.627**	.617**
27 Temperance			1.00	.572**	.469**	.729**	.550**
28 Transcendence				1.00	.649**	.835**	.936**
29 CSP					1.00	.735**	.732**
30 ONSP						1.00	.894**
31 PESP							1.00

[a] Cannot be computed because at least one of the variables is a constant   *p<.05   **p<.01

Table 4: Independent Sample T-test Results for Positive and Negative Emotions across Emotional Condition

Variable	df	t	p
Positive Emotion	203	9.68**	.00
Negative Emotion	203	-5.28**	.00

<div align="right">*p<.05   **p<.01</div>

Table 5: Means and Standard Deviations for Positive and Negative Emotions across Emotional Condition

	Positive Emotion	Negative Emotion
Positive Condition	14.62 (6.42)	6.21 (5.61)
Negative Condition	6.02 (2.37)	10.75 (3.66)
Difference	8.60**	-4.54**

<div align="right">*p<.05   **p<.01</div>

Table 6: Distribution Characteristics of the Strength Profiles

Variable	N	Mean	S.D.	Skewness	Kurtosis
CSP	199	18.39	1.97	.03	-.14
ONSP	199	22.12	2.17	-.20	.25
PESP	199	18.49	1.96	-.36	.73

Figure 1: Histogram of CSP Distribution

CSP

Mean = 18.39
Std. Dev. = 1.968
N = 199
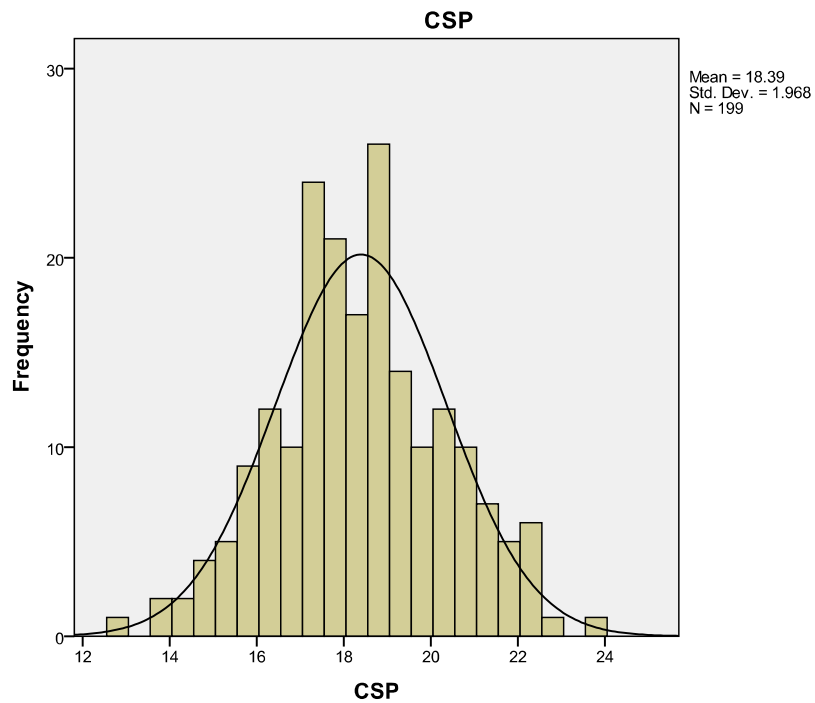
Figure 2: Histogram of ONSP Distribution

ONSP

Mean = 22.11
Std. Dev. = 2.176
N = 199
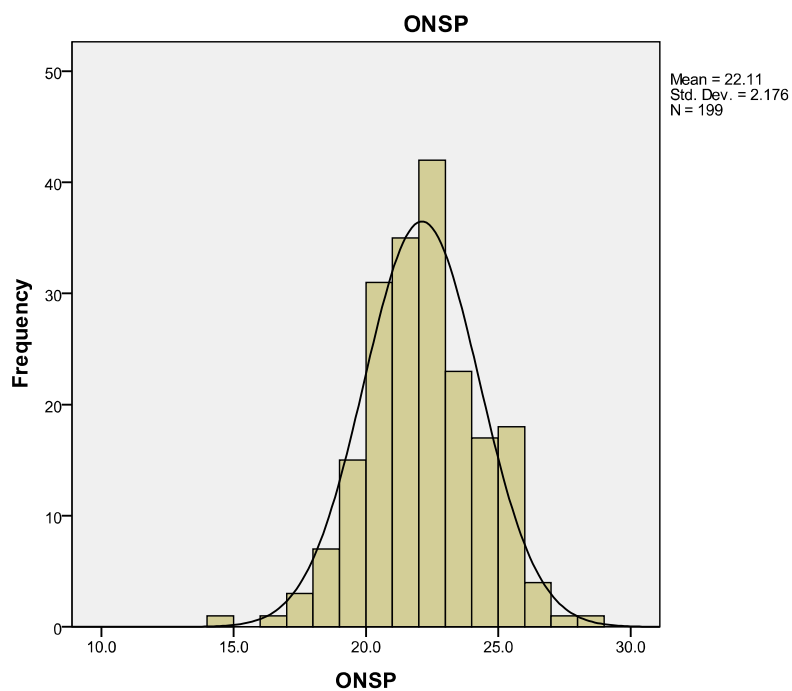
Figure 3:

Histogram of PESP Distribution

PESP

Mean = 18.49
Std. Dev. = 1.963
N = 199
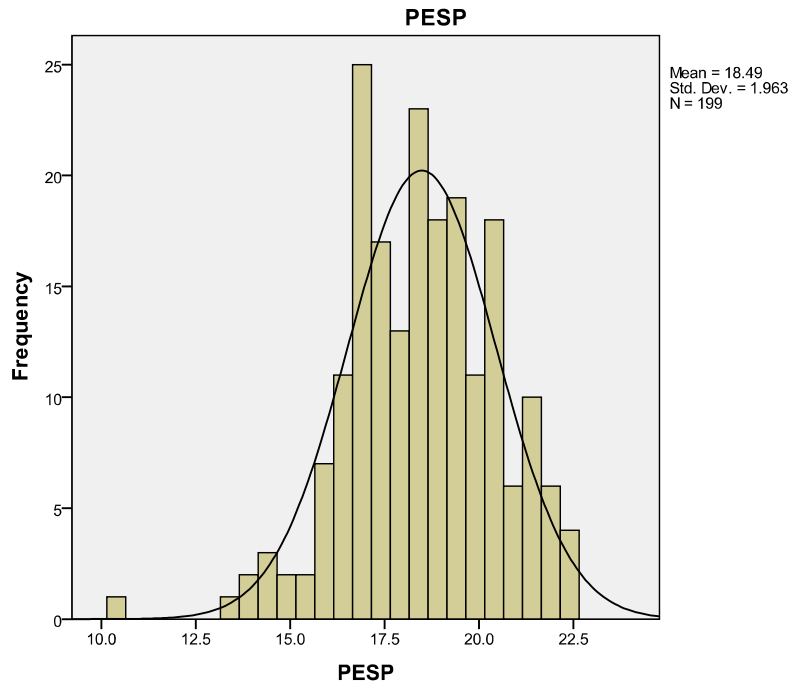
Table 7: Summary of Hierarchical Regression Results (Hypothesis Testing)

Independent Variables	RAT 1		RAT 1 Outliers Removed		Negative Emotions Negative Condition	Positive Emotions in the Positive Condition	
	H1	H4	H1	H4	H2	H3	H7
Controls							
Age	-0.06	-0.05	-0.01	-0.01		0.17	0.17
Gender					-0.23		
EFL	0.36**	0.33**	0.28**	0.27**		-0.10	-0.10
WPT	0.18*	0.15*	0.11	0.09		-0.127	-0.13
Negative Affect	-0.03	-0.06	-0.09	-0.13			
Positive Affect							
Cognitive Reappraisal					-0.16	0.28**	0.30**
Emotional Suppression	-0.05	-0.03	-0.05	-0.03			
Finance							
Marketing	0.06	0.08	0.08	0.10			
HRM	0.13	0.13	0.14	0.14			
Satisfaction with Life							
Main Effects							
CSP	0.06		0.09				
PESP		-0.08		-0.07		0.10	
ONSP					-0.27*		0.02
ΔR^2	.00	.01	.01	.00	.06*	.01	.00
Overall R^2	.23	.24	.18	.18	.23	.21	.20
df	8, 174	8, 174	8, 121	8, 121	3, 49	5, 129	5, 129
Overall F	6.66**	6.76**	3.27**	3.21**	4.81**	6.67**	6.34**

$*p<.05$ $**p<.01$

Table 7 (Continued): Summary of Hierarchical Regression Results (Hypothesis Testing)

Independent Variables	Cognitive Reappraisal		Emotional Suppression		Positive Affect	Negative Affect
	H6	H6	H6	H6	H8	H9
Controls						
Age						
Gender			0.12	0.12	0.20**	
EFL			-0.11	-0.11		-0.14*
WPT						-.010
Negative Affect			0.19*	0.21**	0.40**	
Positive Affect	0.14*	0.11				0.43**
Cognitive Reappraisal			0.28**	0.25**	0.12*	
Emotional Suppression	0.26**	0.24**				0.17**
Finance			0.06	.06		
Marketing						
HRM			-0.13	-0.13		
Satisfaction with Life					0.20**	-0.22**
Main Effects						
CSP						
PESP	0.24**		-0.01		0.36**	
ONSP		0.30**		0.08		-0.34**
ΔR²	.05**	.08**	.00	.01	.10**	.079**
Overall R²	.18	.21	.19	.19	.34	.34
df	3, 195	3, 195	7, 191	7, 191	5, 193	6, 192
Overall F	14.38**	17.18**	6.45**	6.69**	20.15**	16.18**

*p<.05   **p<.01

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Table 8: Summary of ANOVA for creative (RAT) performance in two emotional conditions

Variable	df	F	η	p
	Between Subjects			
Emotion Condition	1	0.19	1.13	.66
Error	203	(5.86)		
	Within Subjects			
RAT Score	1	17.16**	41.34	.00
RAT Score X Emotion Condition	1	0.46	1.10	.50
Error	203	(2.41)		

Note: values enclosed in parentheses represent mean square errors   *$p<.05$
          **$p<.01$

Table 9: Means and Standard Deviations for RAT1 and RAT2 (significance level from t-test)

	RAT1	RAT2	ΔRAT
Both Conditions	2.01	2.78	0.77**
	(1.72)	(2.30)	(2.19)
Positive Condition	1.95	2.78	0.83
	(1.63)	(2.42)	(2.42)
Negative Condition	2.18	2.78	0.60
	(1.96)	(1.95)	(1.38)
Difference	0.24	0.00	0.23

*$p<.05$ **$p<.01$

Figure 4: Change in Creativity Score before and after emotional manipulation
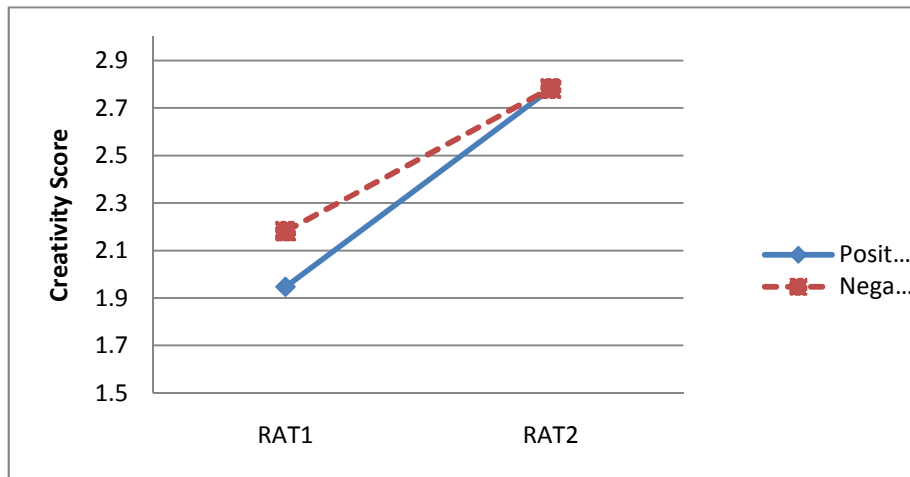
Table 10: Summary of ANOVA for creative (RAT) performance in two emotional conditions with outliers removed

Variable	df	F	η	p
Between Subjects				
Emotion Condition	1	0.01	0.04	.92
Error	145	(4.43)		
Within Subjects				
RAT Score	1	16.62**	37.77	.00
RAT score X Emotion Condition	1	0.90	2.04	.35
Error	145	(2.27)		

Note: values enclosed in parentheses represent mean square errors   *p<.05
**p<.01

Table 11: Means and Standard Deviations for RAT1 and RAT2 with outliers removed (significance level from t-test)

	RAT1	RAT2	ΔRAT
Both Conditions	2.62	3.48	0.86**
	(1.56)	(2.06)	(2.13)
Positive Condition	2.56	3.53	0.97
	(1.45)	(2.17)	(2.34)
Negative Condition	2.77	3.37	0.66
	(1.82)	(1.77)	(1.51)
Difference	0.21	0.16	0.37

*p<.05   **p<.01

Figure 5: Change in Creativity Score before and after emotional manipulation with outliers removed
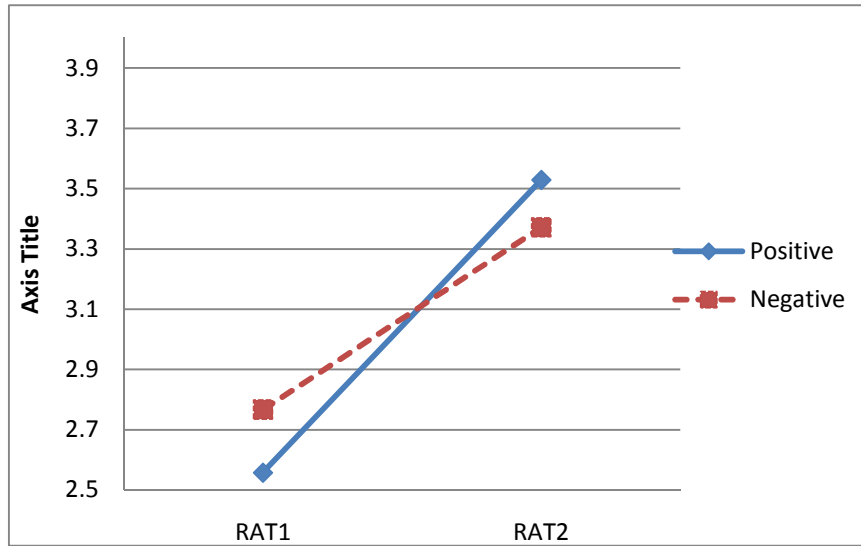
Table 12 : Summary of Hierarchical Regression Results (Supplemental Analysis)

	Negative Emotions in the Negative Condition	Negative Emotions in the Negative Condition2[a]		Sadness		Disgust		Confusion	
Independent Variables									
Controls									
Gender	-0.28*	-0.06	-0.06	-0.11	-0.11	-0.09	-0.09	-0.02	-0.02
Cognitive Reappraisal	-0.18	-0.01	-0.02	0.01	-0.00	-0.02	-0.03	0.04	0.04
Main Effects									
PESP	-0.17		0.00		0.04		0.02		0.10
ONSP		-0.03		.01		-0.0		0.08	
ΔR^2	.03	.00	.00	.00	.00	.00	.00	.01	.01
Overall R^2	.19	.01	.00	.01	.12	.01	.01	.01	.01
df	3, 49	3, 195	3, 195	3, 195	3, 195	3, 195	3, 195	3, 195	3, 195
Overall F	3.88*	0.30	0.24	0.80	0.90	0.66	0.65	0.65	0.90

[a] Negative Emotions 2 represents disgust and sadness experienced in the Negative Condition   *$p < 0.05$ **$p'0.01$

Table 13: Test of Cognitive Reappraisal as a mediator of the relationship between Positive Emotions and PESP

Variables	B	SE B	β
Step 1: Criterion variable: Positive Emotions in the Positive Condition			
Independent Variable: PESP	0.57	0.26	0.18*
Step 2: Criterion variable: Cognitive Reappraisal			
Independent Variable: PESP	0.86	0.20	0.30**
Step 3: Criterion variable: Positive Emotions in the Positive Condition			
Independent Variables:			
Cognitive Reappraisal	0.31	0.10	0.28**
PESP	0.26	0.27	0.08
*p<.05 **p<.01			

Table 14: Test of Cognitive Reappraisal as a mediator of the relationship between Positive Emotions and ONSP

Variables	B	SE B	β
Step 1: Criterion variable: Positive Emotions in the Positive Condition			
Independent Variable: ONSP	0.36	0.23	0.13
Step 2: Criterion variable: Cognitive Reappraisal			
Independent Variable: ON□P	1.00	0.17	0.38**
Step 3: Criterion variable: Positive Emotions in the Positive Condition			
Independent Variables:			
Cognitive Reappraisal	0.35	0.10	0.31**
ONSP	-0.01	0.25	-0.00
	*p<.05		**p<.01

Table 15 : Summary of Hierarchical Regression Results (Supplemental Analysis)

Independent Variables	Positive Emotions in the Negative Condition		Negative Emotions in the Positive Condition		Positive Emotions		Negative Emotions	
Controls								
Age					0.19**	0.19**		
WPT					-0.17*	-0.18*		
Negative Affect							0.18*	0.18*
Positive Affect			0.11	0.12				
Cognitive Reappraisal					0.21**	0.22**		
Main Effects								
PESP	0.21		0.10		0.09		0.11	
ONSP		0.11		0.07		0.04		0.07
ΔR^2			.03	.00	.01	.00	.01	.01
Overall R^2	.04	.01	.01	.03	.14	.138	.04	.03
df	1, 51	1, 51	2, 143	2, 143	4, 178	4, 178	2, 196	2, 196
Overall F	2.35	0.63	2.28	1.93	7.50**	7.12**	3.77*	3.02

*p<.05   **p<.01

Table 16 : Summary of Hierarchical Regression Results (Supplemental Analysis)

Independent Variables	Positive Affect	Negative Affect	Satisfaction with Life		
Controls					
Age					
Gender	0.18**				
EFL		-0.14*	0.11	0.11	0.11
WPT		-0.10			
Negative Affect	0.41**		-0.32**	-0.29**	-0.25**
Positive Affect		0.40**	0.25**	0.20**	0.15
Cognitive Reappraisal	0.08				
Emotional Suppression		0.13*			
Finance					
Marketing					
HRM					
Satisfaction with Life	0.16*	-0.26**			
Main Effects					
CSP			0.11		
PESP		-0.26**		0.21**	
ONSP	0.41**				0.30**
ΔR^2	.12**	.05**	.01	.04**	.07**
Overall R^2	.36	.31	.21	.23	.26
df	5, 193	6, 192	4, 194	4, 194	4, 194
Overall F	21.57**	14.40**	12.70**	14.81**	17.39**

$*p<.05$ $**p<.01$

Table 17a: Summary of Hierarchical Regression Results of Emotion Regulation Technique and Virtues

Independent Variables	Cognitive Reappraisal					
Controls						
Gender						
EFL						
Negative Affect						
Positive Affect	0.14	0.17*	0.13	0.17*	0.18**	0.15*
Cognitive Reappraisal						
Emotional Suppression	0.24**	0.26**	0.32**	0.24**	0.20**	0.26**
Finance						
HRM						
Main Effects						
Wisdom & Knowledge	0.24**					
Courage		0.13				
Humanity			0.29**			
Justice				0.29**		
Temperance					0.28**	
Transcendence						0.24**
ΔR^2	.05**	.01	.07**	.08**	.07**	.05**
Overall R^2	.18	.15	.20	.22	.21	.18
df	3, 195	3, 195	3, 195	3, 195	3, 195	3, 195
Overall F	14.52**	11.18**	16.48**	17.81**	16.81**	14.66**

*p<.05   **p<.01

Table 17 (Continued) : Summary of Hierarchical Regression Results of Emotion Regulation Technique and Virtues

Independent Variables	Emotional Suppression					
Controls						
Gender	0.11	0.12	0.09	0.12	0.11	0.12
EFL	-0.11	-0.11	-0.07	-0.11	-0.09	-0.11
Negative Affect	.020**	0.20**	0.16*	0.20**	0.22**	0.19**
Positive Affect						
Cognitive Reappraisal	0.26**	0.28**	0.33**	0.25**	0.21**	0.28**
Emotional Suppression						
Finance	0.06	0.06	0.07	0.07	0.06	0.06
HRM	-0.13	-0.13	-0.12	-0.14*	-0.14*	-0.13
Main Effects						
Wisdom & Knowledge	0.08					
Courage		0.03				
Humanity			-0.18*			
Justice				0.08		
Temperance					0.19**	
Transcendence						-0.01
ΔR^2	.01	.00	.03*	.01	.03**	.00
Overall R^2	.20	.19	.22	.20	.22	.19
df	7, 191	7, 191	7, 191	7, 191	7, 191	7, 19
Overall F	6.65**	6.48**	7.56**	6.69**	7.78**	6.45**

*p<.05   **p<.01

Table 18: Summary of Hierarchical Regression Results of Positive Affect and Virtues

	Positive Affect					
Independent Variables						
Controls						
Gender	-0.15*	0.17**	0.22**	0.20**	0.18**	0.19**
EFL						
WPT						
Negative Affect	0.40**	0.45**	0.39**	0.39**	0.37**	0.37**
Positive Affect						
Cognitive Reappraisal	0.11	0.13*	0.14*	0.15*	0.18**	0.14*
Emotional Suppression						
Satisfaction with Life	0.11	0.15*	0.17*	0.28**	0.28**	0.23**
Main Effect						
Wisdom & Knowledge	0.35**					
Courage		0.50**				
Humanity			0.31**			
Justice				0.19**		
Temperance					0.1	
Transcendence						0.28**
ΔR^2	.10**	.20**	.07**	0.03**	.01	.06**
Overall R^2	.34	.44	.31	.27	.25	.30
df	5, 193	5, 193	5, 193	5, 193	5, 193	5, 193
Overall F	20.25**	30.61**	17.48**	14.39**	12.88**	17.07**

$*p<.05$ $**p<.01$

Table 19: Summary of Hierarchical Regression Results of Positive Affect and Virtues

Independent Variables	Negative Affect					
Controls						
Gender						
EFL	-0.16*	-0.11	-0.13*	-0.13*	-0.16*	-0.15*
WPT	-0.07	-0.11	-0.07	-0.09	-0.09	-0.10
Negative Affect						
Positive Affect	0.42**	0.48**	0.36**	0.35**	0.34**	0.36**
Cognitive Reappraisal						
Emotional Suppression	0.16**	0.13*	0.11	0.15*	0.17**	0.13*
Satisfaction with Life	-0.28**	-0.23**	-0.28**	-0.30**	-0.29**	-0.30**
Main Effect						
Wisdom & Knowledge	-0.30**					
Courage		-0.40**				
Humanity			-0.15*			
Justice				-0.20**		
Temperance					-0.18**	
Transcendence						-0.16*
ΔR^2	.07**	.11**	.02*	.04**	.03**	.21*
Overall R^2	.33	.37	.27	.29	.29	.28
df	6, 192	6, 192	6, 192	6, 192	6, 192	6, 192
Overall F	15.64**	18.50**	11.92**	13.30**	12.76**	12.30**

*p<.05   **p<.01

Table 20 : Summary of Hierarchical Regression Results of Satisfaction with Life and Virtues

Independent Variables	Satisfaction With Life					
Controls						
EFL	0.11	0.10	0.06	0.10	0.12	0.11
Negative Affect	-0.33**	-0.28**	-0.27**	-0.34**	-0.32**	-0.32**
Positive Affect	0.25**	0.18*	0.17*	0.28**	0.25**	0.23**
Main Effects						
Wisdom & Knowledge	0.10					
Courage		0.21*				
Humanity			0.34**			
Justice				0.09		
Temperance					0.19**	
Transcendence						0.18*
ΔR^2	.01	.03*	.09**	.01	.03**	.03*
Overall R^2	.21	.23	.29	.21	.23	.21
df	4, 194	4, 194	4, 194	4, 194	4, 194	4, 194
Overall F	12.63**	14.13**	19.82**	12.59**	14.53**	14.16**

$*p<.05$ $**p<.01$

Table 21 : Summary of Hierarchical Regression Results - All Virtues Entered in Step 2

	Cognitive Reappraisal	Emotional Suppression	Positive Affect	Negative Affect	Satisfaction with Life
Independent Variables					
Controls					
Age					
Gender		0.05	0.17**		
EFL		-0.02		-0.12*	0.06
WPT				-0.11	
Negative Affect		0.21**	0.45**		-0.28**
Positive Affect	0.16*			0.47**	0.18*
Cognitive Reappraisal		0.23**	0.14*		
Emotional Suppression	0.23**			0.21**	
Finance		0.06			
Marketing					
HRM		-0.11			
Satisfaction with Life			0.15*	-0.27**	
Main Effects					
Wisdom & Knowledge	0.14	0.18	0.10	-0.19*	-0.08
	(2.3)	(2.4)	(2.3)	(2.4)	(2.3)
Courage	-0.18	0.08	0.47**	-0.38**	0.02
	(2.5)	(2.4)	(2.4)	(2.6)	(2.7)
Humanity	0.15	-0.45**	0.03	0.21*	0.44**
	(2.7)	(2.6)	(2.8)	(3.2)	(2.5)
Justice	0.11	0.13	0.01	-0.15	-0.26**
	(2.5)	(2.6)	(2.6)	(2.6)	(2.5)
Temperance	0.16	0.26**	-0.12	-0.04	0.18*
	(2.1)	(2.0)	(2.0)	(2.1)	(2.0)
Transcendence	0.01	-0.10	0.01	0.14	0.02
	(2.6)	(2.7)	(2.6)	(2.7)	(2.7)
ΔR^2	.12**	.13**	0.21**	.15**	.13**
Overall R^2	.25	.32	.46	.40	.33
df	8, 190	12, 186	10, 188	11, 187	9, 189
Overall F	7.98**	6.64**	15.66**	11.40**	10.16**

Note: Values in parentheses are VIF values   *p<.05   **p<.01

Table 22: Summary of Hypothesis Testing

No.	Hypothesis	Result
Creativity Hypotheses		
H1	CSP composite scores will positively predict performance on a task assessing associative creativity.	Not supported
H4	PESP scores will positively predict performance on a task assessing associative creativity.	Not supported
H5	Individual performance on a task assessing associative creativity will be higher for individuals in a positive emotion priming condition compared to individuals in a negative emotion priming condition.	Not supported
Emotion Regulation Hypotheses		
H2	ONSP scores will be negatively related to negative emotions reported as a reaction to negative stimuli.	Supported: $\beta = -0.27$, $p < 0.05$
H3	PESP scores will be positively related to positive emotions reported as a result of exposure to positive stimuli.	Not Supported
H6a-d	ONSP and PESP scores will predict the use of cognitive reappraisal more than the use of emotional suppression as an emotion regulation strategy.	Supported: ONSP ($\beta = 0.34$, $p < 0.01$) and PESP ($\beta = 0.24$, $p < 0.01$) predicted cognitive reappraisal; neither ONSP or PESP predicted emotional suppression
H7	While priming positive emotions, individuals with the ONSP will show less of a positive emotional reaction than will individuals with the PESP.	Not Supported
H8	PESP scores will positively predict positive affect.	Supported: $\beta = 0.36$, $p < 0.01$
H9	ONSP scores will negatively predict negative affect.	Supported: $\beta = -0.34$, $p < 0.01$

Table 22: Summary of Hypothesis Testing (Continued)

No.	Hypothesis	Result
Supplemental Analysis: Virtues in place of Profiles		
H6	Virtues as Predictors of Emotion Regulation Strategy	5 virtues positively predict cognitive reappraisal (courage does not); humanity negatively predicts emotional suppression, courage positively predicts emotional suppression
H8	Virtues as Predictors of Positive Affect	5 virtues positively predict positive affect (temperance does not)
H9	Virtues as Predictors of Negative Affect	All 6 virtues negatively predict negative affect.
	Virtues as Predictors of Satisfaction with Life	4 virtues positively predict satisfaction with life (wisdom & knowledge and justice do not)
Supplemental Analysis		
	ONSP vs. PESP as Predictors of Negative Emotions	PESP did not predict negative emotions
	ONSP as Predictor of Positive Affect	ONSP predicts PA: $\beta = 0.41$, $p < 0.01$
	PESP as Predictor of Negative Affect	PESP predicts NA: $\beta = -0.26$, $p < 0.01$
	PESP and ONSP as Predictors of Satisfaction with Life	ONSP ($\beta = 0.30$, $p < 0.01$) and PESP ($\beta = 0.21$, $p < 0.01$) predict satisfaction with life.