

Innovation, Creativity, and Positive Psychological Capital: Examining the Relationships in
Adolescents, Employees and Entrepreneurs

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Synopsis

Innovation is essential for companies to survive and for countries to develop since it is the key for increased market share and sustained competitive edge (Baer & Frese, 2003; Dodgson, Gann, & Salter, 2005; George & Zhou, 2001; Kleysen & Street, 2001) and related to advances in knowledge that leads to better health, education and improvements in technology (West & Altink, 1996). Concepts related to innovation are innovative behavior and creativity. Creativity is the production of novel and useful ideas (Amabile, 1998), and innovation is the implementation of novel and useful ideas (Amabile, 1998; West, 2002). Innovative behavior is defined as “all individual actions directed at the generation, introduction and application of beneficial novelty at any organizational level” (Kleysen & Street, 2001, p.285). Innovation and creativity are essential ingredients for the success of firms as well as ventures and small and medium enterprises (Baron & Tang, 2009). People who produce new ideas whether employees or entrepreneurs must have been affected by the way they were educated at least to some degree. As a main component for the growth of nations, creativity in adolescents and children should be studied since we need more and more creative and innovative employees, leaders and entrepreneurs (Baer & Frese, 2003; Ohly & Fritz, 2010, West & Altink, 1996). As Collins (2001) argued in his book *From Good to Great*, companies who were able to move from a good state to a great succeeded when placing greater importance on character attributes and skills and competencies rather than on specific educational knowledge or work experience.

This dissertation is composed of five papers that are contributing to the two fields of management and positive psychology. Specifically, this dissertation integrates research on positive psychology with research on innovation management as well as educational psychology to answer some research questions on what is it that makes employees, entrepreneurs and adolescents more creative and higher in their positive psychological capital (PsyCao). The objective of this dissertation is twofold. First, it aims at refining theory on antecedents of innovative behavior at the organizational and entrepreneurial level. Study 1 and 2 intend to advance the innovative behavior research and theory (Bysted, 2013; De Jong & Kemp, 2003;

Klyesen & street, 2001; West, 2002; Yuan & Woodman, 2010) by integrating the concept of positive psychological capital (PsyCap) (Luthans, 2002a, 2002b; Luthans et al., 2007a, 2007b). The link between positive organizational behavior (POB) and innovation should become a major focus for management researchers and practioners. Positive organizational behavior (Luthans 2002a; 2002b; Wright, 2003) has its roots in the field of positive psychology which was initiated by positive psychologist Martin Seligman (Seligman, 1995, 2002a, 2002b, 2006, 2007; Seligman & Csikzentmihalyi, 2000). Positive psychology focuses on the study of positive emotions, positive traits and positive institutions (Seligman et al., 2005, 2009). Luthans (2002b) defined positive organizational behavior as "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace"(p.59). POB is evident in giant multinational companies since they focus their trainings and investments in employees in POB concepts like engagement and emotional intelligence (see <http://www.haygroup.com>). The goals of study 1 and 2 are to examine potential antecedents of innovative behavior at the organizational and entrepreneurial levels. The goal of study 1 is to shed light on the importance of PsyCap at the psychological level with creativity and Personal initiative (PI) on the personal and psychological levels, and finally work design, supportive climate and strategic attention at the organizational and work level, as antecedents to innovative behavior. The aim of study 2 is to add to the micro-level research on entrepreneurial innovation and is the first to examine the innovative behavior of entrepreneurs and especially with PsyCap.

Second, this dissertation aims at shedding light on the importance of education and specifically character education at schools and how it could affect the "positivity" and wellbeing of adolescents so they enjoy higher PsyCap and so become more creative and so in the future more innovative employees and entrepreneurs. Therefore, based on the findings of study 1 and 2 that PsyCap leads to more innovation and creativity, studies 4 and 5 aim at exploring the relationships between adolescents life meaning and PsyCap and the extent to which they possess a creative personality as well as the impact of character education programs (Lickona 1991, 1999, 2000, 2001, 2004; Lickoan & Davidson, 2005) at schools and how they affect these variables mentioned. Paper 3 which is a conceptual paper aims at integrating the two fields of positive psychology and character education in an attempt to better define what is meant by a

character and the development of the whole person (Cohen, 2006). As an overview, Figure 1 depicts the concepts and relationships that are integrated in this dissertation. The below lines elaborate more the objectives and contributions of each of the five papers.

The aim of the first study "*Innovative Behavior of Employees: A model of Antecedents and Consequences*" was to extend the innovative behavior research on antecedents and link it to PsyCap where PsyCap is composed of the four constructs of hope, optimism, resilience and self-efficacy. Employees who are more hopeful, optimistic, resilient and self-efficient are more likely to develop several pathways to achieve their goals (Snyder, 2002; Snyder et al., 1996, 1997), take risks and be more imaginative (Bandura, 1993; Seligman, 2002a, 2006), and are more likely to overcome challenges (Masten & Obradovic, 2006). Therefore, it is likely to assume that they can come up with new ideas and implement it as they are more open to the future, are more able to bounce back if they faced problems while trying to implement their ideas and develop several pathways towards implementing it as well as take the risk associated with implementing new ideas. Therefore, one main goal of the study was to extend our knowledge to whether these capacities lead to more innovation. In addition, several antecedents were also examined based on extensive research and theory linkages. Though previous research examined relationships between some aspects of work characteristics like time pressure and job control (Ohly & Frtiz, 2010), autonomy (Axtell et al., 2000), and complexity (Amabile et al., 1996) on creativity, up to our knowledge, we did not find any previous research that investigated the impact of all work characteristics of task and knowledge characteristics together with innovative behavior whereby the link to creativity does not necessarily mean these ideas will be implemented like innovative behavior. Moreover, PI's self-starting aspect involves strategies and goals developments that are different and extraordinary and developed by employees whose role does not include doing so (Fay & Frese, 2001; Frese et al., 1997; Sonnentag, 2003; Unsworth & Parker, 2003). Therefore, we assumed PI should lead to innovative behavior. Creativity was assumed to affect innovative behavior based on the argument that it is considered a first step toward achieving innovation (Amabile, 1988; Madjar et al., 2002). Supportive climate was assumed to affect innovative behavior based on the argument that the more support for their innovations employees receive the more they are able to implement their ideas (Scott & Bruce, 1994). Finally, the role strategic management plays in fostering innovation is essential to examine. This study aimed at linking the

degree to which employees are aware of the strategic direction of their company and whether this affected their innovative behavior or not.

Finally, and most importantly, this study linked positive psychology concept of engagement to innovative behavior by asking the question of whether innovative behavior should lead to more engagement as a result of the positive feelings or flow one might feel after implementing his or her ideas. This argument is based on flow and creativity research (Csikszentmihalyi, 1996, 1997; Sawyer et al., 2003). Innovative behavior was also assumed to lead to more satisfaction based on the argument that employees might feel more loyal and satisfied in a company and a job where they are able to implement their ideas.

We examined the hypotheses by using an online survey as well as handed it to others depending on the company preference and feasibility where Egyptian employees (N = 108) were asked to complete a survey about their feelings and perception on work. The results supported all hypotheses with the exception of job complexity which was not found to predict innovative behavior. Study 1 not only suggests the apparent value of employees' psychological capital at all levels within organizations, but also other antecedents to innovative behavior as well as outcomes of engagement and satisfaction. The antecedents examined here provide a framework for investing in employees' capacities as well as company resources to be able to compete in the current turbulent environment.

The second study of this *dissertation " Innovative Behavior of Egyptian Entrepreneurs: A Model of Antecedents and Consequences"* builds on and extends the innovation of ventures (Amabile, 1998; Madjar et al., 2002). This study investigated the role entrepreneurs' PsyCap as a core construct as well as its components of hope, optimism, self-efficacy and resilience played in venture performance and entrepreneurs' innovative behavior as well as the mediation effect of creative behavior and PI. These links were based on the arguments that entrepreneurs who are more able to come up with new and several pathways to achieve their goals (Snyder, 2002), are more imaginative and confident about the future (Seligman, 2006), can take risks and are more able to overcome challenges (Bandura, 1993; Masten & Obradovic, 2006). In a sample of 159 Egyptian entrepreneurs, entrepreneurs' PsyCap were found to predict creative behavior and PI that in turn were found to predict innovative behavior but not venture performance.

PsyCap was also found to predict venture performance. The positive relationship of PsyCap and PI and creative behavior and so their impact on innovative behavior lends support for the assumption that PsyCap enables entrepreneurs to come up with and execute new ideas and take initiatives and appropriate actions whenever needed and even take proactive actions that would improve firm's operations. As other studies highlighted on the importance of measuring the contribution that each construct adds or predicts individually (Sweetman et al., 2010), it was essential to investigate the contribution of each construct whereby the four constructs were found to predict both innovative behavior and performance. Consistent with positive psychology research that individuals who are optimistic and resilient sell more and are more successful (Seligman 2002a, 2002b, 2006; Seligman et al., 2009), this study provided support that firms of entrepreneurs who are hopeful, optimistic, self-efficient and resilient perform better than those who are not.

Finally, the third, fourth, and fifth papers included one conceptual paper and 2 empirical studies on adolescents. These three papers aim at integrating the fields of positive psychology (Seligman, 2002a, 2002b, 2006) and character education (Lickona, 1991, 1999) in an attempt to shed light on the importance of education on character development and how this could in turn affect the development of positive characters that are happy, optimistic and creative. Paper 3 *"Character Education and Positive Psychology: On the Synergy between the Two Fields and Introducing Positive Character"* adds to the understanding of character education and offers a more comprehensive approach to character education programs that integrates positive psychology under it. As children and adolescents learn to be moral and to live a happy life, they grow up to responsible happy citizens, creative employees and proactive entrepreneurs who are able to add to their countries. The aim of paper 3 was to develop a new definition for character education that would include not only moral character and performance character (see Lickona & Davidson, 2005) but also what we called "positive character". This third component shed light on the importance of wellbeing and positivity at schools and that it is not enough to teach morals and success skills like time management and communication but also the skills of wellbeing (Seligman et al., 2009). Therefore, the paper starts by examining the similarities in approaches and research among the character education field and the positive psychology, specifically positive education (see Seligman et al., 2009).

Based on paper 3, study 4 *"Positive Psychological Capital of Adolescents: Measurement and the Role of Life Meaning as an Antecedent and Creativity and Life Satisfaction as Consequences"* adds to the theory of creative personality and PsyCap by examining the role of life meaning and how it could affect adolescents' levels of hope, optimism, resilience and self-efficacy that would in turn lead to more creative personalities and life satisfaction. Research on positive organizational behavior should move to schools as adolescents are the future employees. Previous research indicates that positive psychological capital (PsyCap) correlate positively with job satisfaction and creative performance and that was also evident in study 1 and 2. In study 4, we examined whether PsyCap predicts adolescents' life satisfaction and creativity in a sample of adolescents (N = 577). We also examine whether life meaning predicts PsyCap. Consistent with what Seligman (1995, 2006) suggest, life meaning was found to predict PsyCap and PsyCap in turn was found to predict life satisfaction and creativity. Additionally, PsyCap mediated the relationship between meaning and life satisfaction and creativity. The main purpose of study 4 was to shed light on the importance of positivity for adolescents and how it affects their psychological capital, a type of capital that is as important as, if not more important than, other types of capital like financial and human capital (see Luthansa 2002a, 2002b).

Study 5 *"The Impact of Character Education Programs on Creativity and Positive Psychology Constructs of Adolescents"* builds on paper 3 and study 4 and offers a unique and needed contribution to the two fields of character education and positive psychology. This study examined the impact of character education programs in two international schools in Egypt that adopted different types of character education programs where one adopted the program "character counts" or the six pillars (see <http://charactercounts.org>) with a spiritual focus and another one adopted one that the school developed. These two schools were compared against a control school that shred the same type of education and social class among students but did not offer any character education program. We assessed the impact of character education on meaning, life satisfaction, PsyCap, and creativity where adolescents (N = 577) from three different schools in Egypt completed a survey that assessed their creativity, positive psychological capital, life meaning, and life satisfaction. The two character education programs were found to have an impact on adolescents' level of hope. A character education program with a religious and spiritual focus was found to have an impact on adolescents' optimism. The two programs did not have any impact

on resilience, self-efficacy, positive psychological capital, life satisfaction, or life meaning. Though the results, with the exception of hope and optimism, contradicted our expectations, they offer insight to what we suggest in paper 3. That is, character education should not just focus on morals and skills but skills of wellbeing, whereby student learn how to think and how to change their explanatory style to become more optimistic, should also be taught at schools and that is what Seligman called for in his positive education initiative (Seligman et al., 2009). However, results also provide support for our hypotheses that character education programs play a major role in the personalities of students. Finally, though we expected positive changes in creativity based on the two schools practices, it was also no surprise that there were no significant changes in creativity or more accurately creative personality. Educational systems in general tend not to develop creative personality characteristics (Csikszentmihalyi, 1996; Rathunde & Csikszentmihalyi, 2005a, 2005b). According to Csikszentmihalyi (1996), creative persons are playful. Csikszentmihalyi (1997) highlighted on the relationship between flow, happiness and creativity. This study draws attention to the importance of not just restructuring but a reengineering for character education programs that would also need some changes in the educational systems in general if we are to foster creativity and innovation among students and that is not possible without some degree of positivity.

However, like any dissertation, the current one had limitations.

First, causal inferences that the antecedents of innovative behavior causes or other outcomes in the study of character education cannot be made. We depended on existing theory and prior research to describe and build a framework for our hypothesized relationships in studies 1, 2 and 4. We used differential research for study 5. However, the direction of the relationships cannot be determined without creating sequential precedence and experimental manipulations. In other words, the direction of the causality has not been established and the possibility of other alternative hypotheses (e.g., high engagement leads to high innovative behavior) cannot be ruled out or that character education programs caused the positive effects since it was not a post and pretest experiment.

In addition, common method variance within and between independent or dependent variables may lead to artificially high correlations (Podsakoff et al., 2003). Since some variables

showed strong correlation, common method bias could have impacted the pattern of results. However, it is important to note that for study 1, for the surveys that were handed in and not the online; the filing of the questionnaire was distributed in 2 different days which can potentially reduce the common method bias limitation. For study 2 however the online survey was the only convenient way to reach a total of 4000 entrepreneurs. For studies 4 and 5, students rated themselves however for some measured we could have used parents or teachers' ratings too however that was not convenient with the school as it was against their policies. Further, to minimize common method bias, variables were measured on different levels of specification (Podsakoff et al., 2003). For example, work characteristics were assessed as stable features of jobs while creative and innovative behaviors as the general tendency to engage in the behavior.

Finally, the sample size for study 1 is relatively small and specifically in relation to the variables included in the model. One reason for that might be the length of the questionnaire since it measured many variables. However, again we tried to solve this issue by dividing the questionnaire into two parts. One other reason is the unawareness of research importance in Egypt and the fact that companies are not willing to cooperate for research and are more concerned about confidentiality issues. Therefore, future research should focus on replicating the same model with larger sample.

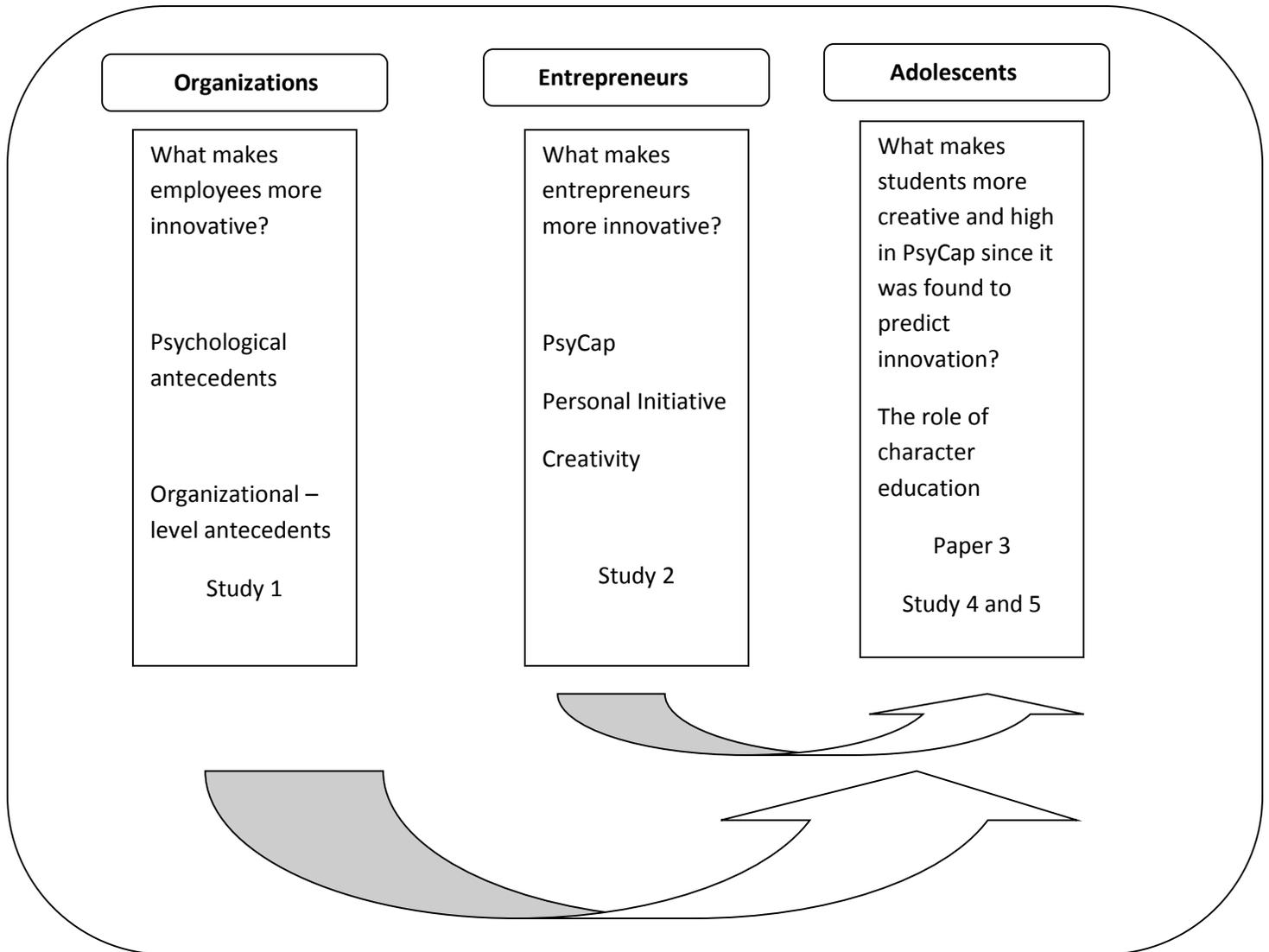
In conclusion, the five papers contribute to literature on creativity and innovation at the organizational, entrepreneurial and adolescents' levels. As many researchers (e.g., Baer & Frese, 2003; West & Altink, 1996) pointed out innovation is critical for countries to develop as it leads to new advances on health, education and technology. However, research on the antecedents of innovative behavior received insufficient attention (Rank et al., 2004). Research that linked innovation to positive psychology has been rare too despite the link between flow and creativity. Moreover, positivity at schools and how it could impact adolescents' characters whether at the performance level of creativity (Lickona & Davidson, 2005) or as a VIA strength (see Peterson & Seligman, 2004) is a neglected topic despite its importance. We provide evidence for the importance of positive psychology for companies, entrepreneurs and adolescents whereby PsyCap was found to predict creativity or innovative behavior in the three samples. So this dissertation

contributed to literature of innovation and creativity and PsyCap at different ages and among different types of jobs or occupations.

Finally, this dissertation highlighted on many areas for future research as well as practical implications. First, future research should start focusing on interventions that increases PsyCap and measure the level of creativity or innovation and whether it increased or not after such interventions. We also suggest that positive psychology courses or trainings are integrated in firms' training modules so that PsyCap is increased which in turn should lead to better performance and more innovation according to our model. Research on entrepreneurship should focus more on the micro-level since it needs more research to understand the entrepreneurial activity and motivation behind their innovations.

Our findings are in line with the suggestions of positive psychology and POB researchers to focus our research on the positive side of employees and entrepreneurs rather than the negative (Luthans, 2002a, 2002b; Seligman, 2006). Moreover, this dissertation covered a great gap in the literature of positive psychology and character education where scholars from both fields are lacking some aspects that are found in the other field whereby despite the increased number of character education programs and initiatives worldwide, the spread of violence and depression is still on the rise (see Likona 1999; Seligman et al. 2009). The suggested approach to character education suggested here could offer a solution. Future research should therefore focus on building programs that combine all three aspects of character. That is moral character, performance character and positive character in an attempt to get the best results which are more confident, moral and happy students who are able to create and innovate as a result of their happiness and optimism as well as other positive capacities. Therefore, the current studies offer insight to schools professionals and researchers as well on how to develop comprehensive character education programs.

Figure 1. The Integration of the 5 papers of the Dissertation



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Study 1-Innovative Behavior of Employees: A model of Antecedents and Consequences

Abstract

Despite increasing importance of fostering innovation among employees, and the growing interest in Positive Organizational Behavior (POB) constructs, little empirical research has been conducted on the topic of innovation with POB. Moreover, though research proved significant relationship between positive psychological capital (PsyCap) and creative performance, no studies examined PsyCap with innovative behavior along with other antecedents. In addition, potential differential antecedents of innovative behavior have received insufficient attention. The present study integrated a number of streams of research on the antecedents of innovation and creativity to develop and test a model of innovative behavior. Regression analyses reveal that PsyCap, work characteristics, personal initiative, supportive climate, strategic attention and creative behavior predict innovative behavior which in turn affects satisfaction and engagement.

Introduction

Innovation is critical for countries to develop as it is the key to increasing market share and business profits and even to avoid bankruptcy (Baer & Frese, 2003; Dodgson, Gann, & Salter, 2005; George & Zhou, 2001; Kleysen & Street, 2001) since it is related to advances in knowledge that leads to better health, education and improvements in technology (West & Altink, 1996) and is beneficial for companies (Unsworth & Parker, 2003). Innovation involves the creation of a new product, service or process (De Brentani, 2001). Organizational conditions whether structural or social affects the innovation process (Kanter, 1988) whereby innovation, creativity and proactivity are becoming essential for organizational change (Rank, Pace, & Frese, 2004). Innovation is a result of creative ideas that are developed by individuals (Janssen, Vliert, & West, 2004) and this is why researches on innovation focused on personal and contextual factors that promote innovation (see West, 2002; West & Altink, 1996). However, innovation is a process that involves a degree of uncertainty, controversy, knowledge and teamwork (Kanter, 1988). Research on innovation is not just about technology and medicine but also psychology (West & Altink, 1996). In fact, studying innovation and what are its antecedents should not be at the technical process innovations only as some studies found no or moderate relationship between the implementation of process innovations such as Business Process Reengineering (BPR), Total Quality Management (TQM), Just-In-Time and others and performance (see Baer & Frese, 2003). One good reason might be the lack of other critical antecedents that complement the process innovations like organizational structure, culture, and climate (Douglas & Judge, 2001; Emery, Summer, & Surak, 1996; Baer & Frese, 2003). In fact, research on potential antecedents of innovative behavior has received insufficient attention (Rank et al., 2004). Several researchers have highlighted on the importance of psychological factors to the success of innovations and on business objectives arguing that such research has been neglected (Baer & Frese, 2003; Rank et al., 2004). With the exception of few studies that linked positive psychology or POB constructs to innovation or creativity (see for example Baas, De Dreu, & Nijstad, 2008 and Vinarski-Peretz, & Carmeli, 2011), the link between POB constructs like PsyCap and innovation has been neglected. Innovations whether technical like new products or services or administrative like new ways of recruiting employees (West & Altink, 1996) requires employees to behave in an

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innovative way or to be able to implement their new ideas and process improvements. To do so, several antecedents are needed. These antecedents could be individual-related components like PsyCap, creative behavior and personal initiative, work-related like the degree of autonomy, feedback or significance the employee perceives, and finally strategic management-related like the strategic attention or degree of support for innovation that employees receive. The present study integrated a number of streams of research on the antecedents of innovation and creativity to develop and test a model of innovative behavior. Several researchers examined personal, psychological and organizational antecedents of creative outcomes (e.g., Amabile, 1998; Amabile & Gryskiewicz, 1987; Kanter, 1988; Tierney & Farmer, 2002; Zhou, 2003). However, innovation occurs when and ideas are implemented, not just generated. Therefore, it is crucial that we start focusing more on what is it that leads to the implementation of new ideas and initiatives. We also examined the positive outcomes of innovative behavior.

Hypothesized Model

Innovative behavior and Positive Outcomes

The importance of innovation and necessity of encouraging it is increasing worldwide (Anderson, De Dreu, & Nijstad, 2004; Janssen et al., 2004; Yuan & Woodman, 2010). Studying innovation` as an independent variable that affects other variables has been suggested by Anderson and colleagues (2004) in their article that called for a shift in the innovation research. Innovation behaviors that might have been seen previously as inappropriate or disrespectful have become increasingly desirable in today's changeable fast-moving and competitive work environment (Anderson et al., 2004). Innovative behavior can be defined as "all individual actions directed at the generation, introduction and application of beneficial novelty at any organizational level" (Kleypen & Street, 2001, p.285). Innovative behavior is not limited to developing new product ideas and new technologies, but it also includes initiating new ideas or changes in administrative procedures that aims at improving work relations or the application of new ideas or technologies to work processes aiming at enhancing the effectiveness of work (Kleypen & Street, 2001; Yuan et al., 2010). It consists of various practices and behaviors such as opportunity discovery, idea

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generation, influential investigation, championing, and application (Jong & Kemp, 2003; Kleysen & Street, 2001; West & Farr, 1989).

Engagement is defined as "the investment of an individual's complete self into a role" (Rich, Lepine and Crawford, 2010, p. 617). Several research studies examined the impact of engagement on innovative behavior (Chang, Hsu, Liou, & Tsai, 2013; Vinarski-Peretz, & Carmeli, 2011), however the impact of innovative behavior on engagement has never been examined despite its importance. According to Csikszentmihalyi (1996), creativity leads to a more fulfilling life and meaningful life. Creative achievements lead to more engagement in life whereby creative people experience flow (Sawyer, John-Steiner, Moran, Sternberg, Feldman, Nakamura, & Csikszentmihalyi, 2003). Creative people find joy and pleasure in pursuing their creative accomplishments which in turn leads to feelings of engagement (Sawyer et al., 2003). According to Csikszentmihalyi (1997), creativity leads to more wellbeing and happiness. The experience of creative achievements, which in this case describes innovative behavior since it involves implementation, leads to the feeling of flow (Sawyer et al., 2003), which is a positive state when you feel your skills are used to their utmost, a state that makes life worth living (Csikszentmihalyi, 2002; Nakamura & Csikszentmihalyi, 2002; Seligman, 1995, 2002a, 2002b). This feeling is closely related to engagement as defined by Rich and colleagues (2010) and as measured in the current study whereby employees who are engaged choose to invest their affective, cognitive, and physical energies simultaneously. In their article, Rich and colleagues (2010) classified engagement into three types of engagement; physical, cognitive and emotional whereby engaged employees are describes as "being psychologically present, fully there, attentive, feeling, connected, integrated, and focused in their role performances" (p. 619). The fact that engaged employees are those who invest their physical, emotional and cognitive energies into their work roles makes it a closely linked concept to flow. In other words, if creative achievements lead to flow then it should lead to engagement as flow involves a higher and more deep level of using your skills and energies to the most so that you feel absorbed in the work you are doing. Therefore, it is likely to assume that innovative behavior should lead to engagement.

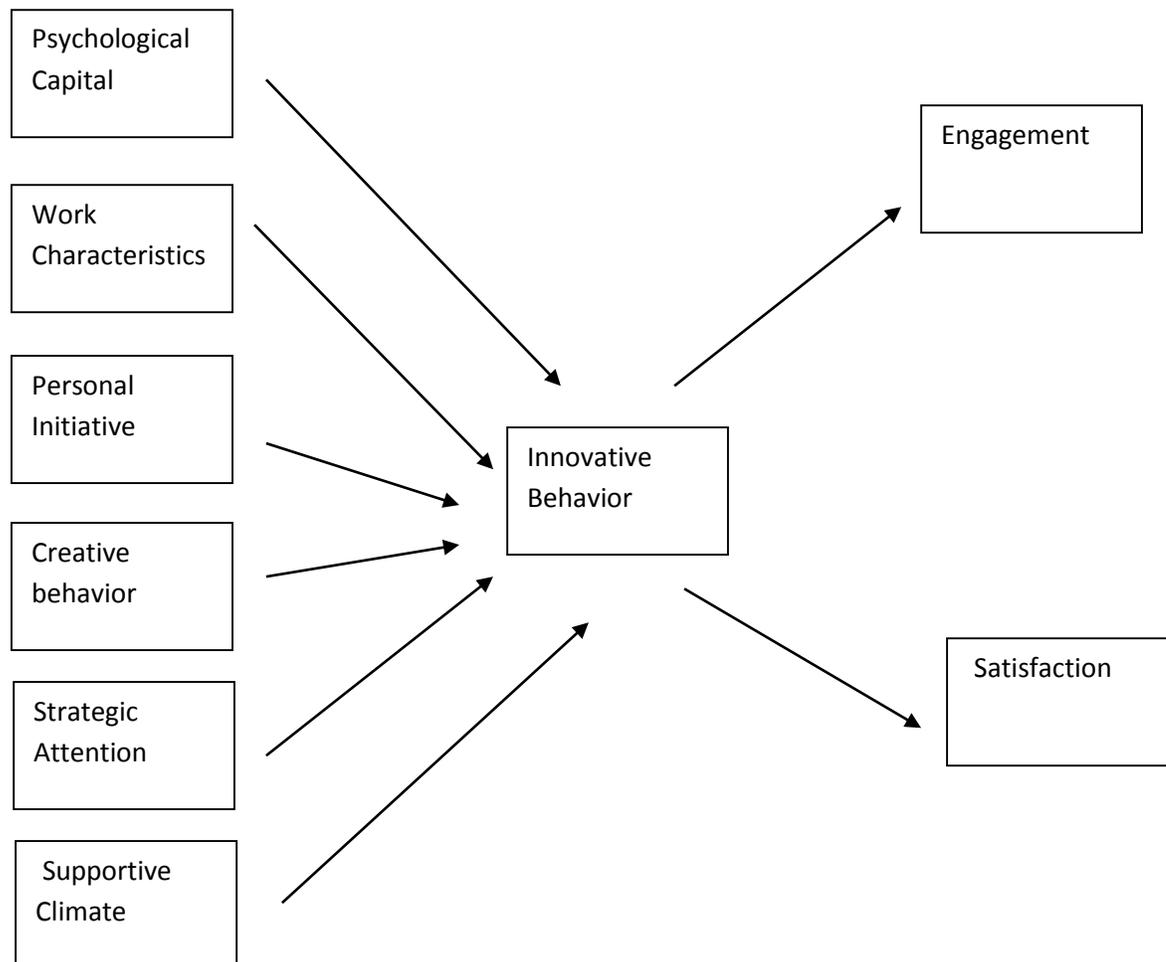
Research on innovative behavior and satisfaction has been very few and examined the impact of job satisfaction on innovative behavior (Bysted, 2013; Han-Jen, 2014) and not vice versa.

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Based on the above link between creative achievements and flow, it is likely to assume that employees who are able to implement their creative ideas are more likely to be satisfied about their jobs. Innovative cultures influence employees' levels of satisfaction, commitment, and cohesion (Odom, Boxx, & Dunn, 1990). In jobs that require a degree of creativity, employees' satisfaction might suffer if the job settings are not enhancing creativity (Shalley, Gilson, & Blum, 2000). Innovative employees who have creative minds might get demotivated and so unsatisfied with their jobs if their ideas are not implemented. Therefore, we suggest that innovative behavior should lead to more satisfaction.

H1: Innovative behavior relates positively to employee satisfaction and engagement.

Figure 1. The Hypothesized Model



Innovative behavior Antecedents

Innovation research has flourished over the last 40 years as organizations started to change from bureaucratic and rigid to more flexible, flat structures where innovation and team work are fostered (Anderson et al., 2004). Several research studies examined factors affecting innovative behavior at three levels of analysis; the individual, work group, and the organization (for major reviews, see Randall, 2005; Amabile 1996a, 1996b; Amabile, T., & Grysiewicz, 1987; West, 2001). In their article, Anderson and colleagues (2004) summarized the findings of factors affecting innovation or creativity where at the individual level factors included personality characteristics of proactivity, self-confidence and originality, motivation, and cognitive ability, at the work-level, factors included job characteristics, at the work group level, factors included team climate and team member characteristics, and finally, at the organizational level, culture, strategy, and structure were among the factors that influenced innovation. Though job characteristics, supportive climate, strategic attention, personal initiative (PI) and creativity were examined before, they were not examined in one model and were not necessarily examined as predictors for innovative behavior but for the innovation process or other types of innovative behavior related concepts like creativity or creative performance. Besides, PsyCap with its four components are added to the model where such relationship has never been examined before with innovation or innovative behavior despite its significance. PsyCap as well as its four components were found to predict creative performance (Sweetman, Luthans, Avey, Luthans, 2006). In addition, some aspects of work characteristics were addressed but not all task and knowledge characteristics like in the current study. In the below lines, we highlight on the theoretical linkages and hypotheses development for the antecedents of innovative behavior.

Innovative Behavior and Creativity

We conceptualize innovative behavior as complex behavior consisting of activities relevant to both the generation of new ideas and the awareness or implementation of new ideas (see Yuan et al., 2010). Creative behavior is therefore a related concept. In their article about the “routinization” of innovation research, Anderson and colleagues (2004) stressed on the importance of defining innovation and how it differs from individual creativity. According to Anderson and colleagues (2004), innovation differs from creativity in that it involves idea generation and

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application while creativity can refer to idea generation alone. They also highlighted in the fact that innovation must present intended benefit while this is not a must in the case of creativity.

As mentioned earlier creativity is about the introduction and generation of new ideas while innovation involves not only the generation of ideas but also the implementation of such ideas (Anderson et al., 2004; George & Zhou, 2001). Creative performance was found to be crucial for an organization's survival and for organizations to achieve competitive edge (Amabile, 1998; George & Zhou, 2001). Creativity has often been viewed as an antecedent of firm level innovation (Amabile, 1996; Amabile, 1988; Madjar, Oldham, & Pratt, 2002). Oldham and Cummings (1996) defined creative performance as "products, ideas, or procedures that satisfy two conditions: (1) they are novel or original and (2) they are potentially relevant for, or useful to, an organization" (p.608). Zhou (2003) defined creativity as "employees' generation of novel and useful ideas concerning procedures and processes used at work" (p.413). However, creative ideas might not be converted into innovative products due to the unacceptability of the field or the market to the creative idea itself (Nakamura & Csikszentmihalyi, 2001). Research showed that intrinsic motivation leads to increased creativity and innovation (Amabile, 1997; Spreitzer, 1995). In addition, creative performance was found to be an antecedent to innovation (Amabile, 1988; Madjar, Oldham, & Pratt, 2002). According to Oldham and Cummings (1996), creative performance is not just about ideas; it is about products and procedures produced at the individual level whereas innovation refers to the successful implementation of these products or procedures at the organization level. Therefore if creativity is about the creation of ideas while innovation is about implementation then creativity should be a prerequisite for innovation.

H2: Creative behavior relates positively to innovative behavior.

Innovation and Positive Psychological Capital

Positive organizational behavior (Luthans 2002a; 2002b; Wright, 2003) has its roots in the field of positive psychology which was initiated by positive psychologist Martin Seligman (Seligman, 2007; Seligman & Csikszentmihalyi, 2000; Seligman, Steen, Park, & Peterson, 2005; Sheldon & King, 2001). Positive psychology focuses on the study of positive emotions, positive traits and positive institutions (Seligman et al., 2005). Positive psychology at the subjective level

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is mainly about “valued subjective experiences” like well-being and satisfaction. At the individual level, it is about positive traits like courage, wisdom, forgiveness, spirituality, and originality. While at the group level, it is about work ethics, responsibility, and tolerance (Seligman & Csikszentmihalyi, 2002). Seligman (2007) defined positive psychology as "the study of positive emotion, of engagement, and of meaning, the three aspects that make sense out of the scientifically unwieldy notion of happiness" (p.266).

The positive psychology movement was triggered as psychologists realized that for so long their main focus was on preventing problems, neglecting the competency building dimension (Seligman & Csikszentmihalyi, 2002; Luthans 2002a; 2002b; Money, Hillenbrand, & Camara, 2008). As stated by Seligman and his colleagues (2005), "it makes sense to study what is right about people in addition to what is wrong" (p. 413). Thus, positive psychology is an attempt to encourage psychologists to start adopting a more open point of view regarding what human beings could do or have (Sheldon & King, 2001).

Since the origin of organization behavior, the focus has been on managerial dysfunctions and employee problems without paying much attention to positive capacities that are more likely to have an impact on performance and productivity (Luthans, 2002a; 2002b; Wright, 2003; Wright & Quick, 2009). In a computer search about psychology literature, Luthans (2002b) found approximately 375,000 articles on negative constructs like fear, depression and anxiety, and only about 1000 articles on positive concepts and capacities. Moreover, for the past decade, positively-oriented bestselling books like Norman Vincent Peale’s message of the power of positive thinking and Steven Covey’s seven habits of highly effective people have approached positivity in the workplace but were not theory and research driven (Luthans 2002a; 2002b). Thus, Positive organizational behavior is about bringing the positive psychology concepts and applications to the workplace (Luthans 2002a). Luthans (2002b) defined positive organizational behavior as "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace"(p.59).

A psychological resource capacity within the defined POB should include the following criteria: (a) The capacity should be theory-based, researchable and measurable (b) the capacity

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must also be "state-like" or open to development and have a demonstrated performance impact (Youssef & Luthans, 2007; Luthans, Avolio, Avey, & Norman, 2007b). Thus, the main focus of positive organizational behavior (POB) is on state-like variables unlike positive psychology or positive organizational scholarship that focus on trait-like variables. Examples of constructs that meet these criteria are confidence, emotional intelligence, hope, optimism, and happiness or subjective well-being (Luthans 2002a, 2002b; Wright, 2003).

The capacities that best meet the above-mentioned criteria and have been identified to date are self-efficacy, hope, optimism and resilience (Luthans & Youssef, 2004; Luthans et al., 2004). In the below lines, we describe how each of the four components of hope, optimism, self-efficacy and resilience, as well as PsyCap as a core construct are related to innovative behavior. Several researchers examined personal and psychological antecedents of creative outcomes (e.g., Amabile, 1998; Amabile & Gryskiewicz, 1987; Kanter, 1988; Tierney & Farmer, 2002; Zhou, 2003). These studies are above all significant here as the variables we investigated have been referred to as intrinsic motivational propensities (Luthans, Avolio, Avey, & Norman, 2007).

Self-efficacy

The first component of PsyCap is self-efficacy. Self-efficacy is defined as "an individual's convictions (or confidence) about his or abilities to mobilize the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998b, p.66). Self-efficacy is crucial for success and achievements. That is, for a person to achieve a task or a goal, it requires not only skills but also beliefs of self-efficacy that could help out to his/her skills well (Bandura, 1993).

Stajkovic & Luthans, (1998b) identified three dimensions for self-efficacy that are crucial for its understanding. First, the magnitude of efficacy expectations, which refers to the level of task difficulty. The second dimension is the strength of efficacy expectations, or how confident an employee is about performing a certain task. People who have self-efficacy are able to find out ways of exercising control even when there are few chances or many limitations (Bandura, 1993). The third dimension is generality and refers to whether or not efficacy is indiscriminate across tasks.

As for the determinants of self-efficacy, Bandura (1997) has identified four categories of

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experiences that determine efficacy beliefs. First, self-efficacy could be enhanced through accomplishing a given task. Second, is "Vicarious learning" could also increase self-efficacy, which is mainly about the social environment in which the employee works. The employee simply observes experienced individuals performing a similar task and is then influenced by them. Third is the verbal persuasion whereby the employee is somehow inspired or motivated through encouragement and focusing on enhancing the belief that he/she "has what it takes". The last determinant is the Psychological arousal.

The practical implications that self-efficacy has for human performance can no longer be overlooked by managers and professionals as employees who perceive themselves as highly efficacious will trigger sufficient effort that should produce successful outcomes or results (Stajkovic & Luthans, 1998b). On the other hand, a person who is low in self-efficacy will have doubts that he/she can do what is needed to achieve a certain task (Bandura, 1993). A meta-analysis conducted by Stajkovic and Luthans (1998a) showed that self-efficacy is related to work-related performance. More specifically, they found a significant weighted average correlation of .38 between self-efficacy and performance. As a positive state-like capacity, self-efficacy was found to be positively related to individual OCBs (Organization citizenship behaviors), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors (Avey, Luthans & Youssef, 2009). Moreover, Avey, Wernsing and Luthans (2008) examined the relationship between self-efficacy as a component of Positive psychological capital and positive emotions. They found a significant relationship between efficacy and positive emotions that in turn were related to positive attitudes like engagement. Moreover, a study by Tierney and Farmer (2002) showed that there is a positive relationship between creative self-efficacy, a new construct that combines self-efficacy with creativity, and creative performance. Among the characteristics of creative people is self-confidence (Barron & Harrington, 1981). People who are more self-efficacious are more likely to take risks (Shane, Locke, & Collins, 2003) whereby risk-orientation was identified as main factors affecting the implementation of novel ideas (Amabile, & Gryskiewicz, 1987). Finally, creative self-efficacy among students was found to predict innovative behavior (Li & Wu, 2011). Thus it is likely to assume that self-efficacy is related to innovative behavior.

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Hope

The term "Hope" is used in our daily language but as discussed here hope is based on the theory and research of C. Rick Snyder. Hope is defined as “a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals) (Snyder et al., 1991, p.571). Snyder (2002) defined hope more precisely as “the perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those pathways” (p.249).

The agency component refers to individuals’ thoughts about their ability to initiate and prolong movement toward goal accomplishment (Peterson & Byron, 2008). Agency can be viewed as having the will to meet goals (Snyder et al., 1991). Pathways are cognitive routes to goals (Snyder et al., 1996). Thus, the pathways component refers to one's sense of ability to generate ways or means to meet these goals (Snyder et al., 1991; Snyder et al., 1996). Together, the two components make the will or the "I believe I can do it" and the way or the "I believe there are so many ways".

As proposed by Snyder and his colleagues (1991, 1996), both components should be present if a person is to maintain a movement in his /her life. For example, one might have the will (agency) but lacks the way to meet the goals (pathways). On the contrary, one might have the sense of pathways but without the agency. However, to possess hope as defined and operationalized, one should have both, the will or motivation to accomplish a specific task or goal and the ways so as to achieve such goals.

Though agency and the pathways help individuals achieve their goals (Peterson & Byron, 2008), one might be high in hope and yet not achieve his or her goals (Feldman, Rand, & Kahle-Wroblewski, 2009). However, Feldman et al., (2009) argued that hope's two components of pathways and agency lead an individual to “behave so as to attain personal goals” so it serves as the cognitive basis needed to attain such goals. In their study about hope and goal attainment, they found out that hope’s agency component is related to goal attainment. As for the pathway component, it should lead to the creation of different strategies so as to achieve the goals (Peterson & Byron, 2008).

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Hope differs from self-efficacy in that hope covers the cognitive elements of pathways and agency so it includes planning and motivation. However, self-efficacy is concerned with the belief that one can perform a certain task or behavior (Feldman et al., 2009). However, high hoppers' emotions are flavored with friendliness, happiness and confidence (Snyder 2002).

Hope theory has received considerable support through empirical research in numerous settings. Research showed that hope is related to academic and sports achievement (Curry, Snyder, Cook, Ruby, & Rehm, 1997), goal attainment (Feldman et al., 2009), and performance (Peterson & Byron, 2008; Peterson, Gerhardt, & Rode, 2006). A study that is related to the current study was done by Peterson and Byron (2008) where they examined the relationship between retail sales associates, mortgage brokers, and executives' level of hope and its relationship to job performance. Results showed that high hope employees had significantly higher job performance. In the same study, the authors examined whether more hopeful employees tend to solve work-related problems in a way other than that of less hopeful employees. Results showed that more hopeful employees provided better and more solutions to a specific problem. So, the study provided more insight into why more hopeful employees may perform better by developing innovative solutions to problems.

As a positive state-like capacity, Avey and colleagues (2009) examined the relationship between hope and work outcomes. Results showed that hope is positively related to individual OCBs (Organization citizenship behavior), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors. Moreover, Avey and colleagues (2008) examined the relationship between hope as a component of Positive psychological capital and positive emotions. They found a significant relationship between hope and positive emotions that in turn were related to positive attitudes like engagement. Moreover, hope has been found to be positively related to satisfaction (Luthans & Youssef, 2007; Luthans et al., 2007b; Luthans et al., 2008), work happiness, and commitment (Youssef and Luthans, 2007). Related to the current study, hope was found to be related to creative performance (Sweetman et al., 2010). The role of goals and how they make the first and most important component in any action by employees provide support for our hypothesis (see Frese & Zapf, 1994). Since innovative behavior consists of opportunity exploration which is mainly about identifying new opportunities (Kanter, 1988), it

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is likely to assume that individuals who are hopeful are more likely to be innovative as they generate pathways to their desired goals.

Optimism

The third POB criteria-meeting capacity is optimism, which is defined by Seligman (1995, 2006) as an attributional or explanatory style whereby an optimistic person explains positive events in terms of personal, permanent, and pervasive universal causes and negative events in terms of impersonal, temporary, and situation-specific ones. In everyday language, an optimist is the one who always expects positive and pleasing outcomes for the future and the pessimist on the contrary is the one that expects negative outcomes and is constantly having negative thoughts (Scheier & Carver, 1985; Luthans et al., 2007b). Thus, optimism is mainly about expectancy judgment (Lee, Ashford & Jamieson, 1993). On the other hand deliberately optimistic people might expose themselves to higher risks or negative consequences when they underestimate the consequences of a certain act just because they are optimistic (Peterson & Chang, 2003).

Optimism has been linked to a variety of positive outcomes like good morale, effective problem solving, academic, political and occupational success, happiness, achievement, good health and even long life. On the contrary, pessimism has been linked to depression, failure and passivity (Peterson, 2000). Innovation, team orientation and risk taking should be related to the degree of optimism of employees (Medlin, Jr., & Gaither, 2010). Though optimism has been linked to innovative behavior of students (Li & Wu, 2011), no research examined this relationship at the workplace. Optimists are likely to produce new ideas since they have positive expectations about the success of their ideas.

As a positive state-like capacity, a study by Avey and colleagues (2009) showed that optimism is positively related to individual OCB (Organization citizenship behavior), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors. Moreover, Avey and colleagues (2008) examined the relationship between optimism as a component of Positive psychological capital and positive emotions. They found a significant relationship between optimism and positive emotions that in turn were related to positive attitudes like engagement. Moreover, optimism has been found to be positively related to satisfaction

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(Luthans & Youssef, 2007; Luthans et al., 2007b), and work happiness (Youssef and Luthans, 2007). Therefore, a person who is high in optimism is likely to be high in innovative behavior.

Resilience

During the 1970s, a group of psychologists started to raise the issue of resilience in children who have experienced adversity or risk (Masten, 2001). Masten (2001) defined resilience as "a class of phenomena characterized by good outcomes in spite of serious threats to adaptation or development" (p.288). As a positive psychological state, resilience is defined as "the positive psychological capacity to rebound, to 'bounce back' from adversity, uncertainty, conflict, failure or even positive change, progress and increased responsibility" (Luthans, 2002a, p.702). This process of bouncing back is occurred through the positive assessment of risks and personal assets (Luthans, Vogelgesang, & Lester, 2006). As highlighted by Amabile (1996a), creative thinking, which in turn should lead to innovative behavior or is a component of innovative behavior (Fay & Frese, 2001), depends on personality characteristics related to orientation toward risk-taking, tolerance for ambiguity, and most importantly insistence in the face of frustration. Therefore, resilience is characterized by proactive responses in the face of failure or even great success. From this link, we can conclude that more resilient individuals are more likely to be innovative as they are more likely to take risks and are more willing to accept change.

Resilience requires two basic judgments: (1) that there must be current or past confirmable risk to overcome and (2) that the quality of adaptation is evaluated as "good" or "ok" (Masten, 2001). As Coutu (2002, p.46) states "Confronted with life's hardships, some people snap, and others snap back". Resilience results in most cases from the function of "basic human adaptational system" (Masten, 2001). However, individuals vary in the degree of adaptability and the way they respond to the changes that they face (Block & Kremen, 1996) as problems occur when these systems are not operating normally (Masten & Obradovic, 2006). Adaptational systems could be learning systems of the human brain which involves problem solving, mastery motivation system which involves self-efficacy processes, and also cultural and social systems (Masten & Obradovic, 2006).

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Resilience research has been approached from either a variable-focused or a person-focused approach (Masten, 2001). Variable-focused approach examines the linkage between the degree of risk or adversity, outcome, and possible qualities of the individual that may protect the individual from the negative consequences of such risks and adversities. On the other hand, person-focused approach focuses on comparing individuals who are resilient with those who are not (Masten, 2001). Resilient people hold three characteristics: acceptance of reality that would increase one's ability to survive, a belief that life is meaningful even in terrible times, and an ability to cope and improvise (Coutu, 2002).

According to Fredrickson (2000), individuals might differ in their interpretation and use of positive emotions because of their level of resilience. In her study, resilience predicted positive emotions. In the workplace, resilience is extremely important especially in the era of downsizing, restructuring and continuous major changes. One's level of resilience could be more important than experience or education when it comes to succeeding (Coutu, 2002). Past research on resilience has been limited to clinical areas of Psychology. However, Luthans and colleagues (2007a; 2008a, 2008b) have examined the impact of resilience on work outcomes. For example, Youssef and Luthans (2007) found a significant relationship between resilience and job satisfaction, work happiness and organizational commitment.

As a positive state-like capacity, a study by Avey and colleagues (2009) showed that resiliency is positively related to individual OCB (Organization citizenship behavior), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors. Moreover, Avey and colleagues (2008) examined the relationship between resilience as a component of Positive psychological capital and positive emotions. They found a significant relationship between resilience and positive emotions that in turn were related to positive attitudes like engagement.

Related to this study, Luthans et al. (2005) found a significant relationship between the resilience of factory Chinese workers and their performance whereas performance was measured by supervisor ratings and by merit increases for a part of the sample. Another study that was also conducted on Chinese workers showed a significant positive effect between resilience and

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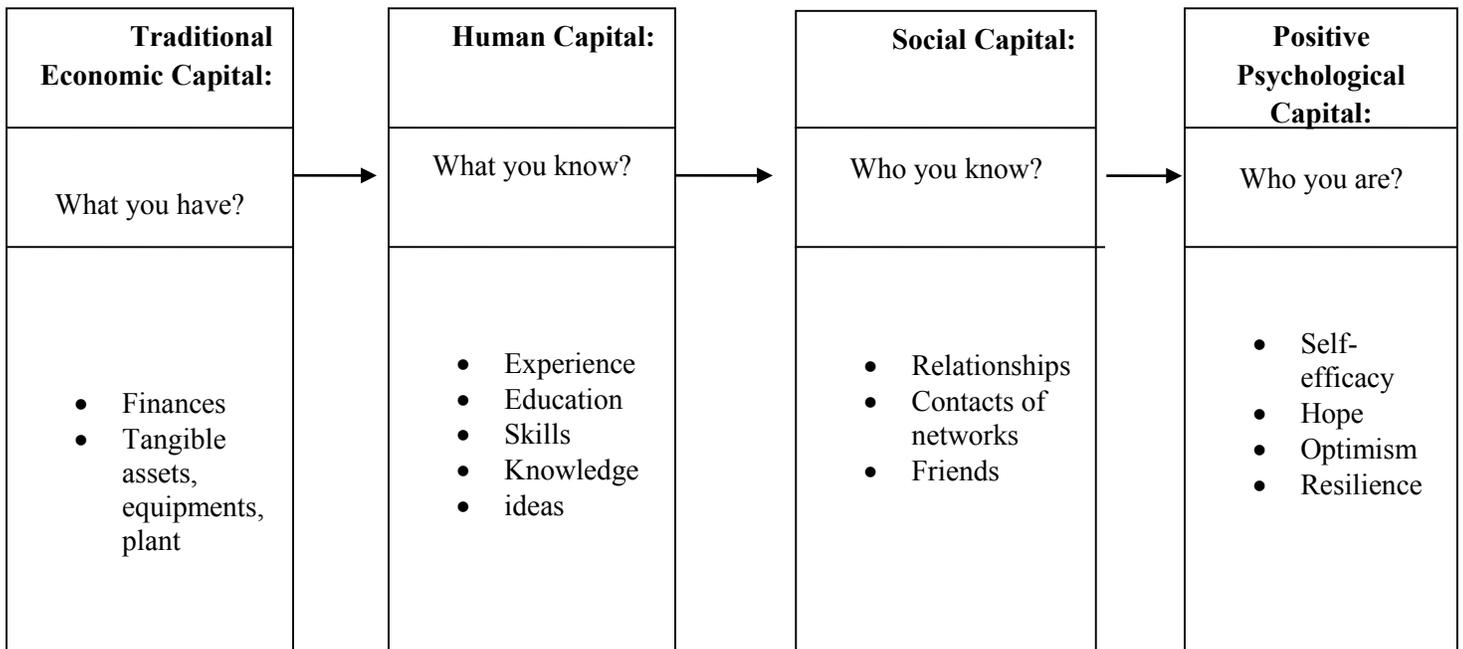
performance as measured by supervisor ratings (Luthans et al., 2008b). In addition Luthans and colleagues (2007b) examined the relationship between resilience and satisfaction and performance and found a significant positive relationship between them. Their study was divided into two studies whereas in study 1 performance was self-rated and in study 2 it was measured by actual performance evaluations. Resilience was also found to be related to performance in other studies (Youssef & Luthans, 2007; Luthans et al., 2008a).

Using the previously-mentioned criteria of being open to development and research and theory-based, Luthans and Youssef (2004) proposed four POB capacities which are; self-efficacy, hope, optimism and resilience. The four state-like capacities are included as a combined construct to form what Luthans and his colleagues have referred to as positive psychological capital or PsyCap (Luthans et al., 2007b; Luthans et al., 2004; Luthans & Youssef, 2004). Luthans and colleagues (2007a, p. 3) defined psychological capital or PsyCap as "an individual's positive psychological state of development and is characterized by: (1.) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2.) making a positive attribution (optimism) about succeeding now and in the future; (3.) preserving toward goals, and when necessary, redirecting paths to goals (hope) in order to succeed; and (4.) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success".

Positive psychological capital or PsyCap in short is mainly about "Who you are" and is differentiated from human capital "what you know" and financial capital "what you have" and "what you can become" (Luthans et al., 2004; Luthans & Youssef, 2004; Luthans et al., 2007a). PsyCap has been found to be an additive variable to human and social capital equation (Larson, 2004). Several studies examined the between PsyCap and performance (Luthans et al., 2005; Luthans et al., 2007; Luthans et al., 2008a; 2008b) and found a significant positive relationship between PsyCap and performance. Figure 2 illustrates the four different types of capital. According to West (2001), when individuals feel positive, they are more likely to innovate. However, up to our knowledge, the link between positive psychology constructs like hope and optimism has never been tested in relationship to innovative behavior.

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Figure 2. Expanding Capital for Competitive Advantage (Luthans et al., 2004)



Research proved that psychological safety is a crucial antecedent for innovation (West & Altink, 1996). Previous research showed that psychological empowerment leads to increased innovation (Spreitzer, 1996). Psychological empowerment is defined as “intrinsic motivation embodying a set of four psychological states reflecting an individual’s orientation toward his or her work: meaning, self-determination, impact, and competence” (Alge, Ballinger, Tangirala & Oakley, 2006, p.223). Psychological empowerment was also found to be related to creative performance (Alge et al., 2006). Creative individuals own up positivity, optimism or hope, which allow them to continue to be creative and stay fully engaged (Sawyer et al., 2003). Therefore, based on the above linkages and the ones discussed earlier, it is likely to assume that the four psychological states as well as PsyCap as a core construct could predict innovative behavior.

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H3.1: Employee's levels of hope, optimism, resilience and self-efficacy relates positively to innovative behavior.

H3.2: Employee's PsyCap relates positively to innovative behavior.

Innovative Behavior and Job characteristics

The role that job characteristics plays in fostering creativity has been highlighted by many researchers (Amabile & Grysiewicz, 1987; Axtell, Holman, Unsworth, Wall, Waterson, & Harrington, 2000; Frese, Garst, & Fay, 2007; Ohly & Fritz, 2010). Though previous research examined relationships between some aspects of work characteristics like time pressure and job control (Ohly & Fritz, 2010), autonomy (Axtell et al., 2000), and complexity (Amabile et al., 1996) on creativity, up to our knowledge, we did not find any previous research that investigated the impact of all work characteristics of task and knowledge characteristics together with innovative behavior. Previous research on work characteristics focused on creativity (Amabile et al., 1996; Ohly, Sonnentag & Plunkate, 2006) or innovation (Damanpour, 1991), and not innovative behavior, or investigated the relationship between some dimensions of work characteristics on innovative behavior (e.g., Scott & Bruse, 1994) but not all task and knowledge characteristics together. In the coming lines we will examine each dimension of work characteristics and how it relates to innovative behavior. The work design theory by Hackman and Oldham (1976) will be explored in addition to the Work Design Questionnaire (WDQ) by Morgeson and Humphrey (2006).

Hackman and Oldham (1975, 1980) introduced job characteristics theory to explain the dimensions in which employees would be intrinsically motivated when they perform a job. By enhancing jobs along the five dimensions, organizations can encourage positive work attitudes as well as increased work quality. The five dimensions are: (1) variety (the degree to which a job requires the use of a number of different skills and talents); (2) identity (the degree to which the job requires completion of a "whole" piece of work, or doing a task from beginning to end with a visible outcome); (3) significance (the degree to which the job has a substantial impact on the lives of other people); (4) autonomy (the degree to the job provides substantial freedom); and (5) feedback (the degree to which the job provides clear information about performance levels).

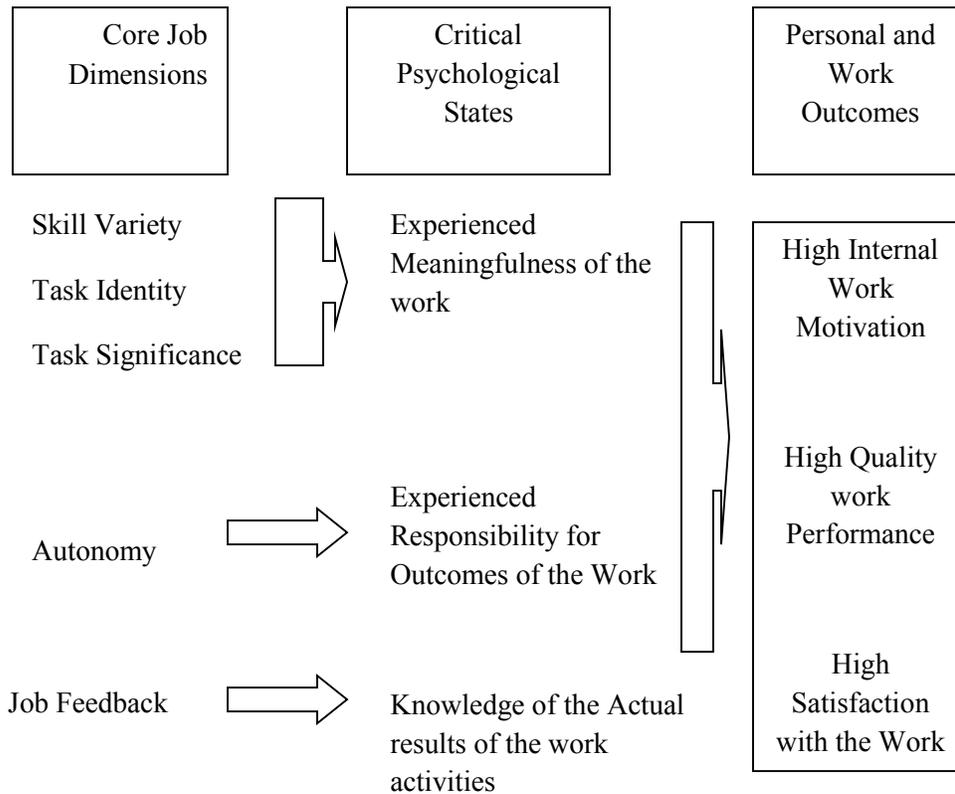
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The theory proposes that positive outcomes like motivation, satisfaction and performance would result when “critical psychological states” are present. These states include: “(1) experienced meaningfulness of the work, (2) experienced responsibility for the outcomes of the work, and (3) knowledge of the results of the work activities” and are created by the existence of the five job dimensions (Hackman and Oldham, 1976, p.160). The psychological state of experienced meaningfulness of the work is mainly obtained by the three dimensions of task significance, skill variety and task significance. If any dimension of the three dimensions is missing, meaningfulness drops (Hackman, Oldham, Janson & Purdy, 1975). Experienced responsibility is enhanced by job autonomy. Knowledge of the results is enhanced when the job is high in the dimension of Feedback (Hackman & Oldham, 1976; Hackman et al., 1975). Moreover, if any of the psychological states is missing however, motivation is decreased. That is, the theory entails that motivation will result only if the job is high in at least one of the three dimensions that results in the psychological state of meaningfulness, and both feedback and autonomy as well (Hackman et al., 1975).

In addition, three factors were suggested as moderators to the job characteristics-critical states relationships and the critical states-work outcomes relationships (Fried & Ferris, 1987). These are knowledge and skill growth, need growth, and context satisfaction (Hackman & Oldham, 1976; Fried & Ferris, 1987). Hackman and Oldham (1980) described growth needs as needs for development, learning and accomplishments. People who are high in growth-need strength (GNS) will be affected by job enrichment while people who are low in growth-need strength might not be affected at all (Hackman et al., 1975). The job characteristics model is shown in figure 3.

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Figure 3. A theoretical model relating the core job dimensions, the critical psychological states, and on-the-job outcomes (as moderated by employee growth need strength) (Hackman and Oldham, 1976).



There is evidence that when job characteristics are manipulated, job holders' perceptions about their job are changed. Finally, several studies examined the relationships between job characteristics and work outcomes. Researchers found significant relationships between job characteristics and job satisfaction (Spector & Jex, 1991), goal commitment and intrinsic motivation (Piccolo & Colquitt, 2006). Moreover, skill variety and job significance have been found to have a significant relationship with Organizational citizenship behavior, whereas job identity, job feedback and job autonomy were not found to have a significant relationship with it (Chiu & Chen, 2005).

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The Work Design Questionnaire (WDQ) developed by Morgeson and Humphrey (2006) included a more complete version for work design dimensions where they reviewed the work design literature and developed a measure to tap those work characteristics. They classified work characteristics into task characteristics, which is similar to Hackman and Oldham (1976), that included autonomy, task variety, task significance, task identity, task identity and feedback from job, and knowledge characteristics which included job complexity, information processing, problem solving, skill variety, and specialization. Their classification also included social characteristics like social support and interdependence and contextual characteristics like ergonomics and physical demands. In the current study we focus on task characteristics and knowledge characteristics. Research showed that intrinsic motivation, which is an outcome for job characteristics, leads to increased creativity and innovation (Amabile, 1996a, 1996b; Amabile & Gryskiewicz, 1987; Spreitzer, 1995). A meta-analysis by Harrison and colleagues (2006) showed how work characteristic dimension of autonomy predicted creativity at work. Besides, if job characteristics are ought to increase intrinsic motivation which is a major factor for the implementation of novel ideas then it is likely to assume that job characteristics should lead to innovative behavior. Individuals working on jobs characterized by high levels of autonomy, feedback, significance, identity and variety (Hackman & Oldham, 1980) are more likely to experience intrinsic motivation and so produce creative ideas (Shalley, Zhou, & Oldham, 2004).

Job complexity should be related to innovative behavior for a couple of reasons. First, according to Amabile and colleagues (1996), challenging work fosters creativity. Besides a study by Tierney and Framer (2002) found that employees in complex jobs showed more creative self-efficacy. Employees were found to produce creative work when they worked on complex and challenging job (Oldham & Cummings, 1996). Systematic problem solving was also found to predict innovative behavior (Scott & Bruce, 1994). Specialization was found to have a strong impact on technological innovations (Damanpour, 1987) and innovations in general (Damanpour, 1991). However, specialization in Damanpour's research studies is an organizational structure factor that represents different specialists who use different technologies and are specialized in different areas (Damanpour, 1987). Specialization as a work characteristic factor reflects "the extent to which a job involves performing specialized tasks or possessing specialized knowledge

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and skill" (Morgeson & Humphrey, 2006, p.1324). Indeed, both share the component of specialization in a specific area where one is an expert in a specific area. Feedback was also found to increase creativity (Zhou, 2003). Several researchers have suggested that innovation is fostered when an employee is given a considerable degree of freedom or autonomy (Amabile, 1996a; Amabile et al., 1996; Amabile & Gryskiewicz, 1987). In addition, employees who have more autonomous and broader roles and who are more confident in performing their work activities outside their technical job are most likely to make suggestions (Axtell et al., 2000). Therefore it is likely to assume that job identity and job autonomy will predict innovative behavior.

H4.1: Task characteristics of autonomy, task identity, task significance, task variety and feedback from job will relate positively to innovative behavior.

H4.2: Knowledge characteristics of complexity, information processing, specialization, problem solving and skill variety will relate positively to innovative behavior.

Innovative Behavior and Personal Initiative

Proactivity is a self-started and change-oriented behavior that one uses to improve personal or organizational effectiveness (Unsworth & Parker, 2003). Personal initiative (PI) is a form of proactivity that is defined as "a behavior syndrome resulting in an individual's taking an active and self-starting approach to work and going beyond what is formally required in a given job", (Frese, Kring, Soose, & Zempel, 1996, p.38; see also Frese, Fay, Hilburger, Leng and Tag, 1997). Though previous research examined the relationship between personal initiative and work-unit innovativeness (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008), and between initiative as a climate factor and innovation (Baer & Frese, 2003), no published study examined the link between PI as an antecedent to innovative behavior. The application component of innovative behavior is mainly about creating, testing and commercializing an innovative idea (Kanter, 1988; De Jong & Kemp, 2003). Crant (2000) defined proactive behavior as "taking initiative in improving current circumstances or creating new ones; it involves challenging the status quo rather than passively adapting to present conditions" (p.436). Proactive people don't wait for opportunities to come to them; they search for it (Crant, 2000). Proactive personality was found to be related to organizational practices and innovations (Parker, 1998) and to intentions to start a business (Crant,

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1996). In addition, company presidents with proactive personalities were found to be related to changes in sales and company posture (Becherer & Maurer, 1999). Innovative behavior includes initiating new ideas or changes in administrative procedures that aims at improving work relations or the application of new ideas or technologies to work processes aiming at enhancing the effectiveness of work (Kleysen & Street, 2001; Kanter 1988) which requires a proactive behavior to be accomplished. Finally, PI's self-starting aspect involves strategies and goals development that are unique and unusual and developed by employees whose role does not include doing so (Fay & Frese, 2001; Frese et al., 2007; Sonnentag, 2003; Unsworth & Parker, 2003). Therefore, it is likely to assume that PI will have a direct positive effect on innovative behavior since employees who are high in PI are more likely to face obstacles and achieve their unusual objectives and goals.

H5: Personal initiative relates positively to innovative behavior.

Innovative Behavior and Supportive climate

In addition to what a person possesses to be creative like technical skills or creative thinking, he or she will not be able to motivate if the organization did not support them with all tools like sufficient time, funds allocated to work domain, material resources, relevant information and training (Amabile, 1996a). Psychological climate is defined as a "set of perceptions that reflect how work environments, including organizational attributes, are cognitively appraised and represented in terms of their meaning to and significance for individuals" (James, Joyce, & Slocum, 1988, p.129). Perceived organizational support (POS) was found to be related to in-role performance and extra-role performance (Byrne & Hochwarter, 2007), partially mediated the effect of intrinsically satisfying job conditions on organizational affective commitment and fully mediated the effect of extrinsically satisfying job conditions on organizational affective commitment (Stinglhamber & Vandenberghe, 2003). Supportive climate was also found to predict satisfaction and commitment (Luthans et al., 2008). In addition, individuals who experienced greater team leader support, and support from management for innovation were those who reported that more of their suggestions were put into practice (Axtell et al., 2000). Support for innovation and climate perceptions were also found to predict innovative behavior (Scott &

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Bruce, 1994). Therefore, an employee is more likely to come up with new ideas and work on implementing it if he/she feels that the organization will support in its implementation.

H6: Supportive climate relates positively to innovative behavior.

Innovative Behavior and Strategic Attention

Goals orientations are likely to increase intrinsic motivation (Harrison et al., 2006). A company should pay enough attention to innovation if it seeks to innovate (De Jong & Kemp, 2003) whereby involving employees and front line experts is crucial for the success of innovations (De Brentani, 1991, 2001). A vision directed towards innovation help employees know where the company is heading to and what are the values that are most wanted in the organization (De Jong & Kemp, 2003). A company would not survive in the market unless it provides customers with greater value or comparable value at lower prices or both (Porter, 1996). However, success of achieving such strategic direction is determinant on human resources practices and whether the company achieves alignment between its strategic direction and its human resources practices or not (Youndt, Snell, Dean, Jr., & Lepak, 1996). Product and service development studies showed that paying attention to innovation is tied to improved performance (De Jong & Kemp, 2003). Therefore paying attention to innovation and having a mission and vision that emphasizes innovation should lead to employees implementing new innovations whether ideas or improvements to current services and products. Hence, strategic attention is likely to affect innovative behavior.

H7: Strategic attention relates positively to innovative behavior

Mediation Effects

Finally, we argue that innovative behavior mediates the relationship between the six antecedents of creative performance, PsyCap, work characteristics, PI, supportive climate, and strategic attention and the outcomes of engagement and satisfaction. That is, these antecedents influence engagement and satisfaction through innovative behavior. Previous research showed significant relationships between PsyCap and engagement (Avey et al., 2008) and satisfaction (Luthans & Youssef, 2007; Luthans et al., 2007b; Luthans et al., 2008) and between PsyCap and creative performance (Sweetman et al., 2011). However, no research examined the mediating

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effect of creativity or innovation on the relationship between PsyCap and satisfaction or engagement. Based on the suggested linkages highlighted above we suggest that the relationship between PsyCap and both satisfaction and engagement is mediated by innovative behavior. Further, positive relationships between work characteristics and engagement (Dijkers, Jansen, Lange, Vinkenburg, & Kooij, 2010) and satisfaction (Oldham & Hackman, 1976) were also found. Supportive climate was also found to be related to engagement (Rich et al., 2010) and satisfaction (Luthans et al., 2008). Proactivity was also found to be related to engagement (Jansen et al., 2010). Therefore, it is likely to assume that the relationship between the antecedents of innovative behavior and engagement and satisfaction is mediated by innovative behavior.

H8.1: The relationship between creative behavior and engagement and satisfaction is mediated by innovative behavior.

H8.2: The relationship between PsyCap and engagement and satisfaction is mediated by innovative behavior.

H8.3: The relationship between work characteristics and engagement and satisfaction is mediated by innovative behavior.

H8.4: The relationship between PI and engagement and satisfaction is mediated by innovative behavior.

H8.5: The relationship between supportive climate and engagement and satisfaction is mediated by innovative behavior.

H8.6: The relationship between strategic attention and engagement and satisfaction is mediated by innovative behavior.

Methodology

Sample

Participants in the study are Egyptian professionals from a variety of job types in different companies were approached by email or through the phone to be able to distribute the survey. The survey was also provided via an online portal to facilitate the process of data gathering. The survey was sent to or handed in to 250 employees who agreed to take the survey, however only 120 filled the surveys and sent them back which make the response rate 48%. Sixty one percent of the sample were females, 38% were males while 9% did not report their gender with an average of 30 years old and an average years of experience of 7. Around 19% came from human resources management department, 9% from marketing, 15% from finance, 10% from audit, 9% from quality, 9% from sales, and finally 42% from other departments like information technology, consultancy and teaching. So jobs were diversified and classified under different sectors which is essential for research on work characteristics (see Morgeson & Humphrey, 2006). Forty two of participants hold a bachelor degree while 23% hold a masters degree and 2% holds a PHD. As for the career level, 26% were from an entry level, 60% from middle level and 6% from top level.

Measures

All instruments used in this field study are published and standardized measures. Participants will be asked to indicate the extent to which they agree to the statements. All measures will use a response scale in which 1 is "strongly disagree" and 6 is "strongly agree".

Psychological capital

Positive psychological capital will be measured using the PsyCap questionnaire. The PsyCap questionnaire was developed by Luthans and colleagues (2007b). Results of their study provided psychometric support for a new PsyCap survey designed to assess the four facets or constructs, as well as a composite factor. Researchers (Luthans et al., 2007b) have selected the four scales for each of the four positive constructs based on certain selection criteria. That is, the scale is reliable and valid, applicable to the workplace, and is capable of measuring the state-like

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capacities that make up the PsyCap. According to the above-mentioned criteria, the scales that are used are (1) hope (Snyder et al., 1996), (2) resilience by Wagnild & Young (see Luthans et al., 2007b), (3) optimism (Scheier & Carver, 1985), and (4) self-efficacy (Parker, 1998). The researchers selected the best six items from each scale and so reached agreement on the 24 items that make up the PsyCap questionnaire.

The Cronbach alphas across studies on PsyCap conducted by Luthans et al (2007) show support for the reliability of each of the four facets and for the overall PsyCap as follows: hope (.72-.80), optimism (.69-.79), self-efficacy (.75-.85), resilience (.66-.72), and PsyCap (.88-.89). Sample items included: (a) self-efficacy: "I feel confident analyzing a long-term problem to find a solution" and "I feel confident helping to set targets/goals in my work area", (b) hope: "I can think of many ways to reach my current work goals" and "There are lots of ways around any problem", (c) resilience: "I usually take stressful things at work in stride" and "I feel I can handle many things at a time at this job", (d) optimism: "If something can go wrong for me work-wise, it will" and "I always look on the bright side of things regarding my job". For the current study, the Cronbach alphas were as follows: hope (.66), optimism (.60), self-efficacy (.80), resilience (.56), and PsyCap (.688) after items deletion. Reliability coefficients around .90 are considered to be "excellent", values approximately .80 as "very good", and values around .70 as "adequate" (Pallant, 2007). To increase the reliability of the hope scale two items that showed negative or very low intercorrelations were deleted. The Cronbach alpha for the new hope scale increased to .73. For resilience, two items were deleted where the Cronbach alpha then increase to .64. For optimism, Cronbach alpha increased to .77 after deletion of the reversed items that has negative correlations with other items.

Work Characteristics

Work characteristics were measured using the Work Design Questionnaire (WDQ) by Morgeson & Humphrey (2006) where only task characteristics and knowledge characteristics were used. Sample items are for example, "The job allows me to make my own decisions about how to schedule my work" (work scheduling autonomy), "The job provides me a chance to completely finish the pieces of work I begin" (task identity), "The job itself provides feedback on my

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performance" (feedback from job), and "The job requires that I engage in a large amount of thinking" (information processing). Cronbach alpha for work characteristics dimensions were as follows: autonomy (.90), task variety (.80), task significance (.83), task identity (.83), feedback (.82), information processing (.88), problem solving (.73), skill variety (.88), specialization (.80), and job complexity (.84).

Engagement

Engagement was measured using the survey by Rich and colleagues (2010). Sample items included "I exert my full effort to my job" (physical engagement), "I am enthusiastic in my job" (emotional engagement), and "At work, I focus a great deal of attention on my job" (cognitive engagement). Internal consistency for engagement was .72.

Personal Initiative

Personal initiative was measured with a seven-item scale from Frese and colleagues (1997). This measure was also used in other studies (e.g., Ohly, Sonnentag, & Pluntke, 2006; Sonnentag, 2003). Sample items included "I actively attack problems" and "I take initiative immediately even when other don't". Cronbach alpha for PI was .85.

Innovative Behavior

Innovative behavior was measured using the questionnaire by Ohly, Sonnentag, & Pluntke (2006) that is based on Zhou & George (2001) creativity rating. Sample items are "I often implement my new and innovative ideas" and "I implement new ways to achieve goals or objectives". Cronbach alpha for innovative behavior was .84.

Creativity

Creativity was measured using the creativity questionnaire by Tierney et al., (1999). Items include "I generate ideas revolutionary to our field". The item "I tried out new ideas and approaches to problems" was omitted because it targets the implementation of ideas and so might overlap with innovation (see Ohly et al., 2006). Cronbach alpha for creative behavior was .81.

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Strategic attention

Strategic attention was determined with eight items inspired by the work of Buntingham and West (1995) and developed by and used in a study by Jong and Kemp (2003). Items included “my company always strives to deliver the “newest” and “hottest” services to its customers” and “my company is willing to finance innovative activities”. Cronbach alpha in the current study was .93.

Supportive climate

Supportive Climate was measured with an eight item scale based on Anderson and West (1998). Sample items included “people in my work always look for fresh, new ways of looking at problems” and “people in my work are open and responsive to change”. Cronbach alpha in the current study was .90.

Satisfaction

Job satisfaction was measured using the job satisfaction scale by Brayfield and Rothe (1951). Sample items include “Most days I am enthusiastic about my work” and “I feel fairly satisfied with my present job”. Cronbach alpha was .44 which is very low so we had to delete the two lowest items as they showed negative inter-correlations with other items. Cronbach alpha increased to .75 after deleting the two items and so we formed a new scale for satisfaction that did not include the two items.

Control variables were additionally measured to account for influences of third variables as previous research showed that job experience, education, and gender are related to creative and proactive outcomes (Scott & Bruce, 1994; Sonnentag, 2003; Tierney et al., 1999). These control variables included age, gender (female or male), career level, years of experience and educational level.

Results

Correlational Analyses

As shown in table 1, the correlational analysis provides support for all hypotheses. Innovative behavior was found to relate positively to the two suggested outcomes of satisfaction ($r = .43$) and engagement ($r = .54$). Creative behavior was found to relate positively to innovative behavior ($r = .56$). PsyCap as a core construct as well as its four components were found to relate positively to innovative behavior. Further, a comparison of the correlation coefficients of PsyCap and its four components indicates that hope bears the strongest relationship to innovative behavior with $r = .56$, as compared to self-efficacy ($r = .46$), resilience ($r = .19$), optimism ($r = .20$) and PsyCap ($r = .50$). As for work characteristics, positive significant relationships were found between task characteristics and innovative behavior ($r = .54$) and between knowledge characteristics and innovative behavior ($r = .41$). As shown, a positive significant relationship ($r = .54$) was noted between personal initiative and innovative behavior. That is, the higher the employees' personal initiative, the higher their innovative behavior will be. Significant positive relationships were also noted between supportive climate and innovative behavior ($r = .32$) and between strategic attention and innovative behavior ($r = .30$). Finally, as seen in table 1.1, innovative behavior was found to be positively related to all work characteristics with the exception of work complexity, it was found to negatively related to it.

Table 1. Intercorrelations of the main study variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1 Years of experience	1																		
2 Department	.142	1																	
3 Gender	.089	-.100	1																
4 Educational degree	.468	.144	.151	1															
5 Age	.991	.180	.012	.412	1														
6 Career level	.250	.239	.002	.309	.230	1													
7 PsyCap	.000	.051	-.007	.018	-.016	.140	1												
8 Optimism	-.136	.047	-.047	-.108	-.138	-.103	.584	1											
9 Selfefficacy	.131	.088	.003	.217	.113	.169	.822	.214	1										
10 Hope	-.138	.073	.075	-.060	-.148	.188	.742	.268	.517	1									
11 Resilience	.071	-.083	-.056	-.097	.059	.115	.741	.349	.463	.412	1								
12 Creativity	.002	-.007	-.207	-.244	.007	.082	.571	.361	.392	.590	.348	1							
13 Wrok characteristics	.023	.217	-.083	.037	.014	.143	.591	.278	.516	.446	.421	.452	1						
14 Supportive climate	-.027	-.037	-.182	.084	-.034	.175	.385	.224	.254	.362	.308	.421	.461	1					
15 Strategic attention	-.015	.077	-.146	-.098	-.012	.132	.471	.299	.377	.386	.303	.448	.465	.631	1				
16 Personal imitative	.036	-.021	-.087	-.170	.032	.114	.690	.386	.553	.557	.506	.543	.470	.325	.315	1			
17 Innovative behavior	-.188	.010	-.168	-.015	-.188	-.013	.507	.200	.469	.568	.199	.566	.612	.326	.301	.545	1		
18 Satisfaction	-.029	.092	-.109	.047	-.026	.015	.219	.143	.162	.359	-.023	.377	.406	.504	.489	.137	.435	1	
19 Engagement	-.117	.165	-.106	.091	-.114	.069	.399	.240	.327	.448	.140	.343	.557	.286	.281	.465	.545	.645	1

Note. $N = 108$; $r > .04, p < .10$; $r > .12, p < .05$; $r > .16, p < .01$; $r > .20, p < .001$

Table 1.1 Correlations of work characteristics

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Autonomy	1												
2 Task variety	.490	1											
3 Task significance	.508	.455	1										
4 Task identity	.564	.568	.553	1									
5 Task feedback	.507	.402	.479	.625	1								
6 Information processing	.303	.371	.312	.354	.299	1							
7 Problem solving	.461	.433	.519	.400	.313	.529	1						
8 Skill variety	.372	.389	.483	.376	.402	.478	.655	1					
9 Specialization	.287	.266	.168	.296	.387	.508	.420	.473	1				
10 Innovative Behavior	.512	.475	.453	.359	.277	.411	.428	.363	.328	1			
11 Task characteristics	.917	.689	.711	.770	.685	.391	.540	.482	.338	.544	1		
12 Complexity	-.109	.011	-.231	-.104	-.174	.139	-.145	-.056	-.084	-.204	-.142	1	
13 Knowledge characteristics	.358	.421	.329	.369	.344	.801	.708	.749	.678	.410	.445	.348	1
14 Work characteristics	.822	.678	.649	.724	.656	.620	.695	.665	.529	.612	.923	.046	.755

Note. $N = 108$; $r > .04, p < .10$; $r > .12, p < .05$; $r > .16, p < .01$; $r > .20, p < .001$

Regression Analysis

Hypothesis 1 was that employees' level of innovative behavior would be positively related to their satisfaction and engagement. For these analyses we used hierarchical regression where the covariates of age, educational level and gender were entered into step 1 and innovative behavior was entered in step 2. The purpose was to see the independent effects of innovative behavior on both satisfaction and engagement. As seen in table 2, when entering innovative behavior into the regression model, it predicted significant variance beyond the covariates. In both cases, the model in step 2 shows innovative behavior related positively with engagement ($\beta = .52, p < 0.001$) and satisfaction ($\beta = .42, p < 0.001$). Therefore, there was full support for Hypothesis 1. Hypotheses 2 till 7 predicted a positive relationship between creative behavior, PsyCap and its components, work characteristics, personal initiative, strategic attention and supportive climates as antecedents to innovative behavior and innovative behavior. As shown in table 3, creative behavior predicted innovative behavior ($\beta = .56, p < 0.001, R^2 = .32$), satisfaction ($\beta = .37, p < 0.001, R^2 = .14$), and engagement ($\beta = .34, p < 0.001, R^2 = .11$) whereby relationships with satisfaction and engagement were tested for mediation model purposes that will be explained later. Therefore, hypothesis 2 that is creative behavior predicts innovative behavior is supported.

As evident in table 3, PsyCap as well as its four components predicted innovative behavior whereby hope ($\beta = .56, p < 0.001, R^2 = .32$) explained the greatest variance in innovative behavior. Therefore, hypotheses 3.1 and 3.2 that PsyCap as well as its four components of hope, optimism, PsyCap, and resilience predicts innovative behavior is supported. Further, relationships between PsyCap and its four components with satisfaction and engagement were also examined for the purpose of testing for the mediation effect of innovative behavior later on. As can be seen in table 3, only hope and PsyCap showed significant relationships with satisfaction while for engagement, PsyCap and its components except for resiliency were found to be related to engagement.

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Table 2. Regression Analyses with Covariates

	Job Satisfaction		Engagement	
	Step 1	Step 2	Step 1	Step 2
	β	β	β	β
Age	-.06	.038	-.19	-.06
Gender	-.12	-.044	-.13	-.03
Educational Level	.091	.045	.18	.13
Innovative Behavior		.43***		.52***
Change R^2		.17***		.25***

$p > 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

As for hypotheses 4.1 and 4.2, significant positive relationship was found between work characteristics and innovative behavior ($\beta = .61, p < 0.001, R^2 = .37$) which provides preliminary support that work design dimensions of task and knowledge characteristics relates positively to innovative behavior. However, in separate models, hypotheses 4.1 and 4.2 were fully supported where 26% of the variance in innovative behavior was explained by autonomy, 22% by task variety, 20% by task significance, 12% by task identity, and 7% by job feedback. Moreover, 16% of the variance in innovative behavior was explained by information processing, 18% by problem solving, 4% by complexity, 13% by skill variety, and 10% by specialization. Hypothesis 5 was supported where personal initiative predicted innovative behavior ($\beta = .54, p < 0.001, R^2 = .29$).

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Table 3. Regression Analyses: PsyCap and Creativity and Life Satisfaction

	Innovative Behavior		Satisfaction		Engagement	
	β	R^2	β	R^2	β	R^2
Creative Behavior	.56***	.32***	.37***	.14***	.34***	.11***
Optimism	.20*	.04*	.14	.02	.24*	.05*
Hope	.56***	.32***	.35***	.12***	.44***	.20***
Self-efficacy	.46***	.22***	.16	.02	.32**	.10**
Resilience	.19*	.04*	-.02	.001	.14	.02
PsyCap	.50***	.25***	.21*	.04*	.39***	.16***
Work characteristics	.61***	.37***	.40***	.16***	.55***	.31***
Personal Initiative	.54***	.29***	.13	.01	.46***	.21***
Supportive Climate	.32**	.10**	.50***	.25***	.28*	.08*
Strategic Attention	.30**	.09**	.48***	.23***	.28*	.07*

$p > 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Hypothesis 6 was also supported where supportive climate was found to predict innovative behavior ($\beta = .32, p < 0.001, R^2 = .10$). Finally, hypothesis 7 was supported where

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positive relationships were found between strategic attention and innovative behavior ($\beta = .30, p < 0.001, R^2 = .09$). As for satisfaction and engagement, PI was not related to satisfaction but related to engagement while strategic attention and supportive climate were found to be positively related to engagement and satisfaction.

Further Analysis

A hierarchical regression model was created where innovative behavior was regressed on all proposed antecedents based on the beta values given in table 3 where work characteristics was entered after covariates then creative behavior and hope followed it. So in step 2, work characteristics was entered to test the additional variance in innovative behavior that could be explained by work characteristics. Then creative behavior was entered in step 3. As shown in table 4, 36% ($p < .0001$) of the variance in task performance could be explained by work characteristics in model 2 while in model 3 creative behaviors added an additional 13%. However, hope and personal initiative were not found to explain any additional variance in the models 4 and 5. The five models are shown in table 4. All 9 models built were significant. However, in the last model where all antecedents were entered; only work characteristics, personal initiative, creative behavior and hope along with the covariate of educational degree accounted for the variance in innovative behavior. Therefore, we can conclude from this model that work characteristics, creative behavior, hope and personal initiative are the strongest antecedents of innovative behavior. Finally, since creative behavior and hope showed the same beta values in table 3, we repeated the same models but with hope preceding creative behavior, however the same results were found where hope did not add significant variance in model 4. Finally, it is worth mentioning that another model was built where all covariates were entered in step 1 and then all antecedents were entered in step 2 whereby the only variables that showed significant positive relationships to innovative behavior were years of experience, educational degree, age, optimism, creativity, autonomy, complexity and personal initiative. Job autonomy was the strongest predictor.

Finally, regressions were performed to assess whether innovative behavior mediates the relationship between its antecedents and engagement and satisfaction. Following the guidelines of Baron and Kenny (1986), this analysis requires to assess whether the predictor variables

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(antecedents) predicts the outcome variables (satisfaction and engagement). Second, the predictor variables need to predict the mediator (innovative behavior). Third, the mediator must predict the outcome variable. Finally, if there is a mediator effect, the regression coefficient of the predictor on the outcome should decrease when controlling for the mediator. A significant positive relationship emerged between all antecedents and life satisfaction except for optimism, self-efficacy, resilience and PI. PsyCap was found to predict satisfaction and so we included PsyCap as a higher order and ignored the four components and also PI. Innovative behavior was found to predict satisfaction ($\beta = .43, p < .0001$). Finally, when controlling for innovative behavior, the regression coefficient for PsyCap it decrease from .21 to -.002 and became non-significant and the Sobel test of partial mediation was significant ($z = 3.76, p < .0001$). For creative behavior it decreased from .37 to .19 and the Sobel test of partial mediation was significant ($z = 2.76, p < .01$).

As for work characteristics, it decreases from .40 to .22 and the Sobel test of partial mediation was significant ($z = 2.61, p < .01$). For supportive climate, it decreased from .50 to .40 and the Sobel test of partial mediation was significant ($z = 2.7, p < .01$). For strategic attention, it decreased from .48 to .39 and the Sobel test of partial mediation was significant ($z = 2.44, p < .05$). Therefore we can conclude that innovative behavior partially mediates the relationship between work characteristics, creative behavior, PsyCap, supportive climate, and strategic attention and satisfaction as an outcome. As for engagement, all antecedent variables including PsyCap were found to predict engagement except for resiliency. All antecedents were also found to predict innovative behavior (see table 3). Innovative behavior was also found to predict engagement. Finally, when controlling for innovative behavior, the regression coefficient for PsyCap decreased from .39 to .166 and became non-significant, and the Sobel test was significant ($z = 3.84, p < .0001$). For creative behavior, it decreased from .34 to .05 and became non-significant where the Sobel test was significant ($z = 4.1, p < .0001$). For work characteristics, it decreases form .55 to .28 and the Sobel test was significant ($z = 3.14, p < .001$). For personal initiative, it decreased from .46 to .23 and the Sobel test was significant ($z = 3.67, p < .0001$). For strategic attention it decreased from .28 to .12 and became non-significant where the Sobel test was significant ($z = 2.94, p < .01$). For supportive climate it decreased from .28 to .12 and became non-significant where the Sobel test was significant ($z = 3.11, p < .01$).

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Table 4. Regression Analyses: Innovative behavior antecedents with covariates

	Innovative behavior				
	Step 1	Step 2	Step 3	Step 4	Step 5
	β	β	β	β	β
Age	-.91	-.055	.83	.516	.41
Gender	-.23	-.117	.011	-.065	-.07
Educational level	.065	.10	.308	.260*	.26
Years of experience	.71	-.16	-1.18	-.64	-.64
Career level	.001	-.77	-.112	-.15	-.15
Work characteristics		.614***	.42***	.42***	.42***
Creative behavior			.45***	.33**	.33**
Hope				.23	.31*
Personal initiative					-.139
Change R^2	.077	.36***	.13***	.02	.007

Discussion

This study is the first attempt to examine the relationship between innovative behavior and engagement and satisfaction. It is also the first to examine PsyCap and the constructs of hope, resilience, optimism, and self-efficacy as predictors for innovative behavior. This study examined

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relationships between innovative behavior and positive outcomes of engagement and satisfaction as well as the antecedents of innovative behavior. Results revealed that innovative behavior is positively associated with engagement and satisfaction. As predicted, all antecedents were found to predict innovative behavior where work characteristics were found to be the greatest predictor and autonomy was found to be the strongest predictor among all work characteristics. However, contrary to our expectations, job complexity was found to be negatively related to innovative behavior. That is, the more complex the job is, the lower the innovative behavior. The results showed that understanding innovative behavior should be from multiple perspectives, a motivational perspective where we examined work design and PsyCap, an organizational perspective where we examined how employees perceive the support of their organizations and how they are alert about the strategic direction of the organization, and finally a creative perspective where we examined both creative behavior and PI as a first step to innovative behavior.

As mentioned, contrary to expectations, we found a significant yet negative effect of job complexity on innovative behavior. One possible explanation is the type of industry or work examined in the current study. Some jobs when are complex tend to cause de-motivation for employees so they are not likely to innovate. Though job complexity was found to be related to creative and innovative outcomes (Oldham & Cummings, 1996; Tierney & Farmer, 2002), routinization, which is sometimes seen as the opposite of complexity was also found to increase creative and proactive outcomes (Ohly et al., 2006).

Though previous research showed that engagement predicted innovative behavior, no research examined whether innovative behavior predicted engagement. The finding of this study is unique and is a major contribution to research in innovation and positive psychology. Since engagement is a core positive psychology topic (Seligman 2002a, 2002b), it is essential to know what are its antecedents and how to develop it. This also adds to the research on creativity and flow and the argument by Csikszentmihalyi (1997, 2002) that creative achievements lead to a happier and meaningful life. Though creativity and engagement are two major topics in positive psychology, the link between them was not emphasized on. Besides, research on innovation lack the impact of innovations on other psychological aspects of employees that could in turn increase the overall performance of the organization (see Rich et al., 2010).

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This study also adds to several fields by focusing on antecedents from different aspects. On the psychological level, the current study is the first to examine the link between PsyCap and innovative behavior. The current findings are consistent with the findings by Sweetman and colleagues (2011) where PsyCap was found to predict creative performance. For optimism, the finding is in line with what Seligman (2006) proposed that optimists tend to be imaginative and come up with new ideas as they are visionary. For hope, the findings are in line with research on goals and their importance in actions (Frese & Zapf, 1994). For self-efficacy, though no research examined self-efficacy and innovative behavior before, the current finding goes in line with the study by Tierney and Farmer (2002) that showed that there is a positive relationship between creative self-efficacy and creative performance. Self-efficacious employees are more confident about the task in hand (Barron & Harrington, 1981) and so are more likely to take risks and innovate new ideas. Finally, the innovation of a new product or service indeed requires many trial and errors where an employee or a group of employees face many challenges and problems. Therefore, the ability to bounce back or resiliency is needed. The current finding goes in line with the argument by Amabile (1996a) that creativity needs persistence in the face of challenges.

On the psychological or creative related aspect and as expected, PI and creative behavior were found to predict innovative behavior. The finding was expected and is in line with other research studies of creative behavior (Amabile, 1988; Madjar, Oldham, & Pratt, 2002) and PI (Baer & Frese, 2003; Hakanen et al., 2008). The current study offers theoretical contribution that scholars argued is needed (Rank et al., 2004). That is, studying the antecedent of innovative behavior. The current study also is the first to assess innovative behavior in an Arab country. Little attention has been devoted to international and cultural issues related to creativity and innovation. Though individualistic culture is more likely to influence innovation and creativity, the current study also provides support that collectivistic cultures could also influence innovation. Collectivistic cultures, where Egypt is considered to be one, are those whose individuals are "integrated into strong, cohesive ingroups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty" (Hofstede, 1998, p. 26).

Supportive climate for innovation was found to predict innovative behavior. This finding is consistent with the study by De Jong and Kemp (2003). This finding supports the expectation s

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products. Finally, strategic attention finding is also in line with the study by De Jong and Kemp (2003) which suggests that the degree to which the organization is aligned with innovation in its strategic direction would be reflected on the degree to which employees would innovate. This finding adds to the theory on innovative behavior and also has its implication on strategic management and Porter's theory of strategy (Porter, 1991, 1996) and how a firm could affect a competitive edge through human resources practices. Our finding suggests that the degree to which the employees are attentive to the innovation strategy of the organization determines whether they will implement new ideas for products and services or not.

Implications, Limitations and Future research

Finally, our findings extend the literature on innovative behavior and add to the practical field in several ways. First, this study is the first to combine PsyCap with innovative behavior. The results suggest that positivity at the workplace promotes innovation which brings together the two fields of positive psychology or POB and innovation. Though optimism and creative self-efficacy were found to predict innovative behavior of students (Li & Wu, 2011), research on positive constructs like optimism, hope or happiness in relationship to innovation at the organizational level has been rare. Future research should start paying more attention to positive constructs in relationship to more strategic or innovation management constructs. Though we did not measure innovation, we measure the implementation of new ideas and processes which will be reflected in innovation at the end of the day. Future research should then investigate the impact of positivity in the workplace on innovation process itself. For example, the link between creativity and flow has been highlighted (Csikszentmihalyi, 1997, 2002), however, research on flow and innovation at the organizational level has not been examined yet. This finding also has some practical implications for human resources whether in terms of training or recruitment. As highlighted by Seligman (2006), sales people who were recruited according to their level of optimism were more likely to get more sales and were better sales people where they were less likely to be frustrated from clients rejecting them and were more able to explain negative situations in terms of temporal, impersonal and specific explanations (see also Seligman 1995; 2002a). So if optimism could be measured and if it leads to more innovative behavior which in turn should lead to more innovations and so better overall performance, the human resource management should pay attention to such

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selection tools that include some positive psychological tests for optimism or other related constructs like hope, self-efficacy and resilience. These assessments could also be used to evaluate employees after being trained on relevant trainings related to these psychological capacities. Human resources management should also the performance to such capacities in a way that employees are encouraged to stay positive and spread positivity rather than negativity. The current study also added to positive psychology by examining innovative behavior as an antecedent to engagement, one very important topic in positive psychology (see Seligman, 2002a, 2002b). Research that linked the implementation of new ideas and products to engagement has been rare. Though engagement in the current study was relevant to work, it still gives insight into the engagement of life in general and still work engagement is a very crucial topic in positive psychology. Finally, the study is the first to examine innovative behavior as a predictor to satisfaction where previous studies examined the impact of satisfaction on innovative behavior (Bysted, 2013; Han-Jen, 2014). These two findings also have important practical implication for human resources management people and also for consultancy firms. Engagement has been a main competency and main service for giant consultancy firm like Hay group where models of antecedents of engagement and satisfaction are built so as to determine what fosters engagement and decreases intentions to leave (see <http://www.haygroup.com/ww/>; see also Masson, Royal, Agnew, & Fine, 2008). Therefore, the current studies shed light in the importance of innovative behavior in building engagement models that aim at increasing satisfaction and engagement as well as decreasing intentions to leave and turnover.

Second, though previous research linked creativity to firm innovation (Amabile, 1996; Amabile, 1988; Madjar et al., 2002) and proactive personality to innovation and entrepreneurial activity (Parker, 1998; Crant, 1996), our study is unique in that it links creative behavior and PI to innovative behavior. Besides, organizational leaders and managers should pay attention to PI and creativity when building assessment centers for recruitment and also in employee development and training. Third, as highlighted above, the study contributes to the theory of strategy and innovation in that it links strategic attention which is about how employees think their company pays enough attention to innovation in its strategy, mission and vision. In Porter's strategy theories (see Porter, 1991; 1996), focus of organizations is on either innovation or cost or a combination of

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both. This study provides insight into the alignment between the organizations' strategic direction and how it could be implemented. If a company's main strategic direction is to innovate, then employees should see this in their mission, vision and strategy and be supported to do innovate so that innovations would occur at the end of the day. Finally, a company that seeks innovations should support its employees with all necessary tools to innovate.

As for work design, the current study adds to the job characteristics theories (Hackman & Oldham, 1980; Morgeson & Humphrey, 2006) by examining the role work design plays in innovation or the implementations of innovative ideas. As discussed, job characteristics theory suggested that for positive outcomes like motivation, satisfaction and performance to occur, certain dimensions should be found in a job. These dimensions would result in certain states that in turn affect the outcomes. This study suggests that the way the work is designed would affect the employee's ability to innovate. However, like any study, the current study had limitations.

First, causal inferences that the antecedents of innovative behavior causes it and that it in turn causes engagement and satisfaction cannot be made. We depended on existing theory and prior research to describe and build a framework for our hypothesized relationships. However, the direction of the relationship cannot be determined without creating sequential precedence and experimental manipulations. In other words, the direction of the causality has not been established and the possibility of other alternative hypotheses (e.g., high engagement leads to high innovative behavior) cannot be ruled out.

In addition, common method variance within and between independent or dependent variables may lead to artificially high correlations (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Since some variables showed strong correlation, common method bias could have impacted the pattern of results. However, it is important to note that for the surveys that were handed in and not the online; the filing of the questionnaire was distributed in 2 different days which can potentially reduce the common method bias limitation. Further, to minimize common method bias, variables were measured on different levels of specification (Podsakoff et al., 2003). For example, work characteristics were assessed as stable features of jobs while creative and innovative behaviors as the general tendency to engage in the behavior.

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Finally, the sample size in the current study is relatively small and specifically in relation to the variables included in the model. One reason for that might be the length of the questionnaire since it measured many variables. However, again we tried to solve this issue by dividing the questionnaire into two parts. One other reason is the unawareness of research importance in Egypt and the fact that companies are not willing to cooperate for research and are more concerned about confidentiality issues. Therefore, future research should focus on replicating the same model with larger sample.

To conclude, the current study not only suggests the seeming value of employees' psychological capital at all levels within organizations, but also other antecedents to innovative behavior as well as outcomes of engagement and satisfaction. The antecedents examined here provide a framework for investing in employees' capacities as well as company resources to be able to compete in the current turbulent environment.

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Study 2- Innovative Behavior of Egyptian Entrepreneurs: A Model of Antecedents and Consequences

Abstract

We drew upon positive organizational behavior theory and strategic management and entrepreneurship theory models to form an integrated model of innovative behavior and venture performance including constructs from micro research domains. The model of innovative behavior and venture performance was tested with responses from 159 companies from different industries. Entrepreneurs' competencies of hope, optimism, self-efficacy, resilience as well as the four constructs combined together were direct predictors of entrepreneurs' creative behavior and trait personal initiative and also had indirect effects on innovative behavior. The relationship between these competencies and innovative behavior was mediated by creative behavior and personal initiative. Entrepreneurs' competencies of PsyCap were also found to predict venture performance; however, this relationship was not mediated by creative behavior or personal initiative.

Introduction

Interest and research on entrepreneurship has increased dramatically at the beginning of the 21st century (Zimmerer & Scarborough, 2001; Pines et al., 2012). Though the understanding of entrepreneurship and entrepreneurial and firm behavior is dependent on the entrepreneurs themselves (Baumol, 1968; Shane et al., 2003), the field has not paid enough attention to the psychological capacities and competencies of individual entrepreneurs and focused more on firm-level outcomes like the survival, growth and financial outcomes of ventures (Baron & Tang, 2009; Shane et al., 2003). Though efforts were exerted to focus research of entrepreneurship on the individual entrepreneurial characteristics and competencies and its relationship to firm-level outcomes (Hitt et al., 2007, Baron & Tang, 2009; Rauch & Frese, 2000), to date however, the emerging concept of positive psychological capital (Youssef & Luthans, 2007; Luthans et al., 2007a; Luthans et al., 2007b), proactivity, and innovative and creative behavior, applied to entrepreneurship have not been yet explored. This study draws attention to the importance of innovative behavior of entrepreneurs and its relationship to the venture performance as well as its antecedents.

Baumol (1968) highlighted the significance of studying entrepreneurs and its link to the overall wellness of the economy by saying that “If we are interested in explaining what Haavelmo has described as the really big dissimilarities in economic life, we must be prepared to concern ourselves with entrepreneurship” (p. 65). Studying the behavior of entrepreneurs in a developing country like Egypt is crucial as entrepreneurial function is a main component in the equation of economic growth (Baumol, 1968). Though some research linked psychological traits of entrepreneurs (Baum et al., 2001; Pines et al., 2012; Rauch & Frese, 2000), where some tackled psychological capital components (Hmieleski & Baron, 2009; Zahao et al., 2005; Pines et al., 2012), and others tackled entrepreneurs' Positive psychological capital (PsyCap) and its impact on their perception of authentic leadership (Jensen & Luthans, 2006), no research examined the relationship between psychological capital as a core construct with innovative behavior of entrepreneurs. Research on entrepreneurship also did not pay enough attention so far to the

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psychological capital antecedents behind entrepreneurial actions (Shane et.al, 2003) nor innovative behavior but rather focused on innovation on the macro-level (e.g., Baron & Tang, 2009). Though research on entrepreneurial passion (EP) (Cardon et al., 2009, 2013) is related to PsyCap as both could fall under the umbrella of positive psychology, we did not find any articles that linked EP to innovative or creative and proactive behaviors. However, research called for the importance of studying the motivations behind entrepreneurial actions (Shane et al., 2003; Baron & Tang, 2009). The current study will examine PsyCap as well as its four constructs of hope, optimism, self-efficacy and resilience as antecedents to Egyptian Entrepreneurs' personal initiative and creative behavior and in turn their impact on innovative behavior and venture performance. PsyCap and its four constructs fall under the umbrella of positive organizational behavior and positive psychology as well while the pathways component of hope provides the basis of our strategic management theory inclusion where entrepreneurs' ability to set goals and alternative plans is discussed. PI and its strategic and entrepreneurial implications also provide the basis for the inclusion of strategic management theory.

Hypothesized Model

Innovative and Creative Behaviors and Personal Initiative of Entrepreneurs

Creativity is the production of novel and useful ideas (Amabile, 1998), and innovation is the implementation of novel and useful ideas (Amabile, 1998; West, 2002). Proactivity is a behavior that is self-started and change-oriented that one use to enhance personal or organizational effectiveness (Unsworth & Parker, 2003). Personal initiative (PI) is a form of proactivity that is defined as "a behavior syndrome resulting in an individual's taking an active and self-starting approach to work and going beyond what is formally required in a given job", (Frese et al., 1996, p.38). Innovative behavior can be defined as "all individual actions directed at the generation, introduction and application of beneficial novelty at any organizational level" (Kleysen & Street, 2001, p.285). Innovation behaviors have become increasingly enviable in today's unpredictable fast-moving and competitive work environment though been seen previously as out of place or insolent topic (Anderson et al., 2004). Innovative behavior is not limited to developing new product ideas and new technologies, but it also includes initiating new ideas or changes in managerial procedures that aims at improving work relationships or the submission of new ideas

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or technologies to work processes aiming at improving the value of work (Kleysen & Street, 2001; Kanter 1988). It consists of various practices and behaviors such as opportunity discovery, idea generation, significant research and investigation, championing, and application (Kleysen & Street, 2001, Jong & Kemp, 2003).

The term innovative behavior has always been applied on the organizational level and even its definition is about individuals working in an organization and not entrepreneurs. This study is the first to develop a definition and an instrument to measure the innovative behavior of entrepreneurs. Therefore, based on the above definition of innovative behavior, entrepreneurs' innovative behavior is defined as all entrepreneurial actions directed at the generation, introduction and application of beneficial novelty in their venture. This study tackles PsyCap's impact on innovative behavior as mediated by creative behavior and personal initiative. As for creative behavior, Baron and Tang (2009) found that positive affect among founding entrepreneurs is significantly related to their creativity and that creativity in turn is related to firm-level innovation. Though some studies examined the link between creativity and innovation on the macro-level (Baron & Tang, 2009) where the focus was on the innovations that a firm produced and not the individual production and implementation of ideas which is different than the firm-level innovation, up-to-date no studies focused on the link between creativity and innovative behavior of entrepreneurs. However, there are empirical and theoretical grounds for its existence. First, Creativity has often been viewed as an antecedent of firm level innovation (Amabile, 1996; Amabile, 1988; Madjar, Oldham, & Pratt, 2002). Second, creativity as an entrepreneurial trait was found to be related to risk taking where risk taking was found to be related to ventures' technological uncertainty and novelty (Pines et al., 2012). Third, the process of entrepreneurship involves decision making after the discovery of opportunities a step that a creative mind would facilitate (Shane et al., 2003). Creativity then precedes innovation as there is no implementation of ideas without the generation first (Unsworth & Parker, 2003).

Proactivity of firm owners was found to be positively related firms' success (Zempel, 1999, as cited in Fay & Frese, 2001). Proactive behaviors were found to be related to intentions toward entrepreneurial careers (Crant, 1996). Moreover, a study by Becherer and Maurer (1999) showed that company presidents who are proactive affect the posture of the company and increased sales.

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PI and its implication on strategic direction of firms and so the economic development of countries is also an essential variable to investigate. PI's self-starting dimension involves strategies and goals development that are unique or developed by persons who are not likely to produce such new strategies or plans (Fay & Frese, 2001; Frese et al., 2004). Proactivity is essential in a country like Egypt where entrepreneurs are faced with many challenges and the successful ones are the ones who do not give up easily but stay proactive and initiate new ways of doing things. Since PI involves active and proactive actions that a person pursues in order to overcome obstacles and prevent problems and thus persons high in PI are more likely to achieve goals when they face obstacles and more likely to come up with unusual objectives and strategies (Fay & Frese, 2001; Sonnentag, 2003; Unsworth & Parker, 2003), then it is likely to assume that PI should affect the implementation of new ideas or initiatives. Therefore, the relationship between entrepreneurs' creative behavior and PI and their impact on entrepreneurs' innovative behavior and venture performance is essential to examine.

Psychological Capital and its Constructs as Antecedents to Creative Behavior and Personal Initiative

Positive organizational behavior (Luthans 2002a; 2002b; Wright, 2003) has its roots in the field of positive psychology which was initiated by positive psychologist Martin Seligman (Seligman, 1995, 2002a, 2002b, 2006, 2007; Seligman & Csikzentmihalyi, 2000). Positive psychology focuses on the study of positive emotions, positive traits and positive institutions (Seligman et al., 2005, 2009). Positive psychology at the subjective level is mainly about "valued subjective experiences" like well-being and satisfaction (Seligman, 2006). At the individual level, it is about positive traits like courage, wisdom, forgiveness, spirituality, and originality. While at the group level, it is about work ethics, responsibility, and tolerance (Seligman & Csikzentmihalyi, 2002). Seligman (2007, p.266) defined positive psychology as "the study of positive emotion, of engagement, and of meaning, the three aspects that make sense out of the scientifically unwieldy notion of happiness.

The positive psychology movement was triggered as psychologists realized that for so long their main focus was on preventing problems, neglecting the competency building dimension (Seligman & Csikzentmihalyi, 2002; Luthans 2002a; 2002b; Money et al., 2008). As stated by

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Seligman and his colleagues (2005), "it makes sense to study what is right about people in addition to what is wrong" (p. 413). Thus, positive psychology is an attempt to encourage psychologists to start adopting a more open point of view regarding what human beings could do or have (Sheldon & King, 2001).

Since the origin of organization behavior, the focus has been on managerial dysfunctions and employee problems without paying much attention to positive capacities that are more likely to have an impact on performance and productivity (Luthans, 2002a; 2002b; Wright, 2003; Wright & Quick, 2009). In a computer search about psychology literature, Luthans (2002b) found approximately 375,000 articles on negative constructs like fear, depression and anxiety, and only about 1000 articles on positive concepts and capacities. Moreover, for the past decade, positively-oriented best-selling books like Norman Vincent Peale's message of the power of positive thinking and Steven Covey's seven habits of highly effective people have approached positivity in the workplace but were not theory and research driven (Luthans 2002a; 2002b). Thus, Positive organizational behavior is about bringing the positive psychology concepts and applications to the workplace (Luthans 2002a). Luthans (2002b) defined positive organizational behavior as "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace"(p.59).

A psychological resource capacity within the defined Positive Organizational Behavior POB should include the following criteria: (a) The capacity should be theory-based, researchable and measurable (b) the capacity must also be "state-like" or open to development and have a demonstrated performance impact (Youssef & Luthans, 2007; Luthans et al., 2007b). Thus, the main focus of positive organizational behavior (POB) is on state-like variables unlike positive psychology or positive organizational scholarship that focus on trait-like variables. Examples of constructs that meet these criteria are confidence, emotional intelligence, hope, optimism, and happiness or subjective well-being (Luthans 2002a, 2002b; Wright, 2003).

The capacities that best meet the above-mentioned criteria and have been identified to date are self-efficacy, hope, optimism and resilience (Luthans & Youssef, 2004; Luthans et al., 2004). On the entrepreneurial level, PsyCap as a core constructs was found to be positively related to entrepreneurs' perceptions about authentic leadership (Jensen & Luthans, 2006), and was found to

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predict venture performance even above and beyond measures of financial capital, human capital, and social capital (Hmieleski & Carr, 2008; see also Envick, 2004). However, despite the importance of innovation in the success of ventures, the impact of PsyCap on innovative behavior and venture performance as mediated by creative behavior and personal initiative has not been explored yet. The below lines elaborates more on the link between PsyCap constructs and innovative behavior and venture performance as mediated by creative behavior and personal initiative. The hypothesized model is shown in figure 2.

Self-efficacy

The first component of PsyCap is self-efficacy. Self-efficacy is defined as "an individual's convictions (or confidence) about his or abilities to mobilize the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998b, p.66). Self-efficacy is an essential ingredient in the success of entrepreneurs since it relates to the general belief in one's ability to perform and make use of his skills (Bandura, 1993). Self-efficacy could be enhanced through accomplishing a given task, learning from the environment, and verbal persuasion and psychological arousal (Bandura, 1997). A person who is low in self-efficacy will have doubts that he/she can do what is needed to achieve a certain task (Bandura, 1993) while a person with high levels of self-efficacy tend to set challenging goals, persist toward achieving them and is more able to overcome difficulties (Bandura, 1997). A meta-analysis conducted by Stajkovic and Luthans (1998a) showed that self-efficacy is related to work-related performance. Moreover, a study by Tierney and Farmer (2002) showed that there is a positive relationship between creative self-efficacy, a new construct that combines self-efficacy with creativity, and creative performance.

As a positive state-like capacity, self-efficacy was found to be positively related to individual organizational citizenship behavior (Avey et al., 2009) and positive emotions (Avey et al., 2008) and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors (Avey et al., 2009). On the entrepreneurial level, self-efficacy of entrepreneurs was found to be related to firm growth (Baum & Locke, 2004; Baum et al., 2005; Forbes, 2005). Efficacy is a generative ability that impacts performance through the use of inventiveness and resourcefulness (Bandura, 1986). In fact, research proved that higher levels

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of self-efficacy are associated with increased creative performance (Amabile, 1996). Creative and innovative behaviors involve taking risks because the generation of novel and useful ideas might fail (Carmeli & Schaubroeck, 2007). Those high in self-efficacy are more likely to take risks and engage in challenging activities (Bandura, 1997). Sweetman and colleagues (2011) found positive significant relationship between self-efficacy and creative performance among employees. People who are high in self-efficacy approach situations in a calm way and are hardly disrupted by difficulties (Maddux, 2002). Moreover, PI is characterized by the ability to overcome difficulties and take personal steps to achieve goals (Fay & Frese, 2001). From this link, we can conclude that higher entrepreneurs are in self-efficacy, the more innovative and creative as well as proactive they will be as they are more likely to take risks persist toward achieving their target goals; two components that are needed for innovation and creativity. In addition, PI involves overcoming challenging which characterizes self-efficient people. Moreover the more self-efficient entrepreneurs are, the better their firms will perform as a result of their persistence, risk-taking attitude toward innovation.

Hope

The most widely accepted definition of hope has been developed by Snyder (Snyder et al., 1997; Snyder, 2000), who defines hope as consisting of three interacting components: goals, agency, and pathways. Hope was defined as “a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals) (Snyder et al., 1991, p.571). Snyder (2002) defined hope more precisely as “the perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those pathways” (p.249). The agency component refers to individuals’ thoughts about their ability to initiate and prolong movement toward goal accomplishment (Peterson & Byron, 2008). Agency can be viewed as having the motivation or the will to achieve goals (Snyder et al., 1991). Pathways are cognitive routes to goals (Snyder et al., 1996). Thus, the pathways component refers to one's sense of ability to generate ways or means to meet these goals (Snyder et al., 1991; Snyder et al., 1996). Together, the two components make the will or the "I believe I can do it" and the way or the "I believe there are so many ways". However, for individuals to possess hope, they must have goals, the will and motivation to achieve such goals, and the ability to imagine multiple ways through which these goals could be achieved (Hmieleski & Carr, 2008). Hope was found to be

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related to academic and sports achievement (Curry et al., 1997), goal attainment (Fledman et al., 2009), and performance (Peterson & Byron, 2008; Peterson et al., 2006).

As a positive state-like capacity, hope was found to be positively related to individual OCBs (Organization citizenship behavior), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors (Avey et al., 2009). Moreover, positive significant relationship between hope and positive emotions were found that in turn were related to positive attitudes like engagement (Avey et al., 2008). Moreover, hope has been found to be positively related to satisfaction (Luthans & Youssef, 2007; Luthans et al., 2007b; Luthans et al., 2008), work happiness, and commitment (Youssef and Luthans, 2007). Related to the current study, hope was found to be related to creative performance (Sweetman et al., 2010).

Since innovative behavior consists of opportunity exploration which is mainly about identifying new opportunities (Kanter 1988), besides, setting goals and planning for the future as well as imagining multiple pathways are critical to venture performance and innovation, it is likely to assume that individuals who are hopeful are more likely to be innovative and creative as they generate pathways. PI's self-starting component implies that goals are set by the person himself or herself whereby pathways included in PI are different from normal pathways (Fay & Frese, 2001). For example, if a manager or entrepreneur purses a strategy to enhance effectiveness whereby the strategy is not difficult and is so clear then the actions are not PI while if the strategy is unusual then there is high psychological distance and the strategy could be considered PI (Fay & Frese, 2001). Therefore, the link between hope as not just a PsyCap competency but also a strategic capacity that involves the development of alternative plans and goals and ways of achieving them is directly related to entrepreneurs' PI. This strategic link could also be seen in the proactive nature of PI where anticipation of future demands and preparation for them are typical goals of initiative and are considered to components of hope from a managerial perspective (see Fay & Frese, 2001). From the above lines we can hypothesis that entrepreneurs who are more hopeful are more likely to come up with new and several pathways that could help them achieve their creative idea and gives them the foundation of their initiative actions.

Optimism

The third POB criteria-meeting capacity is optimism, which is defined by as generalized positive outcome expectancy (Carver & Scheier, 2003). In everyday language, an optimist is the one who always expects positive and pleasing outcomes for the future and the pessimist on the contrary is the one that expects negative outcomes and is constantly having negative thoughts (Scheier & Carver, 1985; Luthans et al., 2007b). Seligman (1995, 2006) showed how optimism could be enhanced and improved through trainings and interventions.

Optimism has been linked to a variety of positive outcomes like good morale, effective problem solving, academic, political and occupational success, happiness, achievement, good health and even long life. On the contrary, pessimism has been linked to depression, failure and passivity (Peterson, 2000). As a positive state-like capacity, optimism is positively related to individual OCB (Organization citizenship behavior), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors (Avey et al., 2009). Moreover, Avey et al (2008) examined the relationship between optimism as a component of Positive psychological capital and positive emotions. They found a significant relationship between optimism and positive emotions that in turn were related to positive attitudes like engagement. Moreover, optimism has been found to be positively related to satisfaction (Luthans & Youssef, 2007; Luthans et al., 2007b), and work happiness (Youssef and Luthans, 2007). Innovation, team orientation and risk taking should be related to the degree of optimism of employees (Medlin, Jr., & Gaither, 2010). Though in one study entrepreneurs' optimism was found to be negatively related to firm performance (Hmieleski & Baron, 2009), important to the current study is the finding that optimists, as opposed to pessimists, often enjoy facing problems, adversities and challenges (Scheier et al., 2001). Further, pessimists tend to give up easily in the face of adversity while optimists are more able to face challenges and stay persistent (Carver & Scheier, 2003). Since PI involves anticipating future demands to prevent problems (Fay & Frese, 2001) whereby research proved that optimists are visionary people who have more ability to imagine and set goals for the future (Seligman, 2006), it is likely to assume that entrepreneurs who are high in optimism are more likely to be high in PI as well as creative and innovative behavior.

Resilience

Resiliency is the extent to which individuals are characterized by the ability to bounce back from adversity and achieve good outcomes in spite of serious threats to adaptation or development (Masten, 2001). As a positive psychological state, resilience is defined as " the positive psychological capacity to rebound, to 'bounce back' from adversity, uncertainty, conflict, failure or even positive change, progress and increased responsibility" (Luthans, 2002a, p.702). Past research on resilience has been limited to clinical areas of Psychology. However, Luthans and colleagues (2007a, 2007b, 2008) have examined the impact of resilience on work outcomes. For example, Youssef and Luthans (2007b) found a significant relationship between resilience and job satisfaction, work happiness and organizational commitment. Moreover, as a positive state-like capacity, resiliency was found to be positively related to individual OCB (Organization citizenship behavior), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors (Avey et al., 2009) and positive emotions that in turn were related to positive attitudes like engagement (Avey et al., 2008).

This process of bouncing back is occurred through the positive assessment of risks and personal assets (Coutu, 2002; Luthans et al., 2006). Resilience requires that there must be current or past definite risk to overcome and that the quality of adaptation is evaluated as "good" or "ok" (Masten, 2001). Resilient people hold three main competencies: acceptance of reality, a belief that life is meaningful even in very bad times, and an ability to cope and get along (Coutu, 2002). The link between resiliency and adaptation is quite obvious as resiliency results from the operation of basic human adaptational systems (Masten, 2001) whereby individuals vary in the degree of adaptability and the way they respond to the changes that they face (Block & Kremen, 1996) as problems occur when these systems are not operating on average (Masten & Obradovic, 2006). Adaptational systems could be learning systems of the human brain which involves problem solving, mastery motivation system which involves self-efficacy processes, and also cultural and social systems (Masten & Obradovic, 2006). Therefore, resiliency is characterized by proactive responses in the face of failure or even great success. Since PI involves active approach that is characterized by overcoming difficulties that arise when accomplishing a goal (Fay & Frese, 2001), then it is likely to assume that resilience should influence PI. From this link, we can

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conclude that more resilient individuals are more likely to be innovative and creative as well as proactive as they are more likely to take risks and are more willing to accept change. Moreover the more resilient entrepreneurs are, the better their firms will perform.

PsyCap as a Core Construct

Positive psychological capital or PsyCap in short is mainly about "Who you are" and is differentiated from human capital "what you know" and financial capital "what you have" and "what you can become" (Luthans et al., 2004; Luthans & Youssef, 2004; Luthans et al., 2007a). PsyCap has been found to be an additive variable to human and social capital equation (Larson, 2004). Several studies examined the between Psycap and performance (Luthans et al., 2005; Luthans et. al, 2007b; Luthans et al., 2008) and found a significant positive relationship between PsyCap and performance. Figure 1 illustrates the four different types of capital. The link between psychology and innovation is found in many studies. Research proved that psychological safety is a crucial antecedent for innovation (West & Altink, 1996). Previous research showed that psychological empowerment leads to increased innovation (Spreitzer , 1996). Psychological empowerment is defined as “ intrinsic motivation embodying a set of four psychological states reflecting an individual’s orientation toward his or her work: meaning, self-determination, impact, and competence” (Alge, Ballinger, Tangirala & Oakley, 2006; p.223). Psychological empowerment was also found to be related to creative performance (Alge et.al, 2006). Though research on entrepreneurship focused on environmental factors (Aldrish, 2000), it neglected the importance of motivation and agency (Shane et.al, 2003), that is a main component of PsyCap, in producing new ideas and opportunities and so new ventures.

According to Shane and colleagues (2003), entrepreneurship is a result of external factors like the economy and competitors and also internal factors like human skills, competencies and actions. They concluded that the entrepreneurial process happens because of opportunity seeking whereby by people differ in their willingness to act on such opportunities, that is the human agency part, that is a main component of hope (Snyder et al., 1991). Moreover, they concluded that people who are more optimistic or higher in self-efficacy are more likely to take risks and challenge odds. Therefore, it is likely to assume that PsyCap of entrepreneurs would impact their innovative behavior.

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Based on all links discussed above, the following hypotheses are derived:

Hypothesis 1: Entrepreneurs' PsyCap relates positively to their innovative behavior and firm performance.

Hypothesis 2: Entrepreneurs' hope, optimism, self-efficacy, and resilience relates positively to their innovative behavior and performance.

Hypothesis 3: Entrepreneurs' PsyCap relates positively to initiative and creative behavior.

Hypothesis 4: Entrepreneurs' hope, optimism, self-efficacy, and resilience relates positively to initiative and creative behavior.

Hypothesis 5: The relationship between entrepreneurs' PsyCap and innovative behavior is mediated by initiative and creative behavior.

Hypothesis 6: the relationship between entrepreneurs' PsyCap and venture performance is mediated by initiative and creative behavior.

Figure 1: Expanding Capital for Competitive Advantage (Luthans et al., 2004)

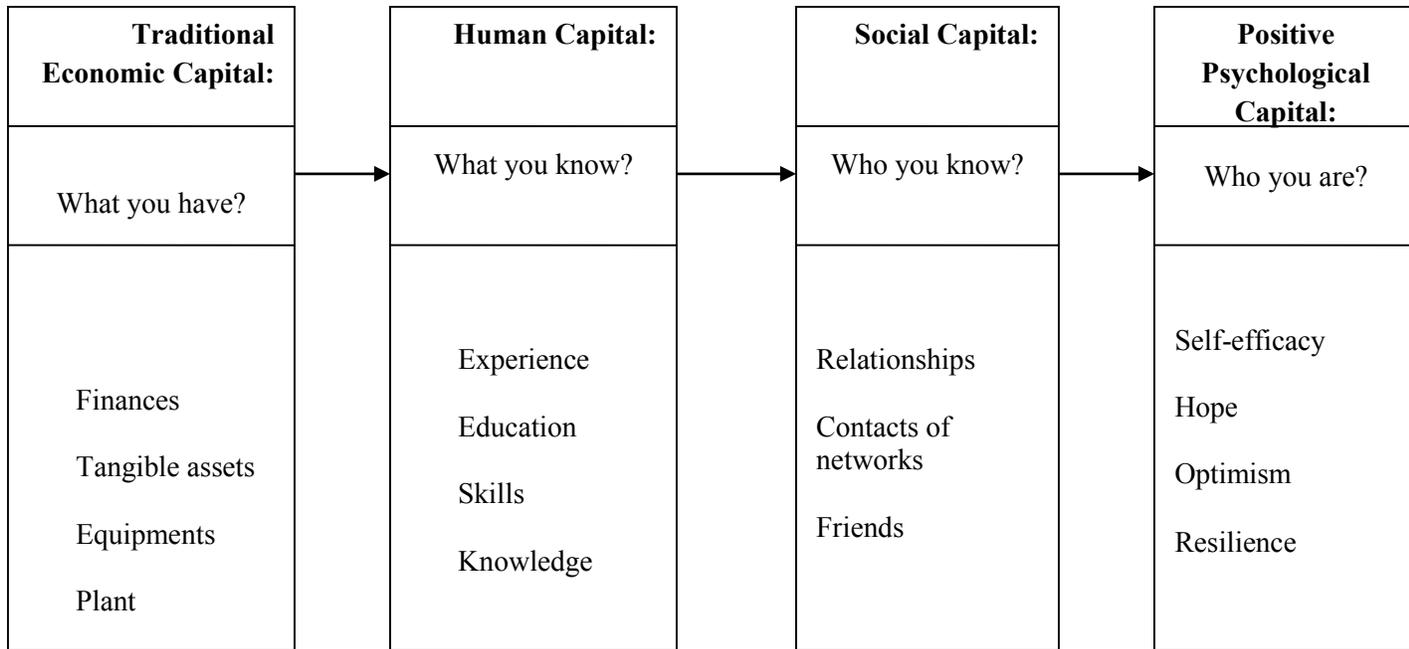
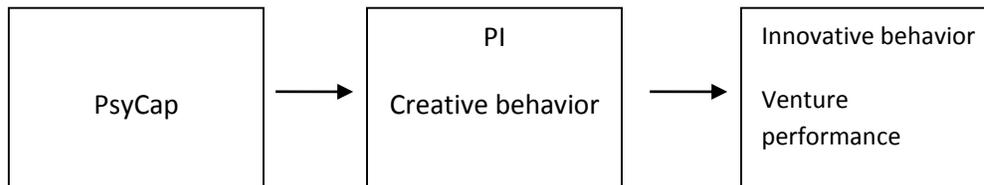


Figure 2. The Hypothesized Model



Methodology

Participants in the study were Egyptian Entrepreneurs who were invited to participate in a study about entrepreneurs’ feelings and thoughts through a database of Egyptian entrepreneurs under the Entrepreneurship and Innovation Program of the American University in Cairo. An email was send to all entrepreneurs who were 4000 where only 170 replied that were then reduced to 159 because of missing data. The low response rate (4%) might have been due to the failure of receiving emails. Entrepreneurs came from different sectors where around 16% came from the

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manufacturing sector, 65% came from the service sector, and 20% came from other services like software development and web consulting, automation solutions and technology for health communication. Eighty four percent of the participants were males while 15% were females with an average age of 31 (range from 19 to 61). We compared some percentages with those of the whole population where we found that the data is representative since around 70% of the population came from service sector and the rest came from other sectors. Moreover the average age of the population is 25 which is close to the one in the sample. Finally 20% of the population are females which is again close to the sample percentage. All instruments used in this field study are published and standardized measures. Participants were asked to indicate the extent to which they agree to the statements. All measures will use a response scale in which 1 is "strongly disagree" and 6 is "strongly agree". Some wordings were changed to make the sentence related to an entrepreneur instead of an employee. To test study hypotheses, Psychological capital, creative behavior, innovative behavior, trait personal initiative, and venture performance data from those who founded enterprises were gathered and analyzed.

Measures

Positive Psychological Capital

Positive psychological capital was measured using the PsyCap questionnaire. The PsyCap questionnaire was developed by Luthans and colleagues (2007b). Results of their study provided psychometric support for a new PsyCap survey designed to assess the four facets or constructs, as well as a composite factor. Researchers (Luthans et al., 2007b) have selected the four scales for each of the four positive constructs based on certain selection criteria. That is, the scale is reliable and valid, applicable to the workplace, and is capable of measuring the state-like capacities that make up the PsyCap. According to the above-mentioned criteria, the scales that are used are (1) hope (Snyder et al 1996), (2) resilience by Wagnild & Young (see Luthans et al., 2007). (3) optimism (Scheier & Carver, 1985), and (4) self-efficacy (Parker, 1998). The researchers selected the best six items from each scale and so reached agreement on the 24 items that make up the PsyCap questionnaire.

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The Cronbach alphas across studies on PsyCap conducted by Luthans et al (2007) showed support for the reliability of each of the four facets and for the overall PsyCap as follows: hope (.72-.80), optimism (.69-.79), self-efficacy (.75-.85), resilience (.66-.72), and PsyCap (.88-.89). Items were slightly modified to fit the entrepreneurial sample. Sample items included: (a) hope: "I can think of many ways to reach my current business goals" and "There are lots of ways around any problem", (b) resilience: "In my business, I usually take stressful things in stride" and "I feel I can handle many things at a time in my business", (c) optimism: "If something can go wrong for me business-wise, it will" and "I always look on the bright side of things regarding my business ". For the current study, the Cronbach alphas show support for the reliability of each of the four facets and for the overall PsyCap too and are as follows: hope (.76), optimism (.61) then changed to (.74) when the two reversed items were eliminated, self-efficacy (.88), resilience (.54), and then (.74) after eliminating the reversed coded item, and finally PsyCap (.82). Reliability coefficients around .90 are considered to be "excellent", values approximately .80 as "very good", and values around .70 as "adequate" (Pallant, 2007).

Overall Positive Psychological Capital

The standardized scores for each of the state optimism, resiliency, and hope measures were combined (with each component receiving equal weight) to create the measure of positive psychological capital for this study.

Creativity

Creativity was measured using the creativity scale by Tierney (1999). Items include "I found new uses for existing methods or equipments." and "I identified opportunities for new products/processes". Some words were changed to reflect an entrepreneurial activity instead of a work activity for an employee. For example, instead of "I demonstrated originality in my work, it was changed to " I demonstrated originality in my company". In the current study, internal consistency was .83 which is very good.

Innovative Behavior

Innovative behavior measure used in Ohly and colleagues, (2006) was used. Item wording was based on Zhou & George (2001) creativity rating. Item wording is changed to reflect implementation instead of generation of ideas and self-ratings. For example, the item “often has new and innovative ideas” is changed into “I often implement my novel and innovative ideas.” In the current study, internal consistency was .73 which is very good.

Personal Initiative.

Proactive behavior was measured with a seven-item scale from Frese, Fay, Hilburger, Leng and Tag (1997) that rated personal initiative (PI). This measure was also used in other studies (e.g., Ohly, Sonnentag, & Pluntke, 2006; Sonnetag, 2003). Sample items included “I actively attack problems” and “I take initiative immediately even when other don’t”. In the current study, internal consistency was .75 which is very good.

Venture Performance

Finally venture performance was measured by asking questions regarding the Return on Investment (ROI), profits, sales, and revenues (see Baron & Tang, 2009; Shane et al., 2003). One questions also asked entrepreneurs to rank their performance relative to others in the market. However, response rate for the revenues questions was very low so we could not use it. Therefore, performance was only measured through a one item statement asking entrepreneurs to rank their venture relative to others.

Translation of the questionnaires

A major alarm with cross-cultural research is the translation accuracy from the US-based measurements to other cultures and languages (Luthans et al., 2005). Thus, to avoid the problems that might arise as a result of inaccuracy of the items or discrepancies between the translated items and the original one, guidelines on the re-translation method were followed (Brislin 1980; Luthans et al., 2005). The questionnaire was translated by the researchers and a professional translator. The Arabic questionnaire was then re-translated back to English by an instructor who is almost bilingual. The original and the re-translated questionnaires were then

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carefully compared and discrepancies were discussed and modified. The questionnaire was also piloted with several entrepreneurs.

Results

Structural equation modeling has become one of the most widely applied techniques in research as it allows the simultaneous assessment of the fit of measurement models and structural models (Landis et al., 2000). Therefore it is recommended to use SEM rather than a series of linear regressions (Baron & Kenny, 1986). Structural equation modeling (LISREL 8.80) using maximum likelihood procedure was applied (Bentler, 1990).

Discriptives and correlations between variables are shown in table 1. Normal distribution of scale values was checked. In order to evaluate the fit of the models, several criteria were examined: (a) the goodness of fit index (GFI); (b) the adjusted goodness of fit index; (c) root-mean square error of approximation (RMSEA); (c) confirmatory factor index (CFI); and (d) standardized root mean square residuals (SRMR). As mentioned earlier, Bentler (1990) argued that CFI provides a better estimation of the model fit than any other indexes. According to Cudeck and Browne (1993), a model with an RMSEA value of .10 or lower is acceptable. The goodness of fit index value should be larger than or equal .90 (Bentler & Bonnet, 1980). As the chi-square is sensitive to sample size, because as the sample size increases, the chi-square has a tendency to indicate significant probability level (Schumacher & Lomax, 1996), it was not used in the current study.

As a first step, confirmatory factor analyses should be used to verify the model. This step is also used to assess the construct validity of the questionnaires. Second, structural paths were examined.

Confirmatory Factor Analyses

PsyCap

To confirm the expected higher-order factor of PsyCap version for adolescents, we conducted a confirmatory factor analysis (CFA) using commonly accepted procedures recommended by Hinken (1995) through LISREL 8.7 software. Normality assumption was met and so no data transformations were necessary or utilized for the CFA. We began the CFA by fitting this model with six items for each facet (i.e., hope, resilience, optimism, and self-efficacy)

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and then fit each of the four dimensions to the higher-order PsyCap (see figure 1). Results indicated the following estimates of model fit: SRMR = 0.076, RMSEA = .077, CFI = .93 where items loadings for self-efficacy ranged from .51 to .83, for hope, it ranged from .40 to .66, while for resilience it ranged from -0.23 to .70 and for optimism it ranged from .07 to .85. The low or negative item loadings were the reversed items and were then deleted and CFA models were built again using the new scales. In this model, each dimension also loaded on the overall psychological capital factor as follows: efficacy=0.73, hope=0.81, resilience=0.91 and optimism=0.84.

After items deletion, results indicated the following estimates of model fit: SRMR = 0.073, RMSEA = 0.073, CFI = .95. Each dimension also loaded on the overall psychological capital factor as follows: efficacy=0.73, hope=0.81, resilience = 0.91 and optimism=0.85. Besides, results indicated the following estimates of model fit for the model with the 24 items loaded on each factor: SRMR = 0.071, RMSEA = 0.079, CFI = .95, and the following estimates for the second model where all 24 items were loaded on PsyCap factor: SRMR = .087, RMSEA = .126 , CFI = .89. Hu and Bentler (1999) suggest that cutoffs close to or below .08 for SRMR, .06 for RMSEA, and at or above .95 for CFI indicate adequate fit.

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Figure 2. Confirmatory Factor Analysis for PsyCap as a higher order

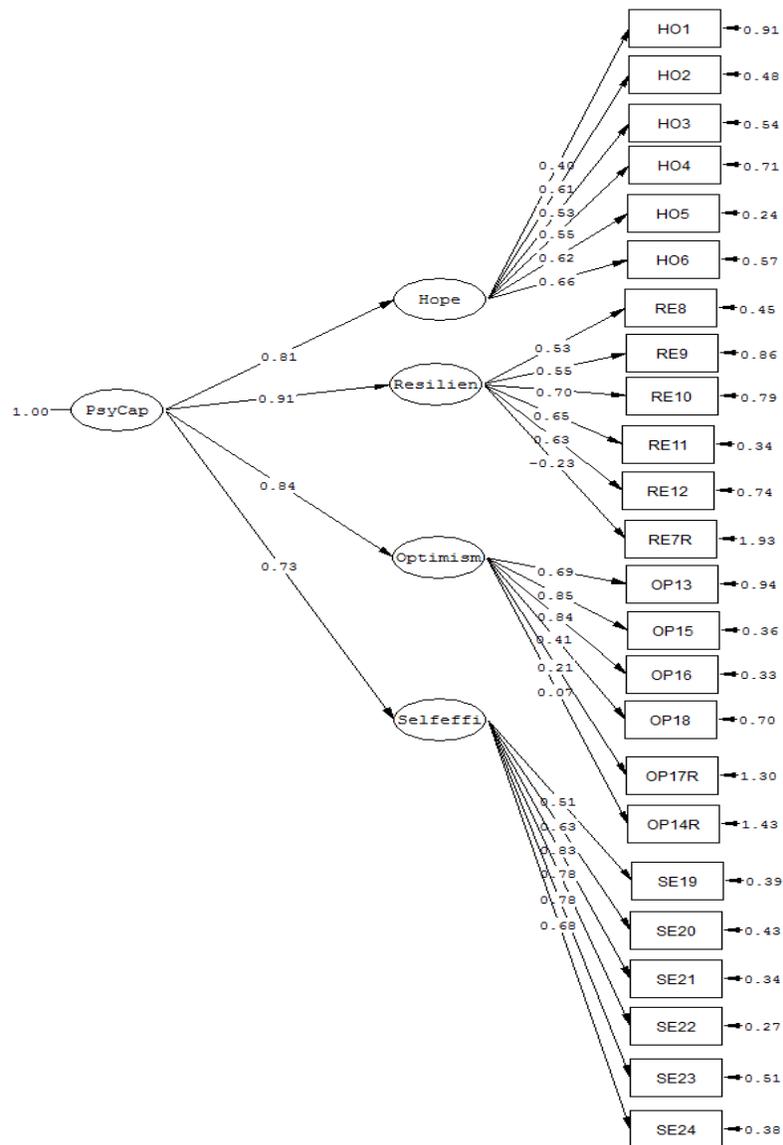


Table 1. Discriptives and Correlational Analyses

	Mean	St. Dev.	1	2	3	4	5	6	7	8	9
Hope	27.8	3.8	1								
Self-efficacy	29.9	4.49	.516***	1							
Resilience	23.7	3.52	.593***	.508***	1						
Optimism	18.7	3.15	.517***	.580***	.641***	1					
PsyCap	100.3	12.2	.806***	.815***	.824***	.815***	1				
Initiative	29.2	3.64	.505***	.521***	.484***	.486***	.613***	1			
Creative behavior	41.04	6.4	.511***	.419***	.441***	.320***	.522***	.311***	1		
Innovative behavior	27.3	4.19	.412***	.438***	.383***	.376***	.496***	.506***	.615***	1	
Performance	3.21	1.08	.318***	.281***	.241**	.204*	.324***	.147	.146	.009	1

Creative behavior, Personal Initiative, and Innovative Behavior

For creative behavior, results indicated the following estimates of model fit: SRMR = 0.096, RMSEA = .166, CFI = .85. After deleting the low loaded items, results indicated the following estimates of model fit: SRMR = 0.051, RMSEA = .073, CFI = .97. For personal initiative results indicated the following estimates of model fit: SRMR = 0.093, RMSEA = .195, CFI = .82. After deleting the low loaded items, results indicated the following estimates of model fit: SRMR = 0.061, RMSEA = .130, CFI = .93. For innovative behavior results indicated the following estimates of model fit: SRMR = 0.094, RMSEA = .187, CFI = .81. After deleting the low loaded items, results indicated the following estimates of model fit: SRMR = 0.049, RMSEA = .150, CFI = .95. In addition, a model containing all three variables together was tested to examine whether they represent different constructs since they are related constructs and were significantly correlated (with correlations ranging from $r = .31$ and $r = .61$; Table1). Comparisons between the one-factor, the two-factor (creativity and innovation), and the three-factor-solution were made through comparing the values of the CFI and the RMSEA. The specific two-factor model was chosen as the two variables of innovative and creative behavior are often seen as closely related

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(see Ohly et al., 2006). The three-factor model showed a better fit than the two-factor model where the change in CFI = .02, and than the one-factor model, change in CFI = .10. Additionally, the RMSEA as an index of parsimonious model fit was lower for the three factor model (RMSEA = .076) than the two-factor model (RMSEA = .10) and the one-factor model (RMSEA = .15). Figures are provided in the appendix.

Structural Equation Modeling

Our sample size (n= 159), though reasonable for organizational research purposes, was too small for simultaneous estimation of a full measurement model with item-level indicators underlying hope, optimism, self-efficacy and resiliency and the higher-order PsyCap; with the indicators or items of innovative behavior, initiative, and creative behavior. Doing so would have required the estimation of a number of parameters, across both the measurement and the structural portions of the model, nearly equal to that of our sample size. Therefore, to support the higher-order representation of PsyCap, we allowed each first-order factor of hope, self-efficacy, resiliency, and optimism to load onto the higher-order factor of PsyCap. However, as shown in table 1, the relationship between the mediators of creative behavior and imitative with performance was not significant. Therefore, we examined two models. The first one is shown in figure 2 where performance as an outcome was not included in the model. This model allowed for an indirect relationship of the higher order of PsyCap on the outcome of innovative behavior through the mediators of initiative and creative behavior. We excluded performance here because there was no significant relationship between creative behavior or initiative and performance. The research model fitted the data with a reasonable error of approximation (RMSEA = .076; Adjusted GFI = .82, CFI = .96, SRMR = .078). The first SEM is presented in figure 2.

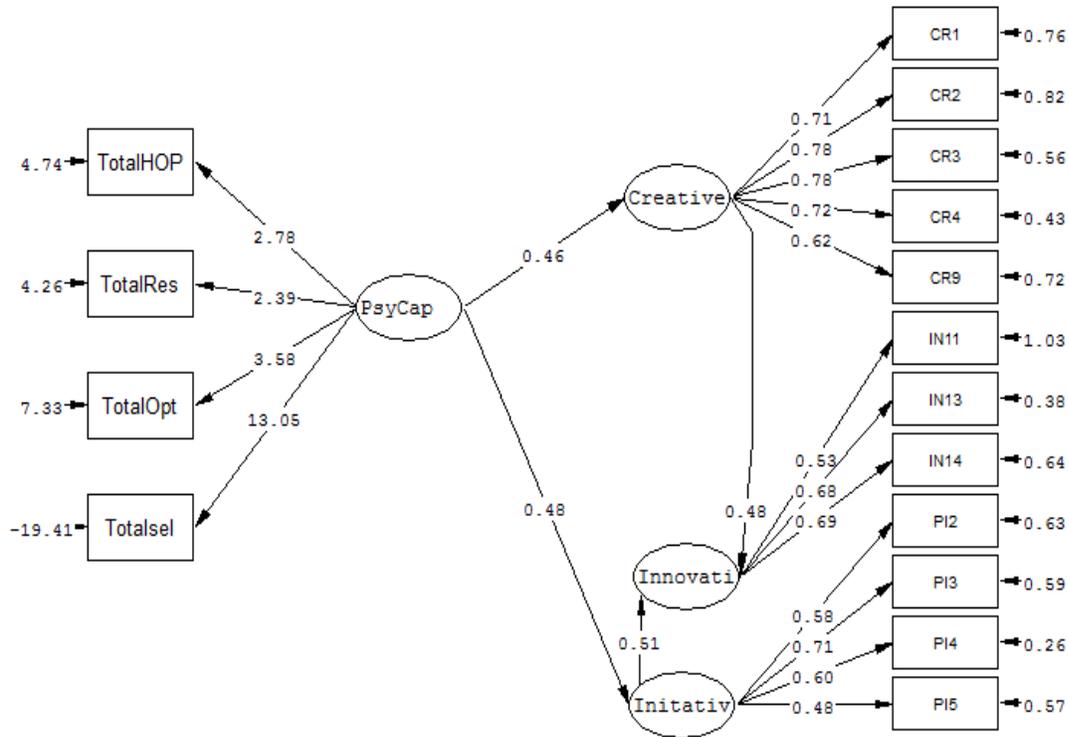
The test statistics indicate that the model fits the data well. The RMSEA = .076, indicating that the data fit the model with a reasonable error or approximation. The GFI = .87, thus confirming the fit of the model with the data and supporting the mediation impact of creative behavior and initiative on the relationship between PsyCap and innovative behavior (hypothesis 5) as well as the significant positive relationship between PsyCap and creative and innovative behavior (hypothesis 3) and finally supporting the positive relationship between PsyCap and innovative behavior where 47 percent of the variance in innovative behavior was explained by PsyCap, 46

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percent of the change in innovative behavior was explained by initiative and 48 percent was explained by creative behavior. Finally, 59 percent of the variance in innovative behavior was explained by creative behavior and 64 percent of the variance was explained by initiative. In model 2, we allowed for an indirect relationship of the constructs of hope, optimism, resilience and self-efficacy on the outcome of innovative behavior as mediated by creative behavior only. The research model fitted the data with a reasonable error of approximation (RMSEA = .065; Adjusted GFI = .74, CFI = .91, SRMR = .082). Finally in model 3, we allowed for an indirect relationship of the constructs of hope, optimism, resilience and self-efficacy on the outcome of innovative behavior as mediated by initiative only. The research model fitted the data with a reasonable error of approximation (RMSEA = .0072; Adjusted GFI = .73, CFI = .93, SRMR = .076).

In addition to the above 3 models, separate models were built to further test the hypotheses. One model allowed for the direct relationship between PsyCap and creative behavior and initiative where results indicated that PsyCap explains approximately 47 percent of the variation in creative behavior while approximately 34 percent of the variation in initiative (RMSEA = .078; Adjusted GFI = .87, CFI = .97, SRMR = .073) therefore supporting hypothesis 3 that entrepreneurs' PsyCap predicts creative behavior and initiative. Another model allowed for the direct effect of PsyCap on innovative behavior and performance where PsyCap predicted around 25 percent of the change in innovative behavior and around 11% of the change in performance providing additional support for hypothesis 1. Finally, another model allowed for the direct relationship between each of the constructs of hope, optimism, resilience, and self-efficacy, and each of the outcomes of innovative behavior and venture performance where the model fitted the data (RMSEA = .18; Adjusted GFI = .73, CFI = .99, SRMR = .035) therefore providing support for hypothesis 2. Therefore, the above models support all hypotheses except for hypothesis 6 that the relationship between PsyCap and venture performance is mediated by creative behavior and initiative as there was no significant relationship found between creative behavior or initiative and performance.

Figure 2: The relationship between PsyCap and innovative behavior as mediated by initiative and creative behavior



Chi-Square=190.78, df=100, P-value=0.00000, RMSEA=0.076

Discussion

This study investigated the role entrepreneurs' PsyCap as a core construct as well as its components of hope, optimism, self-efficacy and resilience played in venture performance and entrepreneurs' innovative behavior as well as the mediation effect of creative behavior and PI. The results support our conceptualization that creative behavior and PI mediates the relationship between PsyCap and innovative behavior. However, though significant positive relationships were found between PsyCap and each of its components and venture performance, the relationship was not mediated by creative behavior or PI. In addition, PsyCap and its four components were found

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to predict PI and creative behavior. Therefore, surprisingly, the only relationship that was not supported is the relationship between PI and creative behavior and venture performance.

The positive relationship of PsyCap and PI and creative behavior and so their impact on innovative behavior lends support for the assumption that PsyCap enables entrepreneurs to develop and implement new ideas and take initiatives and appropriate actions whenever needed and even take proactive actions that would improve firm's operations. As other studies highlighted on the importance of measuring the contribution that each construct adds or predicts individually (Sweetman et al., 2010), it was essential to investigate the contribution of each construct whereby the four constructs were found to predict both innovative behavior and performance. Consistent with positive psychology research that individuals who are optimistic and resilient sell more and are more successful (Seligman 2002, 2006; Seligman et al., 2009), this study provided support that firms of entrepreneurs who are hopeful, optimistic, self-efficient and resilient perform better than those who are not. Though PsyCap predicted creative behavior and PI, they did not predict performance as measured by a one item sentence asking entrepreneurs to rank their business relative to other. Though we expected positive relationship between creative behavior and PI and venture performance, this contradicting finding might be due to the fact that entrepreneurs did not provide us with data about their venture's revenues or profits. Creative behavior should lead to the introduction of new ideas that should in turn lead to achieving a competitive market edge that should lead to more sales and profits (George & Zhou, 2001; Hmieleski & Carr, 2008). However, one more explanation might be due to economic conditions whereby the introduction of new products might not necessarily lead to people buying it. Besides, one might create new things but not turn it into reality easily because of the corrupted bureaucratic systems. Future research should focus on measuring performance in different ways and find ways to encourage entrepreneurs to tell about their sales and revenues.

The relationship between PI and creative behavior and innovative behavior was also supported. The relationship between PI and innovative behavior was expected because creativity is considered the first step for the innovative behavior to occur (Fay & Frese, 2001; Unsworth & Parker, 2003) where the introduction of new ideas or ways for improvement is an antecedent to the implementation of such new ideas. The strategic component of PI that includes proactively

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initiating corporate plans and strategies that are unusual enhances the implementation of new ideas and products since entrepreneurs are faced with obstacles and challenges that require active and proactive actions (Fay & Frese, 2001). In addition the goals component of hope was expected to predict PI which is consistent with research on PI (Frese et al., 2004) as entrepreneurs or manager who develops scenario planning alternatives and exceptional strategic goals are considered to be high in PI. Moreover, resiliency was expected to add to PI as PI needs the ability to overcome challenges and bounce back (Coutu, 2002) so as to be able to meet challenges and initiate new ways of doing things and stand in the face of adversity. The ability to imagine and the fact that optimists are visionary people (Seligman, 1995) was also expected to predict PI as it enhances entrepreneurs' ability to come up with new alternatives for future demands and be a bit of not so realistic (Fay & Frese, 2001). Finally, PI requires a belief of self-efficacy that would help entrepreneurs take risks and get involved in challenging activities (Bandura, 1997). Therefore, the current study contributed to research on entrepreneurship and innovation by developing a questionnaire for measuring innovative behavior of entrepreneurs and measuring the antecedents of innovative behavior that should in turn leads to better venture performance.

Finally, there are few limitations to the study that should be mentioned. First, the way performance was measured was not so effective in assessing the venture performance. Though the questionnaire included questions on sales, revenues, profits and ROI, around 98 percent of the sample refused to answer these questions. Therefore, we suggest that future research focus on such issue and that researchers come up with new ways for how to motivate entrepreneurs to speak about their profits and sales. Second, common method variance within and between independent or dependent variables may lead to artificially high correlations (Podsakoff et al., 2003). Since some variables showed strong correlation, common method bias could have impacted the pattern of results. However, to minimize common method bias, variables were measured on different levels of specification (Podsakoff et al., 2003). For example, PsyCap capacities were assessed as a less stable malleable characteristics while creative and innovative behaviors as the general tendency to engage in the behavior.

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Paper 3- Character Education and Positive Psychology: On the Synergy between the Two Fields and Introducing Positive Character

Abstract

The positive education initiative under the umbrella of positive psychology and the modern character education movement in schools both share the goal of educating characters and call for a focus on strengths other than academics only at schools. Though character strengths have been a major focus for both positive psychologists and character education researchers, possible cooperation between the two fields has never been highlighted before. Based on the argument that both fields aim at better characters for children and adolescents, this paper calls for cooperation between the two fields and discusses similarities and possible links in research, why a cooperation is needed, and what integration and possible research cooperation could be done. In addition, the main contribution of this paper is introducing what we called 'positive character' as a third component to moral character and performance character.

Introduction

Mental health and good character are two issues that are major for a successful happy life, however they are not given enough attention by schools worldwide (Cohen, 2006; Davidson, 2007, 2014; Davidson et al., 2011; El-Bassiuony et al., 2008; Lovat et al., 2010; Ryan & Kilpatrick, 1996; Seligman, 2006; Seligman et al., 2009). As potential employees in the future, adolescents need character skills or else they might be fired (Collins, 2001; Lickona & Davidson, 2005; Luthans et al., 2008; Seligman, 2006). Though parents seek happiness for their children, schools give it little if not any attention and rather focus on thinking skills, mathematics, achievement and similar outcomes (Nielsen, 2010; Seligman et al. 2009). According to Cohen (2006), schools should focus on social, emotional, academic, ethics and character education. Values education researchers (see Lovat et al., 2010) have also added the importance of spiritual development in addition to the social, emotional and moral aspects. However, the type of education and exams also plays a major impact on students' character and were often criticized like the American system (Kilpatrick, 2006; Seligman et al., 2009). The UK education too has been exams-focused and also paid little attention to raising good characters (Arthur, 2013). Indeed, most parents and educators see the promotion of well-being and character as a crucial aspect of schooling (Cohen, 2006). According to Seligman and his colleagues (2009), the idea of teaching well-being at schools is already inherited in many programs as they have standards related to social and emotional learning (Cohen, 2006; CASEL, 2009; Goleman, 1997). However, programs at schools focused on reactive solutions (for further information see Vostanis et al., 2013) and were not preventive enough like the ones suggested by Seligman and colleagues in 1999 in their positive education initiative article.

The fact that adolescents and people in general are becoming less happy despite the advances in technology and the material luxuries we are surrounded with has been highlighted by many researchers (Bohlin, 2014; Csikszentmihalyi, 2002; El-Bassiuony et al., 2008; 2011; Lickona 1991, 2001, 2004; Seligman, 1995; Wiley, 1998). Besides, rates of depression are on the rise worldwide (Lickona, 1991, 1999, 2004, Seligman et al., 2009). Surprisingly, the rates of individual and national happiness were not on the rise as all types of improvements were (Seligman et al. 2009). For example, the average American, Australian and Japanese is no more satisfied with life than he was before, and the average Briton or German is even less satisfied (Inglehart et al., 2008). In fact though everything around us is becoming better in terms of technology, human rights, and

entertainment, the only thing that is not getting better is “human morale” (Nash, 1997; Lickona 2004; Seligman et al., 2009). In fact, people everywhere search for happiness through material things (Csikszentmihalyi, 2002). In the USA for example, people are not aware that the American dream is not to be rich or own a big house; it is in fact to be happy (Wiley, 1998). About 20% of adolescents experience an episode of clinical depression by the end of high school (Lewinsohn et al., 1993). According to Peterson and Seligman (2004), the USA is facing what they called "character crises" either at schools, politics, business or even Hollywood. According to Lickona (1991), there was a 53% increase in all violent crimes between in the period from 1968 to 1988. Therefore, several initiatives from different fields were created as a result of such increase in violence and depression rates like 'values education', 'positive education', 'civic education', 'character education', 'moral education', service learning', and many more, that are being implemented in many countries like the USA, Australia, UK, and Israel (Nielsen, 2010).

The rise in violence and problems in ethics and morals have led to the reinvention and revisiting of the character education program that started from the 1960s (Prestwich, 2004; see also Elias, 2014). As Steven Covey highlighted in his book *Principled Leaders*, he argued that

as dangerous as a little knowledge is, even more dangerous is much knowledge without a strong principled character...yet all too often in the academic world, that's exactly what we do by not focusing in the character development of young people. (p.89).

Moral education is not a new idea as education has always had the two goals of helping young people become smart and good (Lickona, 1998, 1999, 2004; Lickona & Davidson, 2005). Psychologists, educators, sociologists and medical professors have all tried to gain insights to questions like how do school years affect children and adolescents? And why are some teachers convinced with the importance of wellbeing and character building for children while others are not? In fact their work is mainly about happiness and goodness (Batra, 2013). The two fields of character education and positive psychology have long tried to find ways to enhance adolescents and children strengths and morals. Either named as a positive psychology program or intervention like the Penn Resiliency Program (Seligman, 1995; Seligman et al., 2009) or a mental health intervention program (Vostanis et.al, 2013), these positive interventions share the same goals as

character education programs (Lickona 1999, 2001) which is producing adolescents with better characters and so less depression and violence, and higher life satisfaction and life meaning.

The call for a change in the goals of education has been highlighted by many researchers (Cohen 2006; Lickona, 1999, 2004; Seligman et al. 2009). Researchers of character education and positive psychology and also social and emotional learning all agreed on the fact that schools are not just for academics, but rather for ethics and morals (Cohen, 2006; Lickona 1999, 1991), wellbeing and happiness (Seligman; 2002; Seligman et al. 2009) and social and emotional learning along with character education (Cohen, 2006). Based on the above argument, this article highlights similarities between character education and positive psychology schools interventions and research focus. The article discusses similarities in interventions and research areas as well as the links between the two fields. Then, the article highlights main areas of cooperation and why it is needed. Finally, a new approach for looking at character education at schools is proposed. A main contribution of this article is this new way of looking at character education by including positive psychology components in the character education programs so that it is not regarded only as a program that teaches values and what is right and wrong but rather what is it that makes people happier and having the strengths of wellbeing. Therefore, we introduce 'positive character' in addition to moral and performance character (see for example Davidson 2014). To understand the link between the two fields and why cooperation is essential, we need first to understand the meaning and goals of each.

Character Education: Meaning and Goals

One of the most important transformations and the fastest growing reform movement for schools in the United States is the character education programs (Edgington, 2002; Prestwich, 2004). The modern character education movement started in America in the 1980s as a result of major concerns from the society and the parents for moral drift (Dovre, 2007). In fact, character education scholars like William Bennett (1999, 1993), Marva Collins (1992; see also Collins & Tamarkin, 1990), William Kilpatrick (2005), Thomas Lickona (1991, 1993, 1999, 2000, 2004), and Edward Wynne and Kevin Ryan (1993) condemn what they consider to be "Moral decline" in schools and societies. According to Wiley (1998), this decline in morals came from two main sources, the parents and the media with the focus on materialism, desires for sex, power, status

and physical attractiveness. The fact that parents are not always there and the exposure of children to violence and bad behaviors through the media affected morals (Lickona, 1999; Wiley, 1998).

The term character education has also been referred to as values education (see for example Lovat et al., 2010), civic education, citizenship education, and moral education (El-Bassiouny et al., 2008). Character education is defined as “the cultivation of virtue” (Lickona, 2004, p.77). Thomas Lickona explained character as the virtues we possess and that “the more virtues we possess and the more fully we possess them, the stronger our character” (Lickona, 2004, p.77). According to Schwartz and his colleagues (2006), “character education does not refer to a single approach or even a single list of values that are taught in character education programs” (p. 26). They defined character education as “the umbrella term that describes concerted efforts to teach a number of qualities, such as civic virtues, respect and responsibility, social and emotional learning, empathy and caring, tolerance for diversity, and service to the community” (Schwartz et al., 2006, p.26). Character is “shown through patterns of behavior, often called habits” (Wiley, 1998, p.1). According to the *Character Education Partnership* (2014), character education “includes and complements a broad range of educational approaches such as whole child education, service learning, social-emotional learning, and civic education, all share a commitment to helping young people become responsible, caring, and contributing citizens” (see the Character Education Partnership Web site, www.character.org).

According to Wiley (1998), character education is a form of moral education whereas moral education is a “broad umbrella covering student knowledge, understanding, intentions and desires, attitudes, and behavior in relation to what is right and wrong” (p. 18). However, the term “moral education” has often been used to refer to character education. Moral education defined by William Bennett (1999) as “the training of heart and mind toward the good” focuses mainly on morality and not on strengths in general like creativity or proactivity for example (p.11). Perhaps this was what motivated character education scholars to expand the definition of character education or its focus to include not only morals but also other skills and competencies needed beside morals and ethics (Davidson et al., 2010; Davidson, 2014). The new way of looking at character education was proposed as a result of the extensive research presented in the Smart & Good Schools Report (Davidson, 2014; Lickona & Davidson, 2005; Lickona, 2014). It supports the main goal of education that was previously discussed which is the academic achievement and whole person development (Davidson, 2014; Lovat et al., 2010). As for the moral character, what

is virtuous or moral will always be a questions that has many answers, for example, Allan Bloom (1987) stated in his book *The Closing of the American Mind* that relativism is the philosophy of choice for youth by that time and that the main moral virtue is openness and this has caused them to reject all moral absolutes as they think that openness entails that you are open minded to accept all behaviors without being judgmental (see also Nash, 1997). This will be elaborated in the coming sections.

Research conducted in the past few years indicate that Americans tend to place character education as a top priority in schools reformation programs (Edgington, 2002; Jones et al., 1998). In a study about character education, and with over 280 teachers as the study subjects, it was found that over 75 percent believed that character education should be part of public school education (Mathison, 1998). Many schools nowadays are engaged in character education programs in many countries as character education is considered as a potential solution to moral threats and unethical behaviors that are rising (Dovre, 2007; Jones et al., 1998; see also the results of the *Josephson Institute of Ethics* surveys in 2008, 2010 and 2012). In America for example, character education programs like *Character Counts* (<http://charactercounts.org>), which is also adopted by some schools in Egypt, and the *HeartWood Institutes's An Ethics Curriculum for Children* (www.heartwoodethics.org) are implemented by many schools as well as other tailored programs (Prestwich, 2004). Most programs are focusing on values such as honesty, self-discipline, respect and perseverance (Lickona, 1993, 1998; Prestwich, 2004). However, though researchers in character education agree about its importance, the applicability of it at schools or how it should be integrated at schools is still a debatable issue (Edgington, 2002; Schwartz et al., 2006).

As for the goals of character education, according to Lickona (1998), Character education programs have three main goals. The first goal is to deliver generations of good people with values and strengths of mind, heart and will. The second goal is to have good schools as schools are much more conducive to learning when they are compassionate and goal-oriented communities. The third goal is to have good or moral societies that are virtuous which is impossible without building human beings of virtues. Schwartz and his colleagues (2006) also highlighted on the main goals of character education but in a different way than that of Lickona (1998) as they mentioned not only morals and values but also goals of social and emotional learning, life skills education and citizenship training. As mentioned earlier, Lickona and Davidson (2005) introduced performance character which is similar to what Schwartz and his colleagues (2006). Therefore, before the

introduction of performance character, character education programs differed in the outcomes they focused on. Some programs were mainly about ethics and morals (Lickona 1999, 2004). Others were about promoting positive behaviors such as community involvement and civic participation (Schwartz et.al., 2006). Still others focus on developing skills and focus on multiple goals (Schwartz et.al., 2006).

As for the impact of character education on students and schools, character education has been found to have a positive impact on discipline, student and faculty member morale, and student performance (Berkowitz & Bier, 2005; Lickona & Davidson, 2005; Schwartz et.al, 2006). The Australian Government's *Values Education Good Practice Schools Project* (VEGPSP) has also yielded many positive outcomes like decline in incidence of inappropriate behavior, improved students' sense of belonging, greater student resilience and social skills, and improved sense of responsibility (Lovat, 2010; see also, www.valueseducation.edu.au). The *Josephson Institute of Ethics* surveys (2008, 2010, 2012) also provides good insight on the impact of character education programs on student's behaviors like decline in exams cheating, lying, and stealing.

Character Education and the Use of literature

Schools face what character education scholars call the character education dilemma which is wanting to do more with character education but are facing the obstacles of standards and exams (Davidson et al., 2010). Character education scholars (e.g., Bennett, 1993; Lickona 1991) have emphasized on the importance of literature as a Crucial ingredient for the transmission of core values. However, character education researchers and teachers are facing a challenge of the use of the literature in character education and the integration and incorporation of such literature in everyday lessons (Edgington, 2002). A challenge about the applicability of the programs; shall it be integrated or in separate classes or both? Some teachers find it hard to prepare their students for state standardized tests as well as the SAT and MAP exams in the case of the American system and still find time to talk about morals and ethical issues (Schwartz et. al, 2006).

According to Edgington (2002), in the last thirty years, four approaches to teaching values have been used in schools: values inculcation, values clarification, values analysis, and moral reasoning. Values inculcation is about transmitting to students certain values simply by reading a book that contains certain characters that possess good values and applying on that through

discussions or reflection. Values clarification on the other hand involves more participation of students and more freedom in choosing how to act and why they think a certain action is right or wrong. So the teacher makes no effort to determine whether their preferences are correct. Values analysis involves students' determination of alternatives and the consequences of each alternative so they use reasoning and decision making skills. Finally, moral reasoning which is based on Kohlberg's premise that the ability to make decisions regarding values is a developmental process. According to the theory by Kohlberg (1986), students are encouraged to move through a developmental sequence of five stages where they move to the next, more complex stage of moral development when they are exposed repeatedly to higher levels of moral reasoning. Gibbs (1977) highlighted that one subject that is evident in Kohlberg theory is the agreement on the spontaneous nature of human behavior. A second subject is the agreement that consciousness of self and efforts are keys to understanding this behavior (Gibbs, 1977). In Kohlberg's theory, starting the age seven or eight, children usually begin to evidence in their justifications a less literal understanding of moral conduct. As for the adolescence stage, humans start to base their moral perceptions on the need to show good character and not on pragmatic view (Gibbs, 1977; Kohlberg, 1986).

The way character education programs are implemented at schools varies from a school to the other. In his article about character development, Lickona (1998) explained an approach to character development that entails twelve strategies, nine that are classroom based and three that are school wide. These twelve strategies are direct and precise so they are taught, explained, and practiced. At the same time they are indirect and implicit in a way that students could live them in their daily school life like having the teachers as role models. These classroom strategies include things like the teacher acting as a caregiver, a role model and an adviser, the teacher also tries to create a moral community that appreciates respect, cooperation and responsibility, and creating a democratic environment as well as teaching values and virtues through the curriculum (Lickona 1991, 1999, 2004).

This comprehensive approach also focuses on the school as a whole and calls schools to encourage service learning, create a positive moral culture that promotes discipline and encourage discussion about values, create role models, and recruit parents and the community as partners in the character education by involving them in the program application (Davidson, 2014; Davidson et al., 2010; Lickona, 1998). There are many centers and organizations available worldwide to

assist character education administrators and schools, for example, the *Character Education Partnership* (www.charactered.net), the *Character Education Partnership* (www.character.org), and the National Character Education Center (www.ethicsusa.com). These organizations provide support for teacher and offer character education programs as well as assessment (Eaterbrooks & Scheetz, 2004; Lickona, 2004). Besides, there are many useful books that explain how a character education program could be implemented (see for example, *Comprehensive Character Building Classroom*, 1998, by Lori Wiley).

Character Education Components or Dimensions: Virtues, Strengths and Skills

Before tackling the main components of character education programs, we need to know more what the term "character" refers to. We also base our argument of the inclusion or integration of positive psychology with character education based on the precise definition of character. Since character has been a major research area in educational, developmental and child psychology, theories from these fields will be explained in the coming lines.

Character is acquired through thinking and information processing, empathic feelings, beliefs and vision (see Hauerwas, 2010; 2013; MacIntyre, 2013), and experience (Wiley, 1998). Character is a result of all directive dispositions of a person according to Stern's theory (Robak, 1952). Character is formed progressively and continues to be formed in maturity through the interaction of "biological maturation" with experiences, ideals, conscience, completion of developmental tasks, and choices (Wiley, 1998). Three main theories have dominated the field of developmental psychology which are the theory of Jean Piaget, the Psychoanalytic theory of Freud, and the learning theory (Fox & Riconscente, 2008; Mussen et al., 1979).

Erikson, thinker, clinician, and cultural anthropologist, who based his theory on Freud's theory, proposed a unique theoretical framework for the relationships between stages of human development, the growth of maturity in an adult, and the relationship between the individual and society (Batra, 2013; Wiley, 1998; Mussen et al. 1975). According to the theory of psychosocial development by Erikson, an infant's most crucial virtue for development is hope whereby he learns to discover the meaning of trust (Batra, 2013). From age year and a half till three or the preschool years, autonomy and will becomes two very important strengths that parents and teachers should focus on. The two virtues of hope and will provide a child with the emotional strength needed to

take initiative, one key strength of the play age which is from three to six, and so to form the virtue of purpose. From ages six to twelve a child develops competence, a strength that is based on the other three strengths of hope, will and purpose. It is the sense of industry that provides the sense of competence needed for survival in the adulthood period that a child is about to explore. School curricular activities could facilitate the development of personality in the stage of industry such as theatre, experimental research, writing and sports. The virtues of hope, will, purpose and competence when first settled in the childhood years provide the fertile ground where the child learns to construct her later life experiences with a "sense of autonomy, initiative, and industry" especially in the adolescence stage. According to the theory of psychosocial stages, the adolescent in this phase learns meanings of morality and starts adopting new ethics where the basic strength of fidelity is formed (Mussen et al. 1975; 1990, Batra, 2013). According to Batra (2013), Erickson's framework is convincing as it provides a framework for building developmental educational programs for school-age children whereby they can experience prospects for constructing and approving basic virtues. This could be done through an understanding of the developmental stages and incorporating them in the designing of educational programs (Batra, 2013).

The theory of Jean Piaget suggests that children are not passive and was the first to look at them as individuals who can create ideas and look for solutions (Mussen et al. 1975; 1979). Piaget suggests that "logic provides the rules of thought while morality provides the rules for feeling; intention and will are the self-regulatory vehicles bringing thought and action, emotion, and desire in line with these rules" (Fox & Riconscente, 2008, p.380). Many moral educators based their work on Kohlberg, who followed the work of Piaget, and his theory of moral reasoning (Devine et al. 2001). However, applying his theory to moral education was not a great success (Devine et al., 2001). Unlike Piaget, Freud focused on children differences rather than regularities in growth (Mussen et al. 1975).

On the other hand, Vygotsky views human psychological development as historically placed and culturally dependent since it proceeds through the internalization of social interactions (Fox & Riconscente, 2008). According to Roback (1952), moral acts are regarded as the outward expression of character. Roback mentioned that "the study of character is the study of the activity that produces our universe" (Roback, 1952, p. 488). However, from a philosophical perspective,

according to Kupperman (1995), it would be "a mistake to link the concept of character too closely to morality" p. 7. Accordingly, the education of character, then, will seem "coextensive" with moral education and to have a good character is to have moral virtuous (Kupperman, 1995). In addition, Kupperman (1991, 1995) asks the question of whether having a good character is only about having acceptable moral principles. However, he argues that it would still be very hard to assume that the word character has a single unified meaning.

Now, what are the main components of character education? According to Lickona (1991, 1999, 2004), virtues are good human traits or values such as wisdom, honesty, kindness and self-discipline. Virtues as a term suggests that there are cherished ideals such as honesty, integrity, charity, etc (Wiley, 1998). Gibbs and Earley (1996) identified core values as compassion, courage, courtesy, fairness, honesty, kindness, loyalty, perseverance, respect and responsibility. Lickona (1999) highlighted on the work by British psychologist David Isaacs where he identified 24 virtues and grouped them according to developmental periods during which the different should be given special emphasis: (1) Up to 7 years: Obedience, sincerity, and orderliness; (2) From 8 to 12 years: fortitude or resilience, perseverance, industriousness, patience, responsibility, justice and generosity; (3) From 13 to 15 years: modesty, self control, simplicity, sociability, friendship, respect, and patriotism; and (4) From 16 to 18 years: prudence, flexibility, understanding, loyalty, audacity or taking risks, humility and optimism and confidence. In his book *The Heart of Virtue*, Donald DeMarco (1996) also recommends 28 virtues, from care and chastity through temperance and wisdom. According to Annas (1995), virtues are dispositional and they involve feelings and especially feelings of pleasure and pain, reasoning, and taking hold of the tight thing to do.

Lickona (1999) elaborated the psychological components of character as cognitive, affective and behavioral. He stated that "good character consists of knowing the good, desiring the good, and doing the good-habits of the mind, habits of the heart, and habits of behavior" p. 78. So it is about knowing what is right, caring for what is right and then doing what is right even in the face of pressure. The cognitive side of character includes at least six components. The first component is moral alertness which asks the questions "does the situation at hand involve a moral issue requiring moral judgment?", (Lickona, 1999, p.78). The second component is about understanding the virtues and what they entail of us in precise situations. The rest of the components are perspective-taking, moral reasoning, thoughtful decision-making, and moral self-

knowledge. The link between moral judgment and moral action is the emotional side which includes at least five components which are conscience, self-respect, empathy, loving the good, and humility (Lickona, 1991, 1999). The third component of character is about putting our judgments and feelings into actions and behaviors. Moral action involves three additional components: moral competence which includes skills such as communication skills and conflict-solving skills; moral will which involves judgment and energy and is at the core self-control and daring; and moral habit which is a reliable temper to respond to situations in a morally good way (Lickona, 1991, 1999). The choice of which virtues or values to choose to educate to students depends on the type of school and type of culture of the country itself (Lickona 1999). Therefore, we can conclude that the component of strengths and morals includes two separate types of virtues, some related to ethics and morals like honesty while others are not necessarily related to ethics and morals like courage, responsibility and cooperation (see for example <http://www.charactered.net>).

As mentioned earlier character education programs vary in what they focus on either it is ethics and morals, or skills (Schwartz et.sl, 2006). Though some scholars like lickona focused for decades on the moral and values aspect of character education but included some skills in the moral action, the performance character was then introduced to complete the whole picture of the development of the whole person (lickona, 2001; Lickona & Davidson, 2005; Davidson, 2014; Davidson et al., 2010). According to Easterbrooks & Scheetz (2004), students will better benefit from character education if they are able to get the meaning of values they study and therefore critical thinking skills are essential for the success of any character education program. In some countries like Egypt, soft skills learning are made part of character education programs in some schools so communication and negotiation skills for example are part of the program (El-Bassiuony et al., 2008).

Based on the research done by Lickona and Davidson (2005) and the report they published on the result of their study on smart and good high schools, they redefined character as their research has led to their call for a paradigm shift in the way researchers think about character education. They started to expand the definition of character education to include not only morals and ethics but also performance or doing your best (Davidson, 2014; Davidson & Lickona, 2007). They started to include an approach similar to the ones adopted by Steven Covey in the leader in me (for further information see www.theleaderinme.org) as they started to pay attention to skills

of success and performance. Hence, they introduced the new definition of character to include two essential parts: performance character and moral character (Davidson et al., 2010; Davidson & Lickona, 2007). According to Davidson and colleagues (2010) students need performance character like self-discipline, being organized, perservance, creativity, courage, and team work in order to do their best academic work. They also develop their performance character through their ability to plan, work hard, overcome obstacles and so on (Davidson, 2014; Davidson & Lickona, 2007; Davidson et al., 2010). This new approach to character education focused not only on morals but also on skills; general skills needed in life and also specific skills related to schools or work (Davidson, 2014).

Finally, Lovat and colleagues (2010) highlighted the importance of looking at values education as not only morals but also social and emotional learning, spiritual and intellectual dimensions of a person. They highlighted about the failure of schools focusing on the achievement of students only on academics, one issue that was also highlighted by other researchers from different fields (see Seligman et al., 2009; Cohen, 2006). In 1994, a Carnegie Corporation Taskforce on Student Achievement drew insights on the educational philosophy and redefined learning to incorporate matters of commutative competence, empathic character and self-reflection as being at least as significant as other technical skills (Lovat, 2010). Therefore, the above lines show how the character education movement evolved to include more comprehensive and complete picture of what makes a good and smart character. However, how about the skills of wellbeing? Do we need to add it under the umbrella of character education? The coming lines will briefly explain what is positive psychology then discuss possible integration of positive psychology competences in character education.

Positive psychology: Meaning and Goals

Positive psychology focuses on the study of positive emotions, positive traits and positive institutions (Seligman et al., 2005). Positive psychology at the subjective level is mainly about “valued subjective experiences” like well-being and satisfaction. At the individual level, it is about positive traits like courage, wisdom, forgiveness, spirituality and originality. While at the group level, it is about work ethics, responsibility and tolerance (Seligman & Csikzentmihalyi, 2002: 5). Seligman (2007) defined positive psychology as "the study of positive emotion, of engagement, and of meaning, the three aspects that make sense out of the scientifically unwieldy notion of

"happiness" (p.266). So strengths of character are among the main concerns of positive psychology (Park et al., 2004; Seligman, 2002).

The positive psychology movement was triggered as psychologists realized that for so long their main focus was on preventing problems, neglecting the competency building dimension (Csikszentmihalyi, 2002; Luthans 2002a, 2002b; Seligman 2002a, 2002b; Seligman & Csikszentmihalyi, 2002). As stated by Seligman and his colleagues (2005), "it makes sense to study what is right about people in addition to what is wrong" (p. 413). Thus, positive psychology is an attempt to encourage psychologists to start adopting a more open point of view regarding what human beings could do or have (Sheldon & King, 2001). For decades, psychologists were able to measure what is wrong with people but how about what is right (Peterson & Seligman, 2004). The aim of positive psychology is to shift the main objective of psychology from repairing the worst things in life to building the best qualities in life (Seligman, 2002a). Positive psychology initiatives by Seligman included positive health, positive education, and positive psychotherapy (see www.authentic happiness.com).

Positive education is defined as "education for both traditional skills and for happiness" (Seligman et. al, 2009, p. 293). Positive education is about teaching students not only the skills of achievement as schools traditionally do but also the skills of well-being (Seligman et. al, 2009). Positive psychology skills or competencies like well-being are needed for better learning at schools as positive moods produces broader attention (Bolte et al., 2003; Fredrickson, 1998; Fredrickson & Branigan, 2005; Rowe et al., 2007; Seligman et. al, 2009; see also Rathunde & Csikszentmihalyi, 2005a, 2005b). Positive moods also lead to more creative thinking (Isen et al., 1987), expectancy motivation (Erez & Isen, 2002). On the contrary, negative moods leads to narrower attention (Bolte et al., 2003). Though both ways of thinking are crucial, schools emphasize critical, rather than creative thinking, which is facilitated by the negative mood found in the classroom (Seligman et. al, 2009). As teachers administer feedback about children's performance, their comments might affect their explanatory style about their success and failure and so their level of optimism (Peterson & Steen, 2002; Seligman, 2005). According to Seligman and his colleagues (2009), well-being should be taught in school for more life satisfaction, less depression and for better learning and more creative thinking. The *PENN Prevention Program* (Seligman, 1995), *Pen Resiliency Program* (PRP) were developed by Seligman as a prevention for depression among children (Seligman, 1995; Seligman et al. 2009). The PENN prevention

program works on changing children's explanatory style from a pessimistic one to a more optimistic one (Seligman, 1995). The PRP also teaches optimism and skills like problem-solving, creative brain storming, relaxation and other coping skills (Seligman et al., 2009). The PRP was found to reduce and prevent symptoms of depression and hopelessness (Brunwasser et al., 2008), and prevents clinical levels of depression and anxiety (Seligman et al. 2011).

As a step toward identifying important traits, Peterson and Seligman (2004) came up with the Values in Action classification or the VIA which includes 24 character strengths. According to Peterson and Seligman (2004), strength "contributes to various fulfillments that constitute the good life" (p. 17). The Values in Action classification (Peterson & Seligman, 2004; Park & Peterson, 2005; Park et al., 2004; Peterson, 2006; Peterson et al., 2005; Seligman, 2002b) was proposed as response to the psychiatric classification of mental disorders, the diagnostic and statistical manual (DSM) (see APA, 2000). In positive psychology character refers to "those aspects of personality that are morally valued" (Park & Peterson, 2011, p.65). Like many character education programs, Peterson and Seligman (2004) came out with main virtues which are courage, justice, humanity, temperance, transcendence, and wisdom. Strengths define a specific virtue life for example courage as a virtue is expressed by strengths of bravery, persistence, integrity or vitality (Peterson & Seligman, 2004). Character strengths are "a family of positive traits manifest in a range of thoughts, feelings, and action" (Park & Peterson, 2009). They are "the subset of personality traits that are morally valued" (Gilham et al. 2011, P. 31). Personality style such as sociability for example could facilitate strengths such as kindness (Gilham et al. 2011). The VIA classification describes six main virtues which are courage, love, justice, temperance, transcendence, and wisdom (Peterson, 2006; Peterson and Seligman, 2004). These six virtues are used to classify 24 more specific strengths of character (Gillham et al. 2011; Peterson and Seligman, 2004). A positive psychology curriculum integrated in an art class that focused on the VIA strengths was developed to help students identify their strengths and increase their daily use of them (Seligman et al. 2009). By determining students' main strengths and working on them, the program was found to increase enjoyment and engagement in school as well as their social skills (Seligman et al. 2009). Seligman and his colleagues (2009) however suggests combining the PRP with the positive psychology program as there was no significant difference in adolescents' levels of depression and anxiety symptoms.

Flow which is a positive state when you feel your skills are used to their utmost, a state that makes life worth living (Csikszentmihalyi, 2002; Nakamura & Csikszentmihalyi, 2002; Seligman, 1995) is a crucial concept in the field of positive psychology. Flow research offered an answer to the question of what constitutes good life by providing an understanding to the experiences where individuals feel fully involved in the present moment (Nakamura & Csikszentmihalyi, 2002). In flow, one enters a subjective state with characteristics like focused concentration, merging of action and awareness, loss of reflective self-consciousness, a sense of self-control over everything related to the matter at hand, a sense that time has passed faster than normal, and finally the experience that the activity itself is intrinsically rewarding (Csikszentmihalyi, 2002; Nakamura & Csikszentmihalyi, 2002a; 2002b). Flow research and theory focuses on phenomenology rather than personality (Nakamura & Csikszentmihalyi, 2002). However, Csikszentmihalyi (2002) have recognized the possibility of an autotelic personality, a person who enjoys life in general and for its own sake without waiting for something in return.

Character Education and Positive psychology: Similarities, Links, and Suggestions

As Annas (1995) stated in his book "happiness is our only end which is complete and self-sufficient" (p.332). Character education and positive education focus on character development for the end result of happiness but each looks at it from a different perspective. According to Devine and his colleagues (2001), educating for character is about "nurturing the inner side of life" (p. 9). As mentioned in the above section, in an attempt to focus on the positive rather than the negative Peterson and Seligman (2004) developed a manual of strengths or "sanities" in their book *Character Strengths and Virtues: A Handbook and Classification*. If positive psychologists like Seligman and Peterson (2004) claim that strengths and virtues are the foundation of human condition and that they represent the route to a good positive psychological life, and character education is mainly about virtues and strengths then why are the two fields working in isolated islands. In fact, Positive psychology scholar criticized character education programs and questioned the effectiveness of these programs and the rationale behind choosing the virtues and called for an underlying framework for character development to guide the design, delivery, and evaluation of programs (Park & Peterson, 2009).

Character education and values education scholars linked positive psychology and VIA strengths in some of their studies (see for instance Davidson et al., 2010; Nielsen, 2010). For example, Kristjansson (2010) summarized contrasts between the Aristotelian and the positive psychology conceptions of self-understanding. He argued that the goal of Aristotelian self-understanding is appreciation of the truth and also to respect self as the owner of moral truths while in positive psychology the goal of self-understanding is psychological value and self-esteem where authenticity replaces truth (Kristjansson, 2010). Moreover, Davidson and colleagues (2010) argued that character education has long focused on moral character or doing the right thing and neglected the performance character or the "doing our best". They described what they called the Smart & Good Schools model of character education, which focuses on both, the moral and performance character (Davidson et al., 2010). Performance character attributes include positive psychology virtues developed by Peterson and Seligman (2004) in their book *Character Strengths and Virtues* such as creativity, curiosity, love of learning, and persistence (Lickona & Davidson, 2005; Davidson et al., 2010). The Smart & Good high schools report introduced eight strengths of character that were based many research backgrounds including positive psychology and the character strengths by Peterson and Seligman (2004). According to Davidson (2014), character competencies or what he called "values in action" become habits when they are consistently learned, practices and reinforced. The Smart and Good High Schools report introduced eight Strengths of character which are "(1) lifelong learner and critical thinker, (2) diligent and capable performer, (3) socially and emotionally skilled person, (4) ethical thinker, (5) respectful and responsible moral agent, (6) self-disciplined person who pursues a healthy lifestyle, (7) contributing community member and democratic citizen, and (8) spiritual person engaged in crafting a life of noble purpose" (Davidson et al., 2010, p.432). The eight strengths were based on many research backgrounds including the positive psychology movement (Seligman, 2002a) and the character strengths classification by Peterson and Seligman (2004). In addition to how Lickona and Davidson (2005) linked positive psychology to the strengths related to performance character, other values education scholars tackled the issue of wellbeing at schools and how values could lead to happier and more satisfied students (for further information see Lovat et al., 2010).

Positive psychology studies institutions that could produce or enables positive experiences and positive traits (Seligman, 2002). Character and positive traits and strengths are on the top of

the list of positive psychology research and this is what Peterson and Seligman (2004) based their VIA manual on. In their VIA book, they introduced a new science of character that would focus on new interesting results related to positive traits and this is what made some scholars criticize the idea that they are inventing something new as virtues and strengths are not (e.g, Banicki, 2014). However, the VIA classification, and with no doubt, offers great opportunity for character education scholars to measure the effectiveness and validity of their programs (Park & Peterson, 2009). The below points elaborate the similarities and links between the two fields and research recommendations:

First, the two fields share similar topics of investigation in that both fields are interested in virtues and strengths. In fact, both fields are working under the umbrella of personality psychology or trait theory. The VIA classification has many in common to character education strengths by Lickona (1999, 1998) and many other character education scholars (see for example Bennet, 1993) and character education scholars even based the eight strengths of performance character on the VIA (Lickona & Davidson, 2005; Davidson et al., 2010). Character strengths are malleable and could be taught and acquired (Gillham, 2011). The interventions or programs from both fields also share similar content. For example, character education researchers concluded that the most common content used in character education programs lessons was social skills and awareness, self-management and awareness like self-control, goal setting, relaxation techniques, self awareness and emotional awareness, and problem-solving skills (Berkowitz & Bier, 2005), competencies that are similar to those taught in positive psychology interventions.

Despite similarities in terms of strengths, the only intervention that was developed to increase the VIA strengths was the positive psychology program that was discussed above (Seligman et al., 2009). However, though it yielded positive results, it did not improve students' character strengths (Seligman et al. 2009). Though character education programs focus on strengths and virtues like courage, citizenship, optimism, social intelligence, judgment, forgiveness (see Lickona 2004, 1991, 1999), strengths that are all found in the VIA classification (Peterson & Seligman, 2004), and despite the shift in character education to include performance character virtues similar to some of the VIA, no study ever examined the impact of character education programs on the VIA strengths or used the VIA classification to measure students' change or improvements in strengths' levels when exposed to character education interventions. Therefore, we suggest here that future research should focus on studying the impact of different

character education programs on the VIA strengths. Character education scholars could also make more use of the VIA by referring to the manual for strengths development and precise definition.

Second, both fields focus on ethics and morals. According to Peterson and Seligman (2004), they stated that their classification is “grounded in a long philosophical tradition concerned with morality explained in terms of virtues,” (p. 9-10). Even the criterion they set for the strengths to be included in the classification of the VIA included the criteria that "although strengths can and do produce desirable outcomes, each strength is morally valued in its own right, even in the absence of obvious beneficial outcomes", P. 19. Character education has its own roots in moral psychology too (El-Bassiouny et al., 2008). According to Banicki (2014), the similarities between the VIA project and the classical virtue ethics are apparent and predictable. Based on this similarity, again, it is recommended that that future research should focus on a collaboration between the two fields in building interventions but this time with a focus on ethics and morals. This is considered to be a gap in the research of both fields since wellbeing in positive psychology interventions might increase too as a result of ethics and morals. *Vise versa*, character education programs focusing solely on morals without tackling topics of wellbeing might not lead to the best results. For example, if a character education program class would focus on discussing topics as abortion and homosexuality, or anger management and violence prevention (see for example Dovre, 2007), then there is a similarity and indirect link here. The similarity is in the two types of programs in that both focus on teaching the skills that lead to children and adolescents think in a different way and behave in a different way too. However, a positive psychology intervention would mainly apply these lessons to change one's own thoughts about self but not with the objective of decreasing violence at school. More precisely, a positive psychology intervention would aim at teaching student the skills to cope with bullying and not get depressed while a character education program would show students why bullying is not a moral behavior and how it hurts.

The indirect link is for example, when students are taught that sex before marriage is not good for them and for the whole society, an issue that was raised by many character education scholars (Lickona, 1991, 1993, 2014; Wynne & Ryan, 1993). Research proved that the babies of teenage mothers, compared to normally born ones are more likely to be abused, have problems in

schools, reveal behavior disorders, have emotional problems and become drug-addicted (Lickona, 1991), this is in addition to of course the mental illness that young mothers who are teenagers suffer (Lickona, 1993, 2000, 2004). Therefore, character education efforts should lead anyway to adolescents having less mental problems and who are less depressed and less likely to suicide and so it promotes wellbeing. If efforts carried out by positive psychologists like Seligman would be accompanied by such efforts, we propose that the best results in terms of wellbeing and other positive outcomes would be achieved.

Third, and based on the above two points, the two fields are directly related in that even the other initiatives of positive psychology that are not about virtues will anyway affect or be affected by virtues and character strengths. The relationship between virtue and happiness can be seen as "constitutive" (Banicki, 2014). As Lickona (2001) highlighted, Aristotle's view of character was that it is a mean to an end, a way of achieve the ultimate purpose in life, which is happiness. Since positive psychology studies subjective experiences including positive emotions (Seligman, 2002b), and positive institutions like homes and schools that could facilitate positive strengths and positive emotions (Seligman et al., 2005), then it is likely to assume that character education programs at schools play a major role in achieving the goals of positive psychology movement. School psychology, like psychology, has long focused on assessments for students that only measure their deviation from the normal levels of academic and social functioning neglecting the positive side of students (Lewis et al., 2009). One could easily notice that the two fields have their own roots in answering Socrates and Aristotle's questions in their own unique ways (El-Bassiouny et al., 2008; Nash, 1997; Peterson & Seligman, 2004). In fact, it is Aristotle's writing and teaching on virtues that influence most contemporary character education scholars (Nash, 1997).

Lewis and colleagues (2009) called for the use of positive psychology in schools students' assessments. Besides, if character is shaped through beliefs, vision and consciousness (Wiley, 1998; Hauerwas, 2010; MacIntyre, 2013) and also direct experiences (Wiley, 1998) then there is a direct link between character education and positive psychology constructs like meaning and flow (Csikszentmihalyi, 2002). Consciousness is that "inner light" that tells you the right things to do and keeps you in the path (Wiley, 1998). Flow leads to more learning (Seligman et. al, 2009) and consciousness leads to better morals and ethical decisions (Lickona, 2001). So we can conclude that positive psychology constructs like flow and consciousness would affect character

education variables like different types of morals and virtues. Besides, a positive moral identity is easily sustained when there is enough hope and optimism that things will be better (Schulman, 2002). At the same time, schools of character should have less violence and bullying as a result of increased levels of kindness and self-control (Bulach, 2002). Therefore, the PENN program for example (Seligman 1995, 2002) might produce better results in a school where character education is implemented as a result of an optimistic explanatory style. The assumption here is that together the best results could be attained.

Besides, character education programs were found to affect school climate and students behaviors (White & Warfa, 2011) and self-efficacy and positive classroom behaviors (Weber & Ruch, 2012). Therefore, it is likely to assume that there is direct link between Seligman's explanatory style techniques for kids in his book *the optimistic child* and between morals and values. For example, if kids are taught the morals and ethics of respect and responsibility and that they should not do bullying, then the whole school climate is less likely to suffer from problems related to pessimistic explanatory style or depression (for further information see Park & Peterson, 2009).

One of the top crucial virtues that Lickona (2004) highlighted in his book *Character Matters* was a positive attitude mentioning "the character strengths of hope, enthusiasm, flexibility, and a sense of humor are all part of a positive attitude" (p.9). Moreover, values education researchers argued that values education leads to more wellbeing among students (see Lovats et al., 2010), however, it was unclear how they measured the impact of values education programs on wellbeing or how they defined wellbeing. To conclude, though both fields seek happiness, each one of them is lacking a certain main component for happiness. Character education needs to focus more on wellbeing skills and positive psychology needs to focus more on ethics and values. Therefore, what we are suggesting here is two main suggestions. First, is that research should focus on the impact of character education programs on positive psychology outcomes like wellbeing or life satisfaction. If the VIA strengths were found to lead to more wellbeing (Gillham et al. 2011), then it is likely to assume that character education programs that focus on increasing strengths that are similar to the VIA are also likely to result in an increase in the wellbeing of Adolescents. Second, a collaboration might be a new intervention that focuses on both skills of wellbeing and also virtues and strengths. This brings us to the main contribution of the paper; a new way of looking at character education.

Character Education: A New Start that involves all Aspects of Character

First, a question: will someone who is not feeling good do good? The answer should be no. Gillham and colleagues (2011) found a very interesting finding that character strengths did not predict happiness. This finding along with the findings of positive psychology curriculum intervention discussed above proves what we are claiming here. As mentioned earlier, character education scholars realized the importance of strengths and skills that are needed for life in addition to morals and so they introduced the concept of performance character (see Lickona & Davidson, 2005; Davidson, 2014; Davidson et al., 2010; Davidson et al., 2011). The new values education movement has also introduced the idea of educating the whole person and even tackled the issue of student wellbeing (Lovat et al., 2010). As Aristotle stated "Happiness is the reward of virtue" (Lickona & Davidson, 2005, p. 5), so if ethical and moral people are not happy, then there is something wrong. Based on the call by Cohen (2006) and Seligman and his colleagues (2009) that education should focus on emotional, social, ethical and character education as well as the skills of wellbeing, we are suggesting in this section based on the thorough definition of character described above that character education should not only include moral character and performance character but also what we call 'positive character'. Figure 1 provides some of the VIA strengths or virtues and shows how some of the VIA fall under the moral character while some fall under the performance character.

Figure 1. Examples of VIA Moral Character and Performance Character Components under the Two Fields of Positive Psychology and Character Education

Virtues and Strengths			
VIA strengths			
Moral virtues (Moral character)		Strengths (Performance character)	
Bravery	These VIA virtues are the ones that character education has focused on for decades.	Social Intelligence	These are at least similar to, if not the same, the performance character newly introduced component.
Integrity		Persistence	
Kindness		Open-mindedness	
Citizenship		Leadership	
Forgiveness		Self-control	
Fairness		Creativity	

For decades, researchers from different fields have done research including intervention programs that aims at producing better citizens to the society who are happier (Seligman, 1995; 2002), ethical (Lickona, 1999; 2001), enjoying good cognitive skills (Eaterbrooks & Scheetz, 2004), and emotional skills (Lewis et al., 2009). Though the link between character and personality is still looking at character only from a moral perspective (Kuppermann, 1991), it shows how character is related to personality. Besides, if as mentioned earlier, Character is acquired through thinking and information processing, empathic feelings, beliefs and vision (see for example MacIntyre, 2013), and experience (Wiley, 1998). And if, according to Kupperman (1995), a preliminary definition for character is "X's character is X's normal pattern of thought and action, especially in relation to matters affecting the happiness of others and of X", then we can conclude that character is about all that; ethics, morals, strengths, psychological competences and skills of wellbeing and also other variables related to consciousness.

With the exception of El-Bassiouny and her colleagues (2008, 2011) mentioning positive psychology as a supporting fields to character education, and values education researchers linking positive psychology topics of wellbeing and giving (Lovats et al., 2010. Nielsen, 2010), research on this area or collaboration between the two has been rare. Values education researchers in Australia tackled the issue of wellbeing however, wellbeing happens as a result of students' feelings of self-worth, empathy, and engagement that also result from the teaching and application of values (see the *Values in Action Schools Project 'VASP' report in 2010 by the Values Education* under the Australian Government). The modules presented to foster wellbeing were not really about wellbeing, however, the activities enhance good values that might lead to students' increased levels of wellbeing (for further information see www.valueseducation.edu.au). Modules are mainly about service learning, teamwork, and cooperation. In addition, wellbeing was defined as "students' physical, social and emotional development" (Toomey, 2010, p. 24). However, the introduced positive character new component of character education we are introducing here is mainly about specific positive psychology initiatives like the PENN program (Seligman, 1995, 2002a, 2002b) or the positive psychology curriculum (Seligman et al., 2009). We aim at not only teaching ethics and morals as well as strengths and skills, but also skills of wellbeing and happiness, optimism and resilience. The difference here is in the type of modules or sessions given. The explanatory style activities (Seligman, 1995) are not about teamwork or creativity, but are about teaching students the skills of wellbeing, the skills to think in a different way. Many positive psychology concepts could also fall under positive character like flow, meaning, optimism, resilience and hope.

Therefore, Based on the Erickson's theory that was discussed earlier and that argues that "education is essentially about human development" (Batra, 2013, p. 272), and on how William James described the aim of education that it is to "prepare for complete living; hence it should be universal" (James, 1909, p.116), we can conclude that to educate a character is to educate morals, ethics, strengths, skills of happiness and other types of skills like soft skills. Therefore a new definition for character education would be "character education is all programs and efforts aimed at building better characters by focusing on morals, ethics, values, strengths, skills of wellbeing, life skills and social and emotional learning".

Figure 2 shows how character education is not just about morals and ethics but also other types of strengths and skills. The new approach stresses on the importance of positive psychology constructs like flow, wellbeing, interest, optimism and hope. As Peterson and Seligman (2004) argued “hope, optimism, future-mindedness, and future orientation represent a cognitive, emotional, and motivational stance toward the future” (p.570). If adolescents or children are not enjoying what they are doing in terms of character education or the learning process at school in general, then they will be depressed (Hunter & Csikszentmihalyi, 2003; Shernoff et al., 2003) and so achievement will be hard. Enjoyment, playfulness, pleasure and fun are necessary at school so students can enjoy high levels of wellbeing. As shown in the figure, to build a character is to develop a character. According to the character education partnership (2014), character education "includes and complements a broad range of educational approaches such as whole child education, service learning, social-emotional learning, and civic education". We add to this positive education (Seligman et al., 2009).

Since innovation has become the main vehicle for economies nowadays (Baer & Frese, 2003; West & Altink, 1996), creativity (Amabile, 1996; see also Barbot, 2011) as a strength that falls under strengths of wisdom and knowledge in the VIA (Peterson & Seligman, 2004) and a main antecedent for innovation should be empathized at schools and be part of character education programs. However, the field of character education did not pay enough attention to creativity as it is a strength and not a moral or virtue. Creativity should fall under the performance or the positive character. Indeed, it is worth mentioning here that positive states of emotion, engagement and meaning were found to predict life satisfaction and creative learning (Seligman et al., 2005; Peterson et al., 2005). Therefore positive character could affect creativity as well.

We also add to the positive character initiative competencies as consciousnesses, a main component of flow and also a major component in Piaget and Vygotsky (see Fox & Riconscente, 2008). Modern Psychological theory was laid bare a century ago by William James where his investigations plumbed the depths of consciousness, attention, the self, and will (Fox & Riconscente, 2008). Questions like "am I in the right direction or not?" or "is that what I want to do in life?" (Annas, 1995) requires attention, intention and consciousness to be answered (Csikszentmihalyi, 2002). So there is a direct link between virtues and consciousness. Besides, interest and enjoyment are critical for success at schools (hunter & Csikszentmihalyi, 2003) where

examples of intense interest are optimal experience and flow (Csikszentmihalyi, 2002). Though is not the main point in our research paper, educational approaches like the Montessori (1964), Reggio (see Arseven, 2014) or the Rudolf Steiner approach (see Richards, 2011) should be topics of investigations for character education and positive psychology researchers and be considered for the sake of school reform strategies (Rathunde & Csikszentmihalyi, 2005a, 2005b). The Montessori method for example, has much in common with flow theory (Csikszentmihalyi, 2002; Rathunde & Csikszentmihalyi, 2005a; 2005b) and so it has many implications on positive education. Compared to traditional schools, Montessori schools are more successful in terms of positive perceptions about school environment and teachers (Rathunde & Csikszentmihalyi, 2005a), greater affect, potency, intrinsic motivation, flow experience, and undivided interest (Rathunde & Csikszentmihalyi, 2005b).

If flow, optimism, hope and resilience lead to positive outcomes like positive emotions (Avey, Wernsing and Luthans, 2008), friendliness, happiness and confidence (Snyder et al., 2002), academic and sports achievement (Curry et al., 1997), goal attainment (Feldman & Snyder, 2005; Feldman et al., 2009), and performance (Luthans et al., 2008), then it is likely to assume that a focus on positive education along with moral education and performance skills should result in positive outcomes and positive strengths which in turn leads to the development of the whole person. Moreover, life satisfaction, the cognitive aspect of subjective well-being (SWB) was found to be related to the absence of psychological and social problems such as depression and dysfunctional relationships (e.g., Lewinsohn et al., 1991). Besides the VIA strengths were found to lead to predict wellbeing and also vice versa (Gillham et al., 2011). Therefore, regardless of what predicts what or what comes first, we are suggesting here that a good character education program would be one that focuses on all three components; moral character, performance character, and positive character, where emotional and social learning and other life skills could fall under the performance character while skills of wellbeing, happiness, optimism, resilience and life meaning could fall under the positive character component.

Though not clearly stated as an important ingredient in positive psychology, spirituality among adolescents plays a major role in their life satisfaction and should be included in character education under the positive character. However, religion and spirituality were talked about explicitly in character education. "Knowledge and religion are the supports of a republican

government. The means of education, and moral and religious instruction, ought therefore to engage our serious and vigorous attention" (Thomas Sparhawk, July 4th Oratation, Boston, 1798, from the book *Answering the Virtue Crats* by Robert J. Nash (1997), p. 1). Religion continues to serve as a framework for character education and is alive and well on campuses across the country with a clearer curriculum than other traditional character education programs (Jones et al., 1998). Whether positive psychology or character education, both fields could not neglect the role of religion and spirituality in character development (see Benson et al., 2005). In their classification for values, Peterson and Seligman (2004) came up with core values that "endorsed across every major religious and cultural tradition" (Seligman, 2002b, p. 130).

Spiritual and philosophical traditions were considered in the classification whether from Judeo, Christianity, Islam or Confucianism and Taoism, and Buddhism and Hinduism (Peterson & Seligman, 2004 see also McLaffery, & Kirylo, 2001). Though there is a difference between spirituality and religion and that they are often seen as interdependent, most Americans see themselves as both (Benson et al., 2005). Schools should pay enough attention to religious activities as research has found evidence that family attendance at religious services is associated with positive behavior such as delayed entry into sexual activity and achievement (Udry & Billy, 1987; Hofferth & Curtin, 2005). Church involvement was also found to be related to positive behaviors (Hofferth & Curtin, 2005). Moreover, positive emotions, such as happiness, wonder, and joy are related to religiosity and self-described spirituality (Saroglou et al., 2008). Several research studies focused on the contribution of spirituality and religion on wellbeing and linked them to positive psychology (see Day, 2010).

Lickona (1999) highlighted the importance of adding religion to the curriculum and offered seven ways how schools could make use of religion in character education. Research proved evidence that religion has an impact in healthy human development and is protective against high-risk and antisocial behaviors by adolescents (Lickona, 1999). As for positive psychology, in the Greenlong Grammer school project, religious education teachers examined topics that included what gives life meaning and purpose (Seligman et al., 2009; see also Norrish & Vella-Brodrick, 2009). Seligman (2002b) highlighted that there are three paths to happiness where a meaningful life involves a path in which a person is attached to something that offers a sense of commitment to something greater than oneself. Lickona (1999) also highlighted on the importance of religion and life meaning in schools as well as other character education scholars (see for instance Ryan &

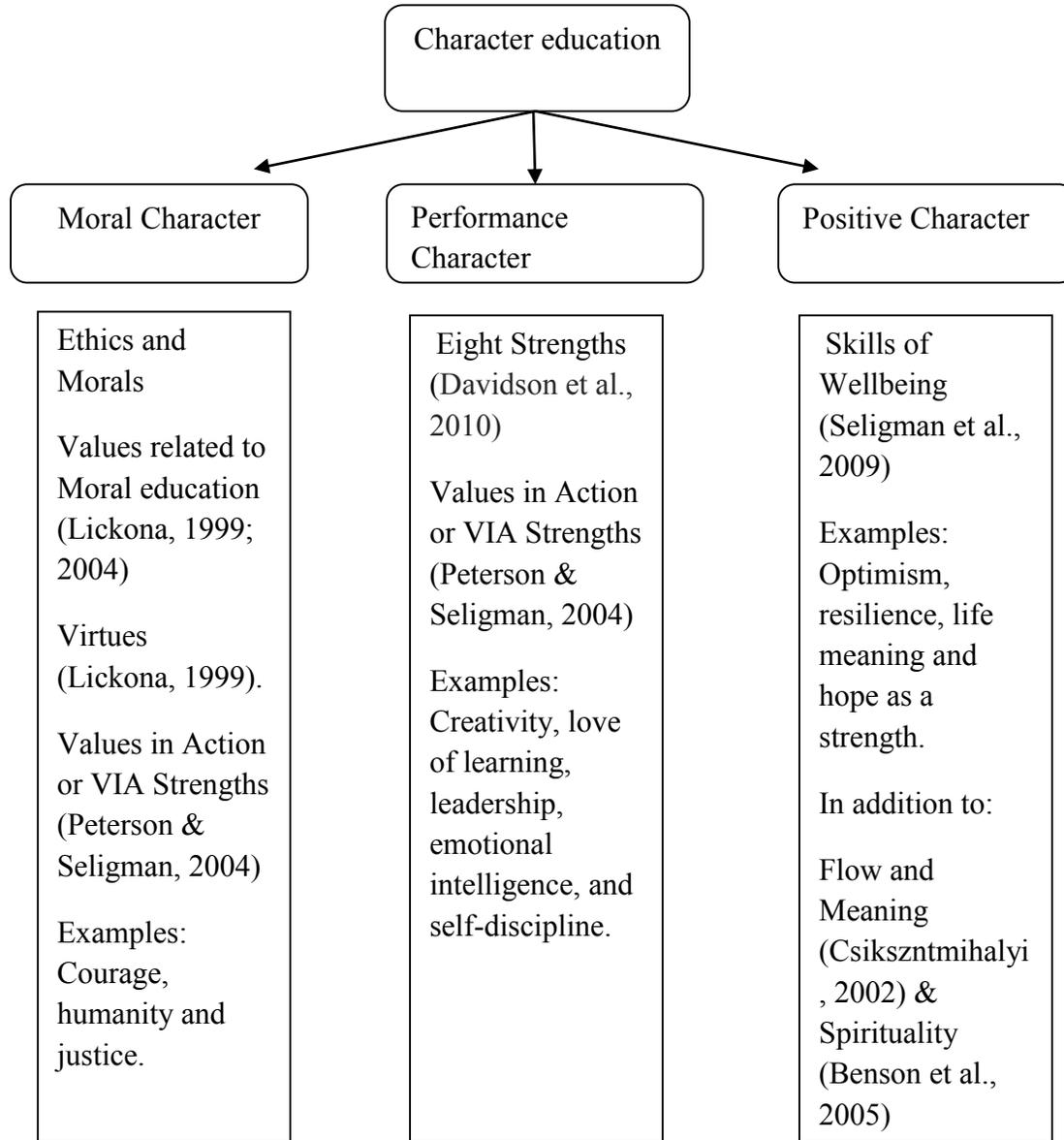
Bohlin, 1999) claiming that the issue of life meaning has been neglected as a topic in schools and should be taken care of. We suggest here adding life meaning and other religion and spirituality topics to the character education umbrella under the positive character since life meaning or purpose since having a purpose in life was found to be associated with life satisfaction (Bronk et al., 2009; Seligman, 1995) and other positive outcomes like hope, faith, love, subjective wellbeing, health, and happiness and negatively associated to constructs such as depression, anxiety, drug use, boredom and psychological distress (Melton & Schulenberg, 2008).

The inclusion of positive psychology under the character education solves the dilemma of a component of human flourishing (Seligman, 2002b) like meaning where life purpose is the starting point. Therefore, to reduce such negative outcomes or behaviors and increase wellbeing, schools should not only focus on ethics and strengths or the moral and performance character but also the merits of positive character whereby curriculum content, exercises and activities whether integrated or in separate sessions focus on positive education and positive psychology topics such as the ones suggested above. We assume that with the three together: the moral, performance and positive character, the whole character would be developed and greater and much more concrete and remarkable results would be found.

A starting point to assess the effectiveness of the positive character initiative is to build a program, or a set of three, that offers the development of the three aspects of character, the moral, the performance, and the positive aspect. One program could be one that combines the positive psychology curriculum with the Penn resilience program as suggested by Seligman and colleagues (2009) but in addition to teaching morals and ethics through character education programs (see for example www.goodcharacter.com, www.charactercounts.org, www.character.org). In addition, the VIA instrument along with other measure like wellbeing, life meaning, optimism and hope should be used to measure the effectiveness of the program. There are also some handbooks for positive psychology curriculum and ethics (see Biswas-diener, 2011; MacConville & Rae, 2012; & Zubay et al., 2011). Several positive psychology programs implemented at schools are also worth investigating and reassessing their impact. For example, the Maytiv School Program which was aimed at increasing students' levels of wellbeing and in fact decreased students' depression, anxiety and general distress (Shoshani & Steinmetz, 2013; see also the Maytiv center website www.maytiv.com; see also Marks, 2011). Another program was implemented in the UK that used the VIA classification is the "Celebrating Strengths Program" (see www.strenghtsgym.co.uk, see

also Eades, 2005). Such programs should be evaluated from different aspects and reassessing the inclusion of all aspects of character in them might indeed produce even more promising results. However, up to our knowledge, the three types of character interventions (see figure 2) has never been implemented in a school where moral education was emphasized in addition to skills and competencies needed for a successful life like self-control, proactivity and leadership and finally positive psychology competencies like hope, optimism, resilience or the skills of wellbeing. Finally, it is worth mentioning that skills of wellbeing include optimism and resilience (see Seligman et al., 2009) however, hope as a VIA strength could be taught too. As for flow, spirituality and meaning, these are not necessarily skills to be taught but should be topics of discussion in comprehensive character education program or consequences of the application of certain approaches like the Montessori. So the aim of the positive character is to create students who are rich in morals and performance strengths and who are also enjoying a character of optimism, hope, self-efficacy, resilience and meaning and who understands and live the true meanings of enjoyment, life purpose, flow and spirituality.

Figure 2. Character Education: A New Approach that includes all Aspects of Character



Implications and Future Research

If increases in GPA and wealth are also accompanied with increases in murders and suicides (Seligman et al., 2009), then wellbeing and ethics education should become a major concern and objective for educators, politicians, and psychologists. The interest in character education stemmed from the rediscovery of educational goals to come up with two basic goals

which are intellect and character (Berkowitz & Simmons, 2003). This paper suggested a new approach to character education by focusing on all aspects of character and thus calls for the inclusion of positive education interventions and topics within the character education programs. The new approach has significant implications for educators, school psychologists, positive psychology and character education researchers and also policy makers who are concerned about promoting positive children and adolescents development. However, we would like to highlight on some limitations that scholars from both fields should take into account.

There are many other factors that could affect the success of character education programs that needs to be investigated in the future like the type of education, whether it is American or Italian for instance (Kilpatrick, 2005). Besides, as mentioned above, there are also related approaches that are worth relating to the VIA and wellbeing like the Montessori and Reggio approaches. Fields related to flow and attention and that were linked to positive psychology like meditation should also be taken into consideration (see Sharpio et al., 2002). Besides, though outcomes of character education are difficult to measure and with the exception of few studies (Davidson, 2007; El-Bassiouny et al., 2008; EL-Bassiouny, Taher, & Abou-Aish, 2011; Lickona & Davidson, 2005; Berkowitz & Bier, 2005), most studies either have referred to the results of specific commercial programs or have relied on unreliable accounts (Schwartz et al., 2006). Another limitation to character education and positive psychology scholars is classroom discipline. Since teachers' comments with students was found to affect their level of optimism and might affect their pessimism level (Seligman, 1995), it is crucial to take into consideration the discipline system for the school. Lickona (1991; 2004) highlighted on the importance of discipline and offered many strategies for classroom discipline. However, there are no specific techniques or trainings that were said to be given to teachers in addition to the character education or positive psychology programs. One teacher might for example punish students or treat them in way that could affect their self-efficacy or even their morals. From that perspective we suggest the inclusion of the positive discipline approach (for further information see Biswas-diener, 2011 & Nelsen et al., 2007). Schulman (2002) highlighted on the importance of moral motivation and discussed how a moral person treats others well with an internal motivation and with no need for punishment. Therefore, class discipline becomes a crucial issue so that the character education whether integrated or in separate sessions is not just a session but a way of life embedded in the school

culture. Several strategies were suggested by character education and positive psychology researchers (see for example Lickona 1991; 2004; 2014; Roberts et al., 2002; Schuman, 2002).

Finally, as children and adolescents learn to be moral and to enjoy their lives, they grow up to responsible citizens, creative employees and proactive entrepreneurs who are able to add to their countries. Children and adolescents are the future leaders, managers, politicians and entrepreneurs who will build the future and affect and be affected by the culture they live in and face many challenges. Therefore, if research proved that character plays a major role in the success of companies (Collins, 2001) and if happier employees produce more and perform better (Avey et al., 2008; Luthans et al., 2008; Seligman 2002a; 2002 b; 2006) and are even more creative employees (Sweetman et al., 2011) and successful entrepreneurs (Jensen & Luthans, 2006), then educating character should be a main goal for education for a brighter future and in an era where innovation is no longer a luxury.

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Online Resources

- www.authentic happiness.sas.upenn.edu
- www.character.org
- www.charactercounts.org

www.charactered.net

www.ethicsusa.com

www.goodcharacter.com

www.heartwoodethics.org

www.theleaderinme.org

www.valueseducation.edu.au

Study 4 - Positive Psychological Capital of Adolescents: Measurement and the Role of Life Meaning as an Antecedent and Creativity and Life Satisfaction as Consequences

Abstract

The importance of positivity in the workplace is increasing in today's workplaces. However, research on positive organizational behavior should move to schools as adolescents are the future employees. Previous research indicates that positive psychological capital (PsyCap) correlate positively with job satisfaction and creative performance. We examine whether PsyCap predicts adolescents' life satisfaction and creativity in a sample of adolescents ($N = 577$). We also examine whether life meaning predicts PsyCap. Life meaning was found to predict PsyCap and PsyCap in turn was found to predict life satisfaction and creativity. Additionally, PsyCap mediated the relationship between meaning and life satisfaction and creativity.

Introduction

The two fields of positive psychology and positive organizational behavior (POB) are concerned with focusing on the positive rather than the negative (Luthans 2002a, 2002b; Seligman 2002a, 2002b; Wright, 2003). Creativity as a strength (Peterson & Steen, 2002; Peterson & Seligman, 2004; Peterson, Park & Seligman, 2005; Peterson, 2006) and as a source for competitive advantage in organizations (Amabile, 1983; Amabile, Hennessey, & Grossman, 1986; Amabile & Pillemer, 2012; Zhou & George, 2001) is a positive construct that researchers from different fields have been examining for decades. However, since it is rarely perceived as a negative quality, it is thus considered as a positive psychology topic and a strength that is highly valued whether at work or at school (Simonton, 2002). As a main component for the development of nations, creativity in adolescents and children should be studied since we need more and more creative and innovative employees, leaders and entrepreneurs (Baer & Frese, 2003; Ohly & Fritz, 2010, West & Altink, 1996). But the question remains "what is it that leads to more creativity in entrepreneurs, employees and most importantly in children and adolescents?"

The message of positive psychology is to remind the field that "psychology is not just the study of disease, weakness, and damage; it also is the study of strength and virtue" (Seligman, 2002a, p. 4). Positive psychology at the subjective level is mainly about "valued subjective experiences" like well-being and satisfaction. At the individual level, it is about positive traits like courage, wisdom, forgiveness, spirituality, and originality (Peterson, Park, & Seligman, 2005; Seligman, 2002a, 2002b). While at the group level, it is about work ethics, responsibility, and tolerance (Seligman & Csikzentmihalyi, 2000, p.5). Seligman (2007, p.266) defined positive psychology as "the study of positive emotion, of engagement, and of meaning, the three aspects that make sense out of the scientifically unwieldy notion of 'happiness'".

Like positive psychology, the field of POB attempts to focus on the study of human capacities and strengths rather than problems and disorders (Luthans 2002a, 2002b; Luthans, Avolio, Avey & Norman, 2007b). Since the origin of organization behavior, the focus has been on managerial dysfunctions and employee problems without paying much attention to positive capacities that are more likely to have an impact on performance and productivity (Luthans, 2002a, 2002b; Wright, 2003). In a computer search about psychology literature, Luthans (2002b) found

approximately 375,000 articles on negative constructs like fear, depression and anxiety, and only about 1000 articles on positive concepts and capacities. Moreover, for the past decade, positively-oriented bestselling books like Norman Vincent Peale's message of the *Power of Positive Thinking* and Steven Covey's seven habits of highly effective people have approached positivity in the workplace but were not theory and research driven (Luthans 2002a; 2002b). Thus, Positive organizational behavior is about bringing the positive psychology concepts and applications to the workplace (Luthans 2002a). Luthans (2002b) defined positive organizational behavior as "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace"(p.59).

A psychological resource capacity within the defined POB should include the following criteria: (a) The capacity should be theory-based, researchable and measurable (b) the capacity must also be "state-like" or open to development and have a demonstrated performance impact (Youssef & Luthans, 2007; Luthans et al., 2007b). Thus, the main focus of positive organizational behavior (POB) is on state-like variables unlike positive psychology or positive organizational scholarship that focus on trait-like variables. Examples of constructs that meet these criteria are confidence, emotional intelligence, hope, optimism, and happiness or subjective well-being (Luthans 2002a, 2002b; Wright, 2003). The capacities that best meet the above-mentioned criteria and have been identified to date are self-efficacy, hope, optimism and resilience (Luthans & Youssef, 2004; Luthans, Luthans, & Luthans, 2004). Together, they form what is called positive psychological capital (PsyCap) (Luthans, Youssef, & Avolio, 2007a; Luthans et al., 2007b; Youssef & Luthans, 2007). This composite construct has been defined as "an individual's positive psychological state of development and is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success" (Luthans et al., 2007a, p. 3). Since its development, however, PsyCap has been applied to the workplace and to entrepreneurs only (see Jensen & Luthans, 2006; Avey, Luthans & Youssef, 2009; Luthans et al. 2007a; Luthans et al., 2007b), but not on adolescents. The

relationship between subjective wellbeing component of life satisfaction (Gillham, Adams-Deutsch, Werner, Reivich, Coulter-Heindl, Linkins, Winder, Peterson, Park, Abenavoli, Contero, & Seligman, 2011), creativity and the PsyCap of adolescents has not been explored in one model before. In a structural equation model, life meaning as an antecedent is assumed to predict PsyCap of adolescents and PsyCap in turn is assumed to predict creativity and life satisfaction. The purpose of the present study is to examine the measurement properties of a survey instrument used to assess such identified psychological capital of adolescents in addition to the model described. However, why is positivity needed from the first place is a question that should be answered.

Adolescents' Positivity: Why do we need it?

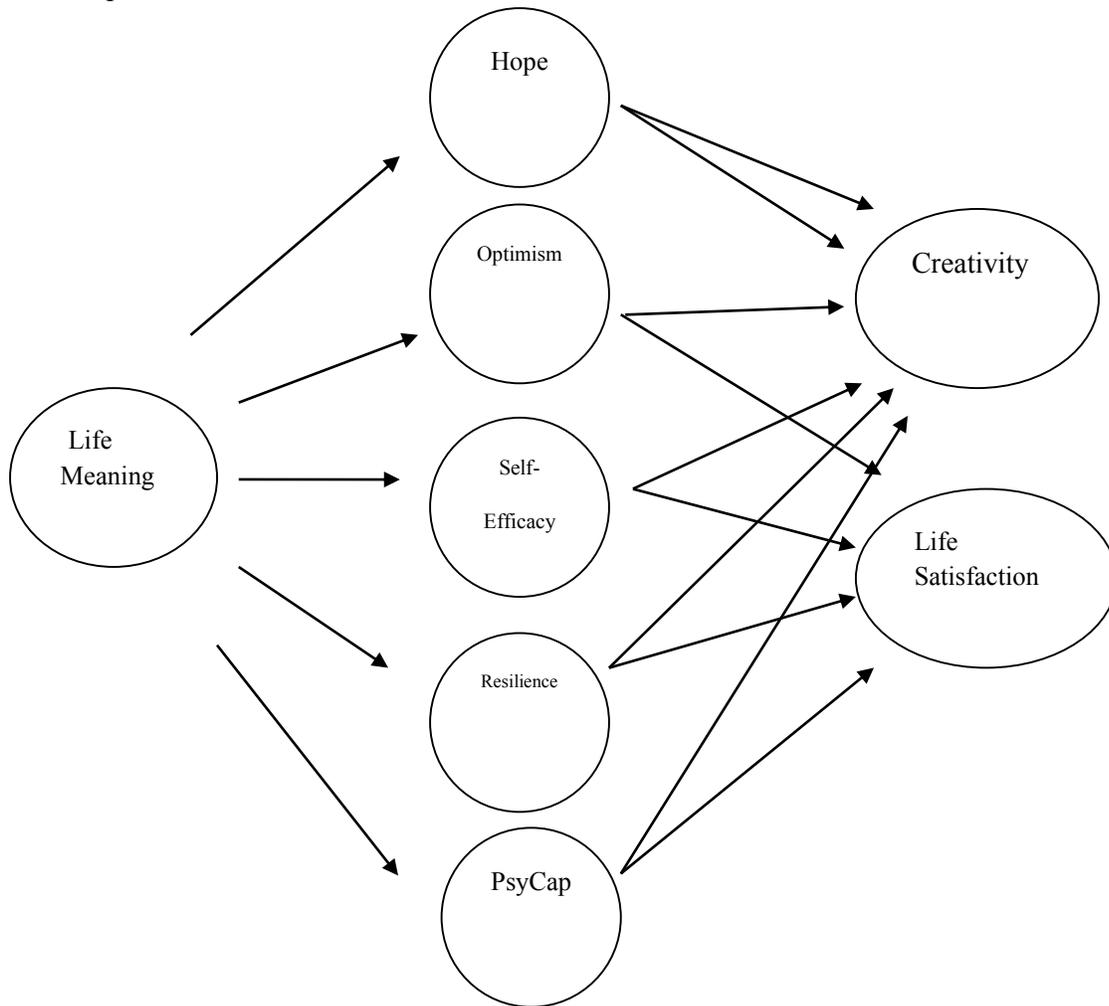
One reason that Seligman (1995) explained in his attempt to find why the depression rates are becoming higher is the difficulty finding meaning in life. In fact, research proved that people are becoming less happy and more depressed (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009) despite the luxuries and technologies they are surrounded with (Seligman, 1995; Csikszentmihalyi, 2002). According to Seligman (1995), the movement towards individualism and the focus on the consuming self and not being attached to large entities, played a major role in that. Rates of individual and national happiness were not on the climb as all types of improvements were (Seligman et al. 2009). For example, the average American, Australian and Japanese is no more satisfied with life than he was before, and the average Briton or German is even less satisfied (Inglehart, Foa, Peterson & Welzel, 2008).

According to Seligman (1995), despite the new opportunities that children in our societies have these days and the fact that they are naturally born as optimists, the rates of pessimism, depression, sadness and passivity are getting higher while human morale is decreasing (see also Seligman, 2002b, 2006; Seligman et al., 2009). Surprisingly, people who were born after the “feeling good era” and self esteem movement were suffering from depression roughly ten times the rate of people born before, who are older and did not have that much focus from schools or parents on their self esteem (Seligman, 1995). About 20% of adolescents experience an episode of clinical depression by the end of high school (Lewinsohn, Rohde, Seeley, & Fischer, 1993). Surprisingly, although the teaching of character waned from the 1960s through the 1980s, the rise in Violence and problems in morals led to the reinvention and revisiting of character education

programs across America (Prestwich, 2004) in an attempt to boost morale and mental health (for further information see Lickona 1991, 1999, 2001, 2004). Seligman (1995) highlighted that lack of religion, family bond, consumerism, absent fathers and the changing life style from mothering, gardening, and wifery to dieting, looking good and sexual satisfaction.

If happiness causes more productivity, more job satisfaction, and more income according to research (Seligman, 2002b), and if adults and children who are put into good mood select higher goals, and perform better (Seligman et al., 2009; Seligman 2002a, 2002b), then it is worth studying what makes people happy. As the pioneer research in positive psychology and the founder of the field, Martin Seligman devoted great research efforts in studying what makes children and adolescents happier, or more specifically more optimistic and resilient. Seligman (1995, 2002a, 2002b) developed with a research team a couple of programs or intervention like the *Penn Prevention Program* and the *Penn Resiliency Program* (see Seligman et al., 2009) aiming at preventing depression and increasing positive strengths and capacities like hope, optimism and resilience. The positive psychology program is also a curriculum which proved to result in more enjoyment and engagement in school, more creativity, and better social skills (Seligman et al., 2009). In these programs, Seligman intended to teach students the skills of happiness and wellbeing in an initiative he called positive education which is defined as “education for both traditional skills and for happiness” (Seligman et. al, 2009, p. 293; see also www.authentic happiness.sas.upenn.edu). Positive education is about teaching students not only the skills of achievement as schools traditionally do but also the skills of well-being (Seligman et. al, 2009). Therefore, under the positive psychology umbrella, this study also asks the questions of what makes adolescents more optimistic, hopeful, resilient and self-efficacious or PsyCap. The current study assumes wellbeing component of life meaning as an antecedent to these positive capacities. The study also investigates the positive outcomes of PsyCap which are creativity and life satisfaction. The hypothesized model is elaborated below (see figure 1).

Figure 1. Life Meaning as an antecedent to PsyCap and Creativity and Life Satisfaction as Consequences



The Hypothesized Model

Creativity

Since creativity is crucial for the innovation process which is essential for the development of countries (Baer & Frese, 2003; West & Altink, 1996), it is important to pay enough attention to creativity enhancement at schools. Whether at home or school, at work or play, there is a universal appreciation for creativity (Simonton, 2002). Despite its importance, it remains a neglected topic in adolescence research (Lassig, 2013). Though creativity as a virtue is considered a recent one as for example it was not listed among the classical human virtues (Simonton, 2002), several decades ago William James (1909) described the creative process in terms of the Darwinian Theory. In the 20th century, the Gestalt psychologists like Wolfgang Kohler showed considerable interest in creative problem solving. In the latter half of the 20th century, the interest in creativity grew and researchers started covering a wide range of sub-topics where several journals for creativity appeared (Simonton, 2002).

Education systems that encourage creativity (Simonton, 2002) and even promotes creative thinking over critical thinking (Seligman et al. 2009) are one of the main sources for creativity development in children and adolescents. Amabile's componential model of creativity predicts that three main components contribute to creativity: skills specific to the task domain like expertise, technical skill, and innate talent, general (cross-domain) creativity-relevant skills or creativity-relevant processes, and intrinsic task motivation (Amabile 1983; Amabile & Pillemer, 2012; Conti, Coon & Amabile, 1996). However, for a concept to be measured, it should first be defined (Simonton, 2002). Creativity is the generation of ideas that fulfill the two conditions of being original and adaptive (Simonton, 2002). Indeed, originality alone does not define creativity (Peterson & Seligman, 2004). According to Simonton (2002), creativity can be seen as some kind of mental process that leads to creative ideas or as a type of person who exhibits creativity. It could also be analyzed in terms of the concrete products that are the result of the creative mental process or personality, which is overlapping with innovation in this case. According to Barbot, Besancon and Lubart (2011), instruments for creativity measurement have been categorized in different ways like the type of instrument, component measured, and question addressed by the tools or instruments.

As for creativity and adolescents, it could be classified into two main questions: “is this student creative?” which addresses the giftedness side of individuals, “How creative is this student?” which focuses on the componential approach as it assumes that all students have a creative potential but it takes different forms (Barbot et.al, 2011). Indeed, successful development for creativity in children and adolescents requires great effort and exceptional commitment from both home and school (Simonton, 2002). Measures that address the first question focus on outcomes that prove that this person is creative like patents, scientific articles or musical compositions. Therefore, it is extremely hard to use this type with adolescents in a school setting. However, several measures of creative personality are based on certain traits or characteristics that a creative person tend to possess like the Adjective check list (Gough, 1979) or the 16 personality factor questionnaire (Coan & Cattell, 1958).

As for the second question which addresses creativity as a level, many assessment techniques in this approach have been measuring different components of creativity (Barbot et.al, 2011). Many factors could serve as indicators to creativity potential. These factors could be cognitive which refer to the basic processes of thought that lead to creative production, which include problem identification and divergent thinking (Guilford, 1966). However, when it comes to measuring creativity from the cognitive approach, only divergent thinking tests such as the Torrance Tests of Creative Thinking (Torrance, 1966) or the Wallach and Kogan tests (Kogan & Wallach, 1967) are considered. The Consensual assessment technique (CAT) developed by Amabile (1982) was found to be an applicable and valuable tool for assessing creativity on many levels like work, school and society in general (Amabile & Pillemer, 2012). However, this study focuses on life meaning and positive capacities that could foster creative personality competencies.

At the organizational level, Zhou (2003) defined creativity as “employees’ generation of novel and useful ideas concerning procedures and processes used at work” (p. 413). As for what triggers creativity, many psychologists from different disciplines have theorized about how creativity happens and what influences it (Amabile & Pillemer, 2012). At the organizational level, Zhou (2003) found that creative personality moderates the relationship between supervisory behavior, the presence of creative co-workers, and creativity. Ohly and Fritz (2010) also found that routinization predicts proactive and creative behaviors. However, if creativity is essential for organizational success then attention should be drawn to children and adolescents too.

At the children and adolescents level, creativity is not something that we should encourage in children or adolescents by incentives and rewards and in fact, research proved negative effects on creativity when tied with rewards (Amabile et al., 1986). Successful development for creativity in children and adolescents requires great effort and exceptional commitment from both home and school (Simonton, 2002). Motivation affects creativity as creativity is not a fixed trait but it could be taught, learned, practiced and improved (Amabile & Pillemer, 2012). As for the development of creativity in children, it was found that difficult experiences early in life can make a positive contribution to creativity (Simonton, 1999). However, research proved too that creative children have enjoyed happy childhoods, their parents had stable marriage, and were physically and educationally successful (Simonton, 2002, Sawyer, 2003). States of positive emotion, engagement and meaning were found to have positive impacts on individuals (Seligman et. al, 2009). These states reduce depression (Seligman et al., 2005), they increase life satisfaction (Peterson et al., 2005), and they promote learning, and specifically creative learning (Fredrickson, 1998). So there is a link between positivity and creativity which will be elaborated later after explaining the PsyCap. However, this study focuses specifically on creative personality as a major avenue of research on creativity, other areas as highlighted above are creative process, product, and environment (Selby, Shaw, & Houtz, 2005). Studies of personality characteristics of highly creative individuals have resulted in hundreds of classifications and descriptors that are cognitive, affective and motivational and are sometimes overlapping or even contradicting (Barron, 1955; Mackinnon, 1962; Selby et al., 2005; Renzulli, 2012). However, though some researchers focused on creative personality of adolescents like Mackinnon (1962), research on creative personality has been criticized for focusing only on adults and ignoring the adolescence phase (Selby et al., 2005). We believe that creative personality is crucial as schools could then study what competencies or practices could result in developing or increasing such characteristics or traits. For example, if optimism was found to predict creative personality, then schools could develop creative personality potential in their students through applying the suggested program like Penn Prevention Program by Seligman (1995) to increase optimism and so creative personality characteristics.

Barron (1955) highlighted that there are traits for creative persons that include rebelliousness, independence of judgment, freedom of expression, and novelty of construction and

insight. Mackinnon (1962) also argued that discipline, self-control and openness to experience are major characteristics of a creative person. According to Renzulli (2012), creativity is "that cluster of traits that encompasses curiosity, originality, ingenuity, and a willingness to challenge convention and tradition" (p. 153). These traits include optimism, courage, physical and mental energy, vision and a sense of power to change things (Renzulli, 2012). Finally, Feist (1998) summarized dispositional dimensions that distinguish artists and scientist. He classified certain traits into cognitive, social, motivational and affective dispositions. In addition, personality is defined as "that pattern of characteristics thoughts, feelings, and behaviors that distinguishes one person from another and that persists over time and situations" (Phares 1986, p.4). These characteristic thoughts, feelings and behaviors could also be affected by other thoughts and feelings. For example, an optimistic belief might influence a risk taking behavior or competency that is necessary for creativity and is a characteristic of creative personality. Based on the above linkages and relying on social cognitive theory (Stajkovick & Luthans, 1998), our argument in this study is that if creative people or a creative personality possesses certain characteristics or traits, there must be some other traits or capacities that could trigger or develop such traits. Positive psychology constructs like flow, was found to be related to creative persons or the development of their personalities (Gute, Gute, Nakamura, & Csikszentmihalyi, 2008). So, other positive psychology constructs like hope, optimism, resiliency and self-efficacy might be related too. In the current study we argue that PsyCap capacities could enhance the characteristics of a creative personality. We also argue that life meaning could lead to more creativity as measured by creative personality and such relationship is mediated by PsyCap. In the below lines, the link between PsyCap and creative performance or behavior will also be examined based on the fact that reported pattern of personality traits may function to make creative behavior more likely (Feist, 1998). Discussion of PsyCap state-like nature will also be elaborated.

Psychological Capital of Adolescents

For years, business researchers and practioners have focused mainly on the traditional economic capital or the financial and tangible assets that a company has, or the "what you have approach". Then attention has been given to the employees and what they have or more precisely

what they know. That is, employees' knowledge, skills and experience which is referred to as "human capital". Bill Gates's famous quote "the most important assets in my company walk out the door every night" demonstrates the importance of human capital for organizational success (Luthans, 2002a, 2002b, Luthans et al., 2004).

Human capital gives the company a competitive advantage that is hard to imitate. Related to human capital is social capital which refers to resources of trust, relationships, friends and network of contacts. Social capital is mainly about "who you know". Recently proposed is the "who I am" capital or the positive psychological capital (Luthans & Youssef, 2004; Luthans et al., 2004). The four capacities are discussed below in general and with relevance to adolescents.

Self-efficacy

Self-efficacy is defined as "an individual's convictions (or confidence) about his or abilities to mobilize the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998, p.66). Self-efficacy is crucial for success and achievements. That is, for a person to achieve a task or a goal, it requires not only skills but also beliefs of self-efficacy that could help out to his/her skills well (Bandura, 1993). Self-efficacy is about "people's beliefs in their capabilities to produce desired effects by their own actions" (Bandura, 1997, p. vii).

Stajkovic and Luthans (1998) identified three dimensions for self-efficacy that are crucial for its understanding. First, the magnitude of efficacy expectations, which refers to the level of task difficulty. Magnitude of efficacy expectations is mainly about "whether or not a person believes he or she can execute a task" (Larson, 2004, p.35). The second dimension is the strength of efficacy expectations, or how confident an employee is about performing a certain task. People who have self-efficacy are able to find out ways of exercising control even when there are few chances or many limitations (Bandura, 1993). The third dimension is generality and refers to whether or not efficacy is indiscriminate across tasks.

As for the determinants of self-efficacy, Bandura (1997) has identified four categories of experiences that determine efficacy beliefs. First, self-efficacy could be enhanced through accomplishing a given task. Second, is "Vicarious learning" could also increase self-efficacy, which is mainly about the social environment in which an individual works. Third is the verbal

persuasion whereby an individual is somehow inspired or motivated through encouragement and focusing on enhancing the belief that he/she "has what it takes". The last determinant is the Psychological arousal (as cited in Stajkovic&Luthans, 1998).

As a positive state-like capacity, self-efficacy was found to be positively related to individual OCBs (Organization citizenship behaviors), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors (Avey et al., 2009). Moreover, Avey, Wernsing and Luthans (2008) examined the relationship between self-efficacy as a component of Positive psychological capital and positive emotions. They found a significant relationship between efficacy and positive emotions that in turn were related to positive attitudes like engagement. Similarly, a study that was conducted on Chinese workers showed a significant positive effect between self-efficacy and performance as measured by supervisor ratings (Luthans, Avey, ClappSmith & Li, 2008a). However, despite the importance of the creative process and its relationship with personal characteristics, few studies were found to link PsyCap with creative performance (e.g Sweetman, Luthans, Avey & Luthans, 2011). One study found significant positive relationship between self-efficacy and creative performance at the workplace (Sweetman et al. 2011). In another study, authentic leadership predicted employees' creativity both directly and through the mediating role of employees' psychological capital (Rego, Sousa, Marques, 2011). Creative self-efficacy was also found to predict creative performance (Tierney & Farmer, 2002).

At the children and adolescents level, Seligman (1995) claimed that "Feelings of self-esteem in particular and happiness in general develop as side effects of mastering challenges, working successfully, overcoming frustration and boredom and winning" (p.33). Besides, research on self-efficacy of adolescents showed a relationship between self-efficacy and academic performance. For example, students' beliefs in their self-efficacy for self-regulated learning affected their perceived self-efficacy for academic achievement, which in turn affected their perceived self-efficacy for academic achievement (Zimmerman, Bandura, Martinez-Pons, 1992; also see Bandura, Barbaranelli, Caprara & Pastorelli, 1996). In addition, perceived social and academic inefficacy contributed to depression both directly and through their impact on academic achievement and problem behaviors (Bandura, Pastorelli, Barbaranelli & Caprara, 1999; Caprara, Barbaranelli, & Pastorelli, 2004). Self-efficacy was also found to predict life satisfaction as well as academic achievement (Vecchio, Gerbino, Pastorelli, Bove, & Caprara, 2007). As for creative

personality, up to our knowledge rare, if any, studies examined the link between self-efficacy and creative personality. However, it is likely to assume that people who have string confidence in their abilities to succeed and to perform in a good way and who will approach situations calmly and not be disrupted by difficulties (Maddux, 2002) are more likely to create novel and new ideas. Besides, a person who is self-efficient is likely to try and not lose hope easily so creative problem solving at school for example might be linked to how many times a student tries. Self-efficacy was also found to mediate the relationship between social support and psychological adjustment and wellbeing (Vieno, Santinello, Pastore, & Perkins, 2007). Therefore, it is no surprise that self-confidence is one of the main characteristics of a creative personality (Selby et al., 2005). Accordingly:

Hypothesis 1: Self-efficacy relates positively to Adolescents' creativity and life satisfaction.

Optimism

According to Seligman (1995), “the pessimism of our children is not inborn” (p. 51). Pessimism is a theory of reality that children learn from their parents, teachers, coaches and the media (Seligman, 2006). The third POB criteria-meeting capacity is optimism, which is defined by Seligman (1998, 2002b) as "an attributional style that explains positive events in terms of personal, permanent, and pervasive causes and negative events in terms of external, temporary, and situation-specific ones". Carver and Scheier (2002) also defined optimists as "people who expect good things to happen to them" while pessimist as "people who expect bad things to happen to them" (p.231). Optimists do better than pessimists in many ways. Pessimists achieve less at school and in their careers, their physical health is not as the optimists and they suffer from depression (Seligman, 1995).

According to Seligman (1995, 2006), optimism is not just about positive thinking or positive words and quotes, but it is about the way we think about causes. He explained that children use three dimensions to explain why good or bad things happen to them. These are permanence, pervasiveness, and personalization. Permanence is about the permanent versus temporal cause of a certain situation. Optimistic children relate bad events to temporal causes while relate good events to permanent causes. For example, a pessimistic child would say “no one wants to be

friends with me at Bywood” while an optimistic child would say “ it takes time to find a new best friend when you move to a new school”.

Optimism has been linked to a variety of positive outcomes like good morale, effective problem solving, academic, political and occupational success, happiness, achievement, good health and even long life (Seligman, 2006). On the contrary, pessimism has been linked to depression, failure and passivity (Peterson, 2000). Moreover, innovation, team orientation and risk taking should be related to the degree of optimism of employees (Medlin, Jr., & Gaither, 2010). As a positive state-like capacity, a study by Avey and colleagues (2009) showed that optimism is positively related to individual OCB (Organization citizenship behavior), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors. Moreover, Avey et al (2008) examined the relationship between optimism as a component of Positive psychological capital and positive emotions. They found a significant relationship between optimism and positive emotions that in turn were related to positive attitudes like engagement. Moreover, optimism has been found to be positively related to satisfaction (Luthans & Youssef, 2007; Luthans et al., 2007), and work happiness (Youssef and Luthans, 2007).

Optimism was also found to predict creativity at the workplace (Rego, Sousa, Marques, & Cunha, 2012; Sweetman, Luthans, Avey & Luthans, 2011). However, despite the importance of the two topics of optimism and creativity in the adolescence phase, no research studied the relationship between the two in an adolescence sample. Optimism was found to predict positive emotions (Avey et al. 2008) whereas positive moods were found to lead to more creative thinking. An optimistic person with an optimistic explanatory style is likely to have more self-control over his actions and so is more likely to create new and novel ideas (Sweetman et al. 2011) since one of the characteristics of a creative personality is having internal locus of control (Selby et al., 2005). Besides, optimists rely on active problem-focused coping (Carver & Scheier, 2002), while adaptability is a major feature of a creative personality. Finally, problem solving and thinking skills, problem finding and mindfulness were all found to be important ingredients for the creativity process (Runco, 2007). These components are either part of or related to the skills needed in the optimistic explanatory style as Seligman (1995, 2002b, 2004) highlighted that people should be specific in finding what the real problem is and think in a positive way that entails temporal and not temporal causes. Finally, mindfulness, which involves the cultivation of attention infused by

an unconditional friendliness and interest (Peterson & Seligman, 2004), was found to be a main component in the creativity process (Runco, 2007). Mindfulness might affect one's explanatory style since it involves maturity of attention which could be a component in disputation. Finally, to be able to create and be imaginative and visionary, it requires great deal of optimism (Csikszentmihalyi, 1996; Seligman, 2006) Hence, it is likely to assume that optimism could predict adolescents' creativity.

Hypothesis 2: Optimism relates positively to Adolescents' creativity, life satisfaction and academic performance.

Hope

The term "Hope" is used in our daily language but as discussed here hope is based on the theory and research of C. Rick Snyder. Hope is defined as “a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals) (Snyder, Harris, Anderson, Holleran, Irving, Sigmon, Yoshinbou, Gibb, Langelle, & Harney, 1991, p.571). According to the theory of psychosocial development by Erikson, an infant’s most crucial virtue for development is hope whereby he learns to discover the meaning of trust (Batra, 2013). Snyder (2002) defined hope more precisely as “the perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those pathways” (p.249).

The agency component refers to individuals’ thoughts about their ability to initiate and prolong movement toward goal accomplishment (Peterson & Byron, 2008). Agency can be viewed as having the will to meet goals (Snyder et al., 1991). Pathways are cognitive routes to goals (Snyder et al., 1996). Thus, the pathways component refers to one's sense of ability to generate ways or means to meet these goals (Snyder et al., 1991; Snyder et al., 1996). Together, the two components make the will or the "I believe I can do it" and the way or the "I believe there are so many ways".

Though agency and the pathways help individuals achieve their goals (Peterson & Byron, 2008), one might be high in hope and yet not achieve his or her goals (Feldman, Rand, & Kahle-Wroblewski, 2009). However, Feldman et al., (2009) argued that hope's two components of pathways and agency lead an individual to “behave so as to attain personal goals” so it serves as

the cognitive basis needed to attain such goals. In their study about hope and goal attainment, they found out that hope's agency component is related to goal attainment. As for the pathway component, it should lead to the creation of different strategies so as to achieve the goals (Peterson & Byron, 2008).

Hope theory has received considerable support through empirical research in numerous settings. Research showed that hope is related to academic and sports achievement (Curry, Snyder, Cook, Ruby, & Rehm, 1997; Rand, 2009), goal attainment (Fledman et al, 2009), and performance (Peterson, Gerhardt, & Rode, 2006; Peterson & Byron, 2008). As a positive state-like capacity, Avey et al (2009) examined the relationship between hope and work outcomes. Results showed that hope is positively related to individual OCBs (Organization citizenship behavior), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors. Moreover, Avey et al (2008) examined the relationship between hope as a component of Positive psychological capital and positive emotions. They found a significant relationship between hope and positive emotions that in turn were related to positive attitudes like engagement. Moreover, hope has been found to be positively related to satisfaction (Luthans & Youssef, 2007; Luthans et al., 2007), work happiness, and commitment (Youssef and Luthans, 2007). In adolescents sample, hope predicted life satisfaction in many studies (Bronk, Hill, Lapsley, Talib and Finch, 2009; Ciarrochi, Pritch, Heaven & Davies, 2007; Gilman, Dooley, & Florell, 2006). Hope was also found to mediate the relationship between authentic leadership and creativity (Rego et al. 2014) and to predict creative performance (Sweetman et al. 2011). In adolescence sample, hope was found to predict life satisfaction, health practices, wellbeing, purpose, positive affect (Esteves et al., 2013). However, like optimism and self-efficacy, no research was found that investigated the relationship between hope and creativity among adolescents. Indeed, those high in willpower and in waypower tend to exert more effort and generate pathways into the "mental strategies of creative problem solving" (Sweetman et al., 2011). Hopeful individuals think in an independent way and are highly autonomous (Luthans et al., 2007) which may result in creative activity generated by resourcefulness, creative thinking, and even chaos and disorganization as those high in hope explore and take creative pathways to a goal (Sweetman et al., 2011). Therefore, it is likely to assume that adolescents who are able to come up with many pathways and who have the will and agency are more likely to create new ideas or to have a creative personality.

Hypothesis 3: Hope relates positively to Adolescents' creativity, life satisfaction and academic performance.

Resilience

Masten (2001) defined resilience as " a class of phenomena characterized by good outcomes in spite of serious threats to adaptation or development" (p.288). As a positive psychological state, resilience is defined as " the positive psychological capacity to rebound, to 'bounce back' from adversity, uncertainty, conflict, failure or even positive change, progress and increased responsibility" (Luthans, 2002a, p.702). This process of bouncing back is occurred through the positive assessment of risks and personal assets (Luthans, Vogelgesang, & Lester, 2006). Therefore, resilience is characterized by proactive responses in the face of failure or even great success.

Resilience requires two basic judgments: (1) that there must be current or past confirmable risk to overcome and (2) that the quality of adaptation is evaluated as "good" or "ok" (Masten, 2001). As Coutu (2002, p.46) states "Confronted with life's hardships, some people snap, and others snap back". Individuals vary in the degree of adaptability and the way they respond to the changes that they face (Block & Kremen, 1996) as problems occur when these systems are not operating normally (Masten & Obradovic, 2006). Adaptational systems could be learning systems of the human brain which involves problem solving, mastery motivation system which involves self-efficacy processes, and also cultural and social systems (Masten & Obradovic, 2006). Moreover, a person might adapt in a certain situation yet this does not mean he/she is happy or psychologically healthy (Block & Kremen, 1996).

Resilience research has been approached from either a variable-focused or a person-focused approach (Masten, 2001). Variable-focused approach examines the linkage between the degree of risk or adversity, outcome, and possible qualities of the individual that may protect the individual from the negative consequences of such risks and adversities. On the other hand, person-focused approach focuses on comparing individuals who are resilient with those who are not (Masten, 2001). Resilient people hold three characteristics: acceptance of reality that would

increase one's ability to survive, a belief that life is meaningful even in terrible times, and an ability to cope and improvise (Coutu, 2002).

According to Fredrickson (2000), individuals might differ in their interpretation and use of positive emotions because of their level of resilience. In her study, resilience predicted positive emotions. One's level of resilience could be more important than experience or education when it comes to succeeding (Coutu, 2002). As a positive state-like capacity, a study by Avey and colleagues (2009) showed that resiliency is positively related to individual OCB (Organization citizenship behavior), and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors. Moreover, Avey and colleagues (2008) examined the relationship between resilience as a component of Positive psychological capital and positive emotions. They found a significant relationship between resilience and positive emotions that in turn were related to positive attitudes like engagement. According to Sweetman and colleagues (2011) resiliency may provide the needed mechanism by which one can overcome obstacles and meet challenges and adapt in a way that could facilitate creative problem-solving and creative performance. Besides, creative people are remarkable for their adaptability to almost any situation and ability to do whatever it takes to reach their goals (Csikszentmihalyi, 1996). Accordingly:

Hypothesis 4: Resilience relates positively to Adolescents' creativity, life satisfaction and academic performance

PsyCap as a Core Construct

Finally, the relationship between PsyCap and creativity of adolescents has not been examined before. Positive moods leads to more creative thinking (Isen , Daubman, & Nowicki, 1987) and increases attention (Fredrickson, 1998; Fredrickson & Branigan, 2005; Bolte, Goschke, & Kuhl, 2003; Rowe, Hirsh, Anderson, & Smith, 2007; Seligman et al., 2009). In addition, Csikszentmihalyi (1997) highlighted on the relationship between flow, happiness and creativity (see also Gute et al., 2008). Based on the suggested hypotheses above and on the research findings that supported the impact of PsyCap over its component parts, it is assumed that PsyCap as a core construct would predict adolescents' creativity and life satisfaction.

Hypothesis 5: PsyCap relates positively to Adolescents' creativity, life satisfaction and academic performance

PsyCap, a State or Trait

Although the literature review in the above sections has approached the PsyCap capacities as state-like nature, it is important to further explain the difference between states, traits, state-like capacities, and trait-like capacities. Luthans and colleagues (2007a, 2007b) distinguished between the four terms in an attempt to solve the debate around states and traits. They categorized the positive constructs found in the fields of organizational behavior and psychology as follows:

- (1) "Positive States: Momentary and very changeable; Examples could include pleasure, positive moods, and happiness."
- (2) "State-like"- Relatively flexible or malleable and open to development; like hope, optimism, self-efficacy and resilience.
- (3) "Trait-like"- relatively stable and hard to change; like for example personality factors and strengths like the Big Five personality dimensions and Core self-evaluations.
- (4) Positive traits-very stable and hard to change, like intelligence or talents. "(P. 544).

Based on the above categorization, optimism, hope, self-efficacy and resilience as combined in the construct of PsyCap are state-like capacities and not states. These state-like capacities have some stability over time but they are not as stable as traits and they are also not momentable as states (Luthans et al., 2007b). So, they are not moods and are also not personality traits. Moreover, it's how we measure each of the four capacities that determines whether it's a trait or state-like capacities. For example, Snyder (2002) suggested that hopeful thinking could reflect both situational and trait-like processes and measured hope as a state and as a trait. Bandura (1997) has demonstrated ways or approaches to increase self-efficacy which proves that it is open to development. Seligman has written a book about "learned optimism" and this also proves that it is open to development and changeable. Thus, if we are measuring self-efficacy as a component of core self-evaluation, we are measuring self-efficacy as a trait while in PsyCap we are measuring it as a PsyCap state-like capacity. Some psychological constructs have been shown to be state-like and trait-like whether conceptually or psychometrically (Luthans, 2002a). In a study by Luthans and his colleagues (2007b), PsyCap

was found to predict unique variance beyond recognized trait-like personality and core self evaluations when predicting job satisfaction and organizational commitment. Results provided initial psychometric support for the PsyCap measure. Moreover, when the test-retest reliabilities were calculated for PsyCap, conscientiousness, and core self-evaluations, statistics showed that state-like capacities of PsyCap showed lower stability over time (Luthans et al., 2007). This proves that PsyCap is more changeable and less stable than other trait-like constructs. Thus, PsyCap is related to, yet distinct from, other trait-like constructs. Finally, previous research studies the impact of state-like capacities of PsyCap on more stable characteristics like leadership characteristics (Contreras & Juarez, 2013), authentic leadership of entrepreneurs (Jensen & Luthans, 2006), global leader competencies of nonjudgmentalness, inquisitiveness, and performance (Vogelgesang, Clapp-Smith, & Osland, 2014), transformational leadership (Venters, 2012), and creativity (Rego et al., 2011, 2014).

Life Meaning as an Antecedent to PsyCap

One of the dangers that Seligman (1995) explained in his attempt to find why the depression rates are becoming higher is the difficulty finding meaning in life. Though life meaning is a crucial issue in this era of anxiety and depression, no empirical studies were found that related the construct to psychological capital. According to him, the movement towards individualism and the focus on the consuming self and not being attached to large entities, played a major role in that. Life meaning has been an obscure and indescribable concept in the fields of psychology and philosophy (Feldman & Snyder, 2005). Theories of meaning share two concepts; the first one suggests that life meaning is a global way of evaluating or understanding one's life, and the second one is that the belief that life has a meaning is related to lower levels of negative emotions and lower risk of mental illness (Feldman & Snyder, 2005). Another definition for life meaning was proposed by Seligman and his colleagues (2009) where meaning is about knowing what your highest strengths are, and then using them to fit in to and serve something you believe is superior to self.

The Purpose in Life test (PIL; Crumbaugh & Maholick, 1977) was inspired by and grounded in the logotherapy paradigm which focuses on the importance of perceived meaning and purpose in life and how they enhance well-being (Frankl 1992, Frankl, Batthyany, & Andrew,

2010). Meaning was found to be related to positive outcomes like hope, faith, love, subjective wellbeing, health, and happiness and negatively associated to constructs such as depression, anxiety, drug use, boredom and psychological distress (Bronk, Hill, Lapsely, Talib, Finch, 2009; Melton and Schulenberg, 2008). At the adolescence level, since depression happens mainly as a result of loss of life meaning (Seligman 1995; Seligman et al. 2009), it is likely to assume that life meaning should lead to more PsyCap among adolescents. Depressed people usually believe they are less capable than others in behaving effectively in many areas in life (Sweetman et al. 2011). Pessimistic beliefs shape experiences through two powerful mechanisms: self-fulfilling prophecy and the confirmation bias where pessimistic people rely on their negative thoughts all the time and then they only see the evidence that supports these pessimistic thoughts (Seligman, 1995). Since life meaning was found to be negatively related to depression, a very close term to pessimism (Seligman, 1995), it is likely to assume that life meaning should be directly related to optimism. In a similar study, optimism was found to mediate the relationship between life meaning and life satisfaction among adolescents (Yee Ho, Cheung, & Cheung, 2010). Life meaning was also found to partially mediate the relationship between optimism and wellbeing (Ju, Shin, Kim, Hyun & Park, 2013). Though empirical studies examined the link between life meaning and wellbeing or life satisfaction, little attention has been paid to possible variables that might enhance this relationship (Yee Ho et al., 2010).

Effective goal setting in organizations should increase employee optimism as optimists naturally feel that they can succeed (Medlin, Green, & Gaither, 2010). Goals determination is a component in the purpose in life construct (Crumbaugh & Maholick, 1977). Since the PIL test includes items related to life goals, it is essential to examine the relationship between goals and psychological capital. Goals are necessary for a happy life (Locke, 2002) and goal-related thinking is an essential component in self-efficacy, hope and optimism either in an explicit or implicit way (Snyder et al. 2002). In addition, hope was found to be a component to life meaning (Feldman & Snyder, 2005; Snyder et al., 2002). Goals determine the direction, intensity, and duration of action (Locke, 2002). The agency component refers to individuals' thoughts about their ability to initiate and prolong movement toward goal accomplishment (Peterson & Byron, 2008). However, purpose in life should be more general than pathways and should motivate one to have the will to develop

paths and so it is likely to assume that it is life meaning that should be at the head of hope since one should develop his purpose in life first and then develop pathways and plan for achieving it.

According to Baumeister and Vohs (2002), we need meaning to give us a sense of efficacy. One study linked quality of life to efficacy and meaning (Jafary, Farahbakhsh, Shafiabadi & Delavar, 2011). The link between self-efficacy as a predictor for life meaning has also been examined (DeWitz, 2004), but no study was found to link life meaning as a predictor for efficacy. The link between purpose in life and self-efficacy could be derived from the goal-setting theory where several studies found a positive relationship between goals and self-efficacy (see Phillips & Gully, 1997; Carroll, Gordon, Haynes & Houghton, 2013) since establishing a purpose in life involves having clear goals.

As for resilience, no research was found to directly link life meaning to resilience though life meaning involves components like enthusiasm, excitement and having clear life goals, constructs that are likely to increase one's ability to cope and bounce back. Meaning could help people recover from trauma and bad events and people who live a meaningless life are less likely to be happy (Baumeister & Vohs, 2002). Finally, creative people tend to be motivated by a big ambition (Feist, 1998). Finally life meaning was found to predict life satisfaction (Peterson et al., 2005). Therefore a life that is meaningful is a great asset for resiliency building. Accordingly:

Hypothesis 6: Life Meaning relates positively to Hope, Optimism, Self-efficacy and Resilience.

Hypothesis 7: life Meaning relates positively to PsyCap.

Hypothesis 8: PsyCap mediates the relationship between Life Meaning and Creativity and life satisfaction.

Methods

Participants

Participants in this study included 577 adolescents from 3 different schools in Cairo, the capital of Egypt. The total number of questionnaires sent to participants was 800. However, only

685 questionnaires were received so the response rate was 85 percent. This number was then reduced to 577 because of the missing data where 57.7% of the participants were male and 42.3% were female, ranging in age from 10 to 18 years with a sample mean of 14 years (s.d= 1.84).

Measures

Psychological capital

Positive psychological capital was measured using a new tool developed by the researchers for measuring PsyCap for adolescents where some parts are exactly the same as the original PsyCap questionnaire and others are not. The PsyCap questionnaire was developed by Luthans and colleagues (2007a, 2007b). Results of their study provided psychometric support for a new PsyCap survey designed to assess the four facets or constructs, as well as a composite factor. Researchers (Luthans et.al, 2007b) have selected the four scales for each of the four positive constructs based on certain selection criteria. That is, the scale is reliable and valid, applicable to the workplace, and is capable of measuring the state-like capacities that make up the PsyCap. According to the above-mentioned criteria, the scales that are used by Luthans and colleagues (2007a, 2007b) are (1) hope (Snyder, Sympson, Ybasco, Borders, Babyak, & Higgins, 1996), (2) resilience by Wagnild & Young (see Luthans et al., 2007b). (3) optimism (Scheier & Carver, 1985), and (4) self-efficacy (Parker, 1998). As for the current study, hope was measured using the children's hope scale (Snyder et al., 1997; Snyder et al., 2002). Hope scale was used previously with adolescents (see Ciarrochi et al., 2007). It is not the same questionnaire used by Luthans and colleagues (2007) however, it is developed by the same author (Snyder 2002; Snyder et al., 1996) and it was originally developed as a state (Snyder et al., 1996). Sample items include "Right now, I think I am doing pretty well" and "I am doing just as well other other kids my age".

As for optimism, the life orientation test (LOT) (Scheier & Carver, 1985) was used which is the same one used in the original Psycap. However it was not tailored to the workplace of course. The scale was used with adolescents before (e.g Huan, Yeo, Ang & Chong, (2006) and was originally tested among undergraduates (Scheier & Carver, 1985). Although the Scheier and Carver (1985) scale is associated with dispositional optimism (or life orientation), this instrument has also been demonstrated to be capable of measuring state-like optimism (Luthans et al., 2007b). Sample items include "I always look on the bright side of things" and "I am optimistic about what

will happen to me in the future". Self-efficacy was measured by the scale by Schwarzer and colleagues (1997) which is different than the one was used in the original PsyCap questionnaire (Parker, 1998). The questionnaire was used before in adolescents' samples (e.g Vieno et al., 2007). Sample items include "I can remain calm when facing difficulties because I can rely in my coping abilities" and "I can always manage to solve difficult problems if I try hard enough". Resiliency, like optimism, is also the same one that was used in the original PsyCap questionnaire. The scale by Wagnild & Young (1993) was used. The scale was used in adolescence studies (e.g Hunter & Chandler, 1999). Sample items include "When I have a setback in my life, I have trouble recovering from it, moving on" and "I can usually manage difficulties one way or another at work".

The Cronbach alphas across studies on PsyCap conducted by Luthans et al (2007) show support for the reliability of each of the four facets and for the overall PsyCap as follows: hope (.72-.80), optimism (.69-.79), self-efficacy (.75-.85), resilience (.66-.72), and PsyCap (.88-.89). For the current study, the Cronbach alphas show support for the reliability of each of the four facets and for the overall PsyCap too and are as follows: hope (.80), optimism (.59) then changed to (.74) when the two reversed items were eliminated, self-efficacy (.77), resilience (.62), and then (.70) after eliminating the reversed coded item, and finally PsyCap (.81). Reliability coefficients around .90 are considered to be "excellent", values approximately .80 as "very good", and values around .70 as "adequate" (Pallant, 2007).

Creativity

Creativity was measured using the Creative Personality Scale (CPS; Gough, 1979) of the Adjective Check List (ACL; Gough, Fioravanti, & Lazzari, 1983). The CPS is one of the most widely used and valid paper-and-pencil measures of the creative personality (Domino 1970; Hocevar, 1981; Wink, 1991; 1992; Sheldon, 1995). Some of the adjectives were changed to more common ones that would be easier for the subjects to understand. Changes were made after the pilot study and based on the recommendations from the teacher and the students. The 30 trait adjectives in the scale are 18 indicative and 12 contradictive. Adjectives were derived empirically from a study of 1701 people and were found to be the most predictive of actual creativity (Gough, 1979; Gough et al. 1983).

Life Satisfaction

Adolescents completed the Student's Life satisfaction Scale (SLSS: Huebner, 1994). The scale consist of seven statements that adolescents rate on a 6-point Likert Scale ranging from form 'strongly disagree' to 'strongly agree'. Sample items include "My life is going well" and "I wish I had a different kind of life" (reverse coded). Items are summed where higher score means higher satisfaction. The SLSS has a good internal consistency and test-retest reliability and correlates highly with other subjective well-being measures (Huebner, 1994). In this study, internal consistency was acceptable which is .81.

Life Meaning

Life meaning was measured using the Purpose In Life (PIL) test (Crumbaugh, 1977) that measures a person's sense of meaning. The test includes 20 statements where each one is rated on a 7-point scale. An example of a statement on the PIL is "In life I have....." where individuals can select a response from a 7-point scale ranging from *no goals or aims at all* to *very clear goals and aims*. Adding the scores of each of the 20 statements creates a composite PIL score of between 20 and 140 points. Based on the findings of previous studies, individuals with higher PIL scores are expected to have greater sense of purpose in life (DeWitz, 2004). The PIL has reliability estimates that range from 0.90 to 0.92 and was previously administered on adolescents (Durant, 1994; DuRant, Cadenhead, Pendergrast, Slavens, & Linder, 1994). In the current study, internal consistency was .85 which is very good.

Control variables were additionally measured to account for possible influences of third variables. These control variables included age, gender (female or male), and parental status (married or divorced).

Results

Confirmatory Factor Analyses

To confirm the expected higher-order factor of PsyCap version for adolescents, we conducted a confirmatory factor analysis (CFA) using commonly accepted procedures recommended by Hinken (1995) through LISREL 8.7 software. Normality assumption was met and so no data transformations were necessary or utilized for the CFA. We began the CFA by

fitting this model with six items for each facet (i.e., hope, resilience, optimism, and self-efficacy) and then fit each of the four dimensions to the higher-order PsyCap. Results indicated the following estimates of model fit: SRMR = 0.055, RMSEA = .061, CFI = .96 where items loadings for self-efficacy ranged from .64 to .78, for hope, it ranged from .73 to .88, while for resilience it ranged from .08 to .83 and for optimism one item loaded negatively and the rest ranged from .06 to 1.09. The low or negative item loadings that were the reversed items were then deleted and CFA models were built again using the new scales. Each dimension also loaded on the overall psychological capital factor as follows: efficacy=0.86, hope=0.98, resilience=0.90 and optimism=0.77.

After items deletion, results indicated the following estimates of model fit: SRMR = 0.055, RMSEA = 0.040, CFI = .98. Each dimension also loaded on the overall psychological capital factor as follows: efficacy=0.86, hope=0.98, resilience increased to 0.91 and optimism=0.77. Besides, results indicated the following estimates of model fit for the model with the 24 items loaded on each factor: SRMR = 0.040, RMSEA = 0.049, CFI = .98, and the following estimates for the second model where all 24 items were loaded on PsyCap factor: SRMR = .05, RMSEA = .073, CFI = .96. Hu and Bentler (1999) suggest that cutoffs close to or below .08 for SRMR, .06 for RMSEA, and at or above .95 for CFI indicate adequate fit.

As shown in Table 1, mean values (standard deviation) for the main variables are as follows: creativity, 5.09 (3.2), life satisfaction; 30.17 (5.69); hope, 27.25 (5.4); self efficacy, 26.6 (4.84); optimism, 24.8 (4.94); resilience, 26.06 (4.65); PsyCap, 104.7 (15.9); and finally life meaning, 96.3 (17.88).

Correlational Analyses

As shown in table 1, the correlational analysis provides support for all hypotheses. That is, the higher an adolescent's level of self-efficacy, hope, optimism, and resilience, the more creative and satisfied with life he will be. Further, a comparison of the correlation coefficients of PsyCap and its four components indicates that self-efficacy bears the strongest relationship to creativity with $r = .32$, as compared to hope ($r = .21$), resilience ($r = .23$), optimism ($r = .25$) and PsyCap ($r = .31$). As for life satisfaction, positive significant relationships were found between PsyCap and life satisfaction ($r = .42$) which is the strongest relationship compared to hope ($r = .40$), resilience ($r = .30$), self-efficacy ($r = .32$), and optimism ($r = .36$). Thus, hypotheses 1 to 5 are all supported.

As shown, a positive significant relationship ($r = .476, p < .01$) was noted between life meaning and PsyCap. That is, the higher the adolescents perceive their life as meaningful, the higher their PsyCap will be. Thus, hypothesis 7 is supported, as life meaning relates to PsyCap. Significant positive relationships were also noted between the four components of PsyCap and life meaning where PsyCap as a core construct had the strongest relationship ($r = .52$) compared to optimism ($r = .45$), resilience ($r = .36$), self-efficacy ($r = .42$) and hope ($r = .48$). Therefore, hypothesis 6 is also accepted.

Table 1. Descriptive Statistics and Correlational Analysis

	Mean	St. Dev.	Hope	Self-efficacy	Resilience	Optimism	PsyCap	Meaning	Creativity	Life Satisfaction
Hope	27.06	5.50	1							
Self-efficacy	26.69	4.87	.650***	1						
Resilience	22.14	4.34	.652***	.596***	1					
Optimism	17.42	4.26	.582***	.509***	.496***	1				
PsyCap	93.33	15.7	.886***	.837***	.821***	.766***	1			
Meaning	91.84	17.36	.487***	.426***	.362***	.455***	.524***	1		
Creativity	4.85	2.92	.211***	.327***	.239***	.259***	.310***	.350***	1	
Life satisfaction	28.91	7.55	.409***	.329***	.307***	.364***	.427***	.563***	.263***	1

* $p < .05$. ** $p < .01$, *** $p < .001$

Regression Analysis

Hypothesis 5 was that adolescents' level of PsyCap would be positively related to their creativity and life satisfaction. For these analyses we used hierarchical regression where the covariates of age, parents status (married or divorced) and gender were entered into step 1 and PsyCap was entered in step 2. The purpose was to see the independent effects of PsyCap on both creativity and life satisfaction. As seen in table 2, when entering PsyCap into the regression model,

it predicted significant variance beyond the covariates. In both cases, the model in step 2 shows PsyCap related positively with creativity and life satisfaction. Therefore, there was full support for Hypothesis 5. Hypotheses 6 and 7 predicted a positive relationship between life meaning and PsyCap as well as PsyCap components. As evident in table 2, life meaning predicated PsyCap and the four components of self-efficacy, hope, optimism and resilience above and beyond the control variables used in this study.

Table 2. Regression Analyses with Covariates

	Creativity		Life Satisfaction	
	Step 1	Step 2	Step 1	Step 2
	β	β	β	β
Age	-.05	-.02	-.08	-.03
Gender	-.20***	-.16***	-.08	-.01
Parents Divorced/Married	.014	.008	.10**	.09**
PsyCap		.28***		.41***
Change R^2		.12***		.19***

$p > 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 3. Regression Analyses: PsyCap and Creativity and Life Satisfaction

	Creativity		Life Satisfaction	
	β	<i>R</i> ²	β	<i>R</i> ²
Optimism	.25***	.06***	.36***	.13***
Hope	.21***	.04***	.40***	.16***
Self-efficacy	.32***	.10***	.32***	.10***
Resilience	.23***	.05***	.30***	.09***
PsyCap	.31***	.09***	.42***	.18***

$p > 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Hypotheses 1 to 4 also were fully supported where 6% of the variance in creativity was explained by optimism, 4% by hope, 10% by self-efficacy and 5% by resilience. In addition, 8% of the variance in life satisfaction was explained by optimism, 15% by hope, 9% by self-efficacy, 5.3% by resilience and 9% by PsyCap (see table 3). As for hypotheses 6 and 7, 13% of the variance in life satisfaction was explained by optimism, 16% by hope, 10% by self-efficacy, 9% by resilience, and finally 42% by PsyCap. Hierarchical multiple regressions were used to assess the ability of life meaning to predict levels of PsyCap as well as its components. Age, gender and parents marital status were entered in step 1. As can be seen, life meaning explained an additional 25% of the variance in PsyCap, 20% for optimism, 16% for self-efficacy, 17% for hope, and finally, 12% for resilience. Thus, we found full support for Hypotheses 6 and 7 (see table 4).

Table 4. Regression Analyses: Life Meaning and PsyCap

$p > 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

	PsyCap		Optimism		Self-efficacy		Hope		Resilience	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
	β	β	β	β	β	β	β	β	β	β
Age	-.10*	-.08*	-.05	-.04	-.08*	-.07	-.16***	-.14***	-.01	-.008
Gender	-.16***	-.12**	-.07	-.03	-.20***	-.17***	-.12**	-.08*	-.13**	-.10**
Parents Divorced/Married	.02	-.02	.02	-.01	.02	-.01	.036	-.003	-.01	-.04
Life meaning		.51***		.45***		.40***		.47***		.35***
Change R^2		.25***		.20***		.16***		.22**		.12***

Finally, regressions were performed to assess whether PsyCap mediates the relationship between Life Meaning and Creativity and Life satisfaction. Following the guidelines of Baron and Kenny (1986), this analysis requires to assess whether the predictor variable (PIL) predicts the outcome variables (Life satisfaction and creativity). Second, the predictor variable needs to predict the mediator (PsyCap). Third, the mediator must predict the outcome variable. Finally, if there is a mediator effect, the regression coefficient of the predictor on the outcome should decrease when controlling for the mediator. A significant positive relationship emerged between PIL and life satisfaction ($\beta = .56$, $p < .001$) and between PIL and PsyCap ($\beta = .52$, $p < .001$). Further, PsyCap was found to predict life satisfaction ($\beta = .42$, $p < .001$). Finally, when controlling for PsyCap, the regression coefficient for PIL decreased from $\beta = .56$ to $\beta = .46$, and the Sobel test of partial mediation was significant ($z = 4.37$, $p < .001$). Therefore we can conclude that PsyCap partially mediates the relationship between PIL and life satisfaction. As for creativity, PIL was found to

predict creativity ($\beta = .35, p < .001$) and to predict PsyCap ($\beta = .52, p < .001$). PsyCap was also found to predict creativity ($\beta = .31, p < .001$). Finally, when controlling for PsyCap, the regression coefficient for PIL decreased from $\beta = .35$ to $\beta = .25$, and the Sobel test was significant ($z = 3.86, p < .001$).

Discussion

The search for meaning in life or what makes life worth living is a topic that positive psychologists have focused on due to its impact on the flourishing of individuals and nations. In this paper, we proposed that life meaning should lead to adolescents enjoying higher levels of PsyCap and so more creativity and life satisfaction. Further, we hypothesized that the relationship between life meaning and positive outcomes might not be a direct one. Having identified a purpose in life might not necessarily lead to positive outcomes if one is lacking the self-efficacy, hope with its two components, optimism or resilience needed to pursue this meaning. Hence, the purpose of this paper was to explore such relationships on adolescents where PsyCap has never been tested on an adolescence sample. This study is also the first to measure meaning, PsyCap and creativity and life satisfaction in one model.

Results from this study point to at least three important conclusions. First, having identified a purpose in life is associated with adolescents feeling more self-efficacious, hopeful, optimistic and resilient. Second, adolescents who are higher in terms of self-efficacy, optimism, hope and resilience are more creative and enjoy more life satisfaction. Third, the relationship between life meaning and life satisfaction and creativity is mediated by PsyCap. These conclusions shed light on the important role purpose plays in healthy adolescents' development and in their creativity and of course they have significant implications for how to foster and enhance life meaning among adolescents. According to Seligman (1995, 2006), loss of meaning is what leads to pessimism and depression (see also Brunwasser & Gillham, 2008). Therefore, meaning is a crucial topic that parents and schools should focus on to enhance the wellbeing and mental health of adolescents. This in fact was highlighted by character education scholars like Ryan and Bohlin (1999) where they stressed on the importance of meaning and purpose at schools and how this

affects students' mental health and happiness. The finding in this study adds to the positive education movement (Seligman et al., 2009) as well as to education of wellbeing in general (Cohen, 2006). In their article, Seligman and colleagues (2009) described how one of the positive psychology interventions highlighted on purpose importance and how religion teachers focused on life meaning topics in an attempt to increase students' wellbeing and positive strengths. Therefore, this study shed light on the importance of life meaning whether in positive psychology or character education programs (Schwartz, Beatty, & Dachnowicz, 2006; Lickona, 2004) since the main aim of the two types of interventions is to increase adolescents' wellbeing and make them of better characters (see Sameer, El-Bassiouny, & Ohly, 2014). As a source for happiness (Seligman, 2002) and as highlighted by character education researchers as a main strength of character as they stated "spiritual person engaged in crafting a life of noble purpose" (Davidson, Khmelkov, & Lickona 2010, p.432), meaning or purpose should be a component in all such interventions.

While our results are novel and need further examination, the cultural aspect in this paper cannot be ignored. As highlighted by Bronk and colleagues (2009) the relationship between meaning, hope and life satisfaction might be different in a less individualistic culture. For example, in a collectivistic culture, an individual might not necessarily find out the meaning in life and the motivation might not be up to the individual but bestowed upon him as a result of social roles and responsibilities (Bronk et al., 2009). For example, in one study, Americans were found to have more meaning in life than the Japanese (Steger, Kawabata, Shimai, & Otake, 2008). Therefore, more cross-cultural research is needed to further generalize these findings on adolescents in general. This study is the first to assess PsyCap and life meaning on adolescents. Since Egypt belongs to countries who are considered more collectivistic then we need further research on such debatable but crucial cultural issue. Moreover, the state-like nature of the PsyCap might sound controversial to be a predictive factor for creativity as measured through creative personality. However, as mentioned earlier, PsyCap components are not starts but are rather state-like capacities or competencies so here we are assessing the impact of positive competencies like optimism and hope on other competencies related to a creative person like being insightful, reflective and inventive. Therefore, though PsyCap competencies are more malleable and creative personality adjectives are more stable, we believe that a relationship could exist between both since

PsyCap components also are relatively stable but not like traits and they are not as malleable as pure states like moods. However, future research could also focus on examining the validity of such relationship by perhaps comparing state-like competencies of hope and optimism for example in comparison to traits optimism and hope in relationship to creativity.

Future research should focus on measuring PsyCap among adolescents in different countries and culture and also under different situations. Interventions by Seligman and colleagues (see Seligman, 1995, 2006) were found to reduce depression and increase optimism. The Values in Action or VIA strengths (Peterson & Seligman, 2004) were also found to increase wellbeing (Gillham et al., 2011). PsyCap among adolescents as a core construct however still needs more investigation and especially in relationship to creativity. If innovation is what makes countries develop and be rich (Baer & Frese, 2003; West & Altink, 1996) then creativity as a VIA strength (Peterson & Seligman, 2004) should be a main focus of schools and character education and positive psychology interventions or programs. However, the field of character education did not pay enough attention to creativity because of its strength nature and that it does not fall under the virtue umbrella. Creativity should fall under the performance or the positive character (see Sameer et al., 2014). Future research in this case should focus on interventions increasing PsyCap and so increasing creativity. Therefore, this study has implications to many sides such as schools, educators, parents, politicians, and even human resources and business people who aim at increasing creativity and innovation.

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Study 5 - The Impact of Character Education Programs on Creativity and Positive Psychology Constructs of Adolescents

Abstract

Previous positive psychology schools research focused on positive psychology interventions and ignored character education programs as interventions. At the same time, character education programs neglected aspects of life meaning and wellbeing and focused only on strengths as well ethics and morals. As innovation and creativity are becoming a major vehicle for the development of countries, and highlighting on the importance of positivity in the workplace, the current study seeks to focus on highlighting the changes in creativity and positive psychology outcomes as a result of two different character education programs at schools in Egypt. Adolescents (N = 577) from three different schools in Egypt completed a survey that assessed their creativity, positive psychological capital, life meaning, and life satisfaction. The two character education programs were found to have an impact on adolescents' level of hope. A character education program with a religious and spiritual focus was found to have an impact on adolescents' optimism. The two programs did not have any impact on resilience, self-efficacy, positive psychological capital, life satisfaction, or life meaning.

Introduction

Innovation is critical for countries to develop as it leads to new advances on health, education and technology (Baer & Frese, 2003; West & Altink, 1996). Therefore focusing on what makes students more creative should become a major goal for schools emphasizing creative thinking over critical thinking (Seligman et al., 2009). As Collins (2001) argued in his book *From Good to Great*, companies who were able to move from a good state to a great succeeded because of placing greater importance on character attributes than on specific educational knowledge or work experience. Little, if any, research assessed the impact of character education programs on creativity. As for positivity in the workplace, optimists were found to sell far more than pessimists (Seligman, 2006), cheerfulness among teenagers was found to lead to higher income and higher job satisfaction in the future (Diener et al., 2002), and positive constructs such as optimism, self-efficacy, hope and resilience were found to lead to better performance (Luthans et al. 2007b). Research proved that character strengths lead to more wellbeing (e.g, Gillham et al. 2011). However, up to our knowledge and extensive research, despite the link, no study ever assessed the impact of different character education programs on positive outcomes like life satisfaction, one main component of wellbeing (Gillham et al., 2011) or on life meaning, one main component of happiness (Seligman 2002 b; Seligman et al. 2009).

With the exception of a study conducted by Egyptian researchers on the impact of character education and marketing outcomes (El-Bassiouny et al., 2008; El-Bassiouny et al., 2011), this study is the first to assess the impact of character education programs on positive outcomes for adolescents in an Arab country. Based on the positive education initiative that calls for the teaching of wellbeing skills (Seligman et al., 2009) and on the call for a cooperation between positive psychology and character education (Sameer et al., 2014a) this study aims at examining the impact of different character education programs on creativity and positive outcomes.

In a poll conducted by WHO'S WHO among American teachers in 1999, teachers noted that for the past 10 years students are not respecting authority, 73 percent of the teachers noted a decline in morals and ethics, 65 percent observed less responsible attitudes and 60 percent saw children as more self-centered (Devine et al., 2001). According to Seligman (1995), despite the new prospects

that children in our societies have these days and the fact that they are naturally born as optimists, the rates of pessimism, depression, sadness and submissiveness are getting higher. At the same time, Lickona (2004) claimed that "without virtues that make up good character, no individual can live happily and no society can function effectively" (p.12). This study raises a crucial question that combines the efforts of both fields, positive psychology and character education, it asks; is the pessimism and lack of wellbeing in adolescents related to character virtues? Surprisingly, people who were born after the "feeling good era" and self esteem movement were suffering from depression roughly ten times the rate of people born before, who are older and did not have that much focus from schools or parents on their self esteem (Seligman, 1995). About 20% of adolescents experience an episode of clinical depression by the end of high school (Lewinsohn et al., 1993).

Although the teaching of character waned from the 1960s through the 1980s, the rise in violence and troubles in morals led to the reinvention and revisiting of character education programs across America (Prestwich, 2004). However, even after the rebuilt of character education programs, the findings are not very promising. Though the Josephson institute of ethics reported some increase in positive behaviors, latest reports highlighted on how violence is on the rise (see also the results of the Josephson institute of ethics surveys in 2008, 2010 and 2012) where nearly 30 percent of boys and girls reported that physical violence is a problem in their school, 44 percent of boys and 53 percent of girls reported that they had been teased, bullied or taunted, more than half of the sample reported cheating on exams, 20 percent said they stole something from a store, and finally 18 percent admitting stealing something from a relative or parent. These findings question the effectiveness and completeness of the character education programs. Is it inclusive to all what a student need or is there something missing that causes these behaviors to happen and to increase. How about teaching happiness or life meaning? Is teaching ethics enough? A question that was raised not only by Martin Seligman, the pioneer scholar of positive psychology, but also by character education experts like Kevin Ryan and Karen Bohlin (1999). So what is it that character education programs lack? Is it that they focus on ethics only and ignore other life skills and wellbeing skills? How about life meaning? Does it make any difference if it is included as a main component in the character education curriculum?

Seligman (1995, p.41) highlighted on some of the changes that happened to our societies (but he is specially examining the USA) that some of them might have lead to the increased rate of depression. Some of them are:

- *“Family, nation and God take a back seat to the self.*
- *Consumerism becomes a way of life, shopping an antidote to depression.*
- *Daycare, single mothers, and absent fathers become common.*
- *Women’s magazines feature dieting, looking good and sexual satisfaction more than cooking, gardening, mothering and wifery.”*

Despite the advances in technology and the increased human rights and entertainment, the only thing that is not getting better is “human morale” (Seligman et al., 2009). Depression defined as “a disorder of individual helplessness and individual failure” has been on a rise in the past decades (Seligman. 1995 p. 42). The more individualistic and consuming we are becoming, and the smaller the entity we attach ourselves to, the more vulnerable we are to become depressed. Though research has been rare about this issue in Egypt, one article was found that highlighted that suicidal rates in Egypt were on the rise (Harris, 1995). Due to globalization, the exposure to the media and the internet, teenagers in Egypt suffer from high levels of materialism and declining values (El-Bassiouny et al., 2008). As Egypt starts a new era of democracy and development, education at schools and specially character education is a crucial issue that should be taken into consideration. As highlighted in their article, Schwartz and his colleagues (2006) pointed on the fact that democratic societies depend on citizens that share values such as justice, fairness, responsibility, and caring. Moreover, high frequency worldwide depression among young people and the small rise in life satisfaction along with the “synergy between learning and positive emotion” are all motives for studying the skills for happiness (Seligman et. al, 2009).

Positive psychology interventions in schools have become common in positive psychology research (Seligman, 1995, 2002; Shoshani, & Steinmetz, 2013) and their main focus is more wellbeing and better mental health for adolescents. Character education programs have become common in schools too as a solution for the increased levels of violence and the lack of moral between adolescents (Lickona, 1995; 1999; El-Bassiouny et al., 2008, 2010). Character

education programs have become common in Egypt in the past decade among private schools (El-Bassiouny et al. 2008, 2010). Based on the call for cooperation between the two fields of character education and positive psychology that was highlighted by Sameer and colleagues (2014a), this study examines the impact of character education programs on creativity and other positive psychology outcomes like life satisfaction, life meaning and psychological capital of adolescents.

This study contributes to research on school-based interventions in positive psychology and character education by hypothesizing that character education programs at schools might lead to the same results as positive psychology interventions or programs based on two main points. First, the possibility of similarities between the two types of programs in terms of the content itself. So, for example, if the resiliency program developed by Seligman (see for instance Seligman et al., 2009) contains activities related to problem solving and the character education programs included in this study contains similar activities then it is likely to assume that the programs would lead to more resiliency. Second and based on the link discussed by Sameer and colleagues (2014a), if character strengths were found to increase life satisfaction, then it is likely to assume that character education programs that focus on some of these strengths will increase them too. The study also examines a very crucial question about creativity and whether these programs increase creativity or not. The below sections explain literature and hypothesis based mainly on the above two points. First, some facts and research findings about Egypt are elaborated.

The Egyptian Case

The wellbeing of Egyptian youth is essential for Egypt to develop as they are the leaders and main contributors for the future (HDR, 2010). According to the UNICEF (2011) and according to the 2006 census (HDR, 2010), approximately 40 percent of Egyptians are between the ages of 10 and 29 which makes around 20 million or we can say a quarter of the population. Unfortunately, 27% of them have not completed their basic education (HDR, 2010). However, although adolescents have been historically neglected, interest in their rights and needs and how they could have a great impact have grown after the 25th of January revolution (UNICEF, 2011). Like other Arab and Middle East countries, globalization had a great impact on children and especially on the higher socioeconomic classes level (El-Bassiouny et al., 2008). Egyptian adolescents show very

high levels of international coverage and exposure, mostly through the media (Ibrahim et al., 2000). As for education, schools of the public sector and some private schools suffer from poor quality education due to the large number of students in classes with the poor to be less lucky than the rich to enroll schools and of course girls of urban areas and poor households are more likely not to attend any school (HDR, 2010). And, while school enrollment increased in the past 20 years, Egypt has not reached universal primary education (HDR, 2010). Related to the current study, 86% of the Egyptian sample said they were happy in the world values survey (HDR, 2010).

Character Education and Positive Psychology

Character education is defined as “the cultivation of virtue” (Lickona, 1998, p. 77). Lickona (1998) explained character as the virtues we possess and that “the more virtues we possess and the more fully we possess them, the stronger our character” (p.77). However, “character education does not refer to a single approach or even a single list of values that are taught in character education programs” (Schwartz et al., 2006, p. 26). Since character encompasses more than just ethics and morals, the term character education is also sometimes referred to as values education, civic education, citizenship education, and moral education (El-Bassiouny et al., 2008). Schwartz and colleagues (2006) defined character educations as “the umbrella term that describes concerted efforts to teach a number of qualities, such as civic virtues, respect and responsibility, social and emotional learning, empathy and caring, tolerance for diversity, and service to the community” (p.26). Character is "shown through patterns of behavior, often called habits" (Wiley, 1998, p.1). The importance of character education is on the rise, in a study about character education, and with over 280 teachers as the study subjects, it was found that over 75 percent believed that character education should be part of public school education (Mathison, 1998).

Research conducted in the past few years indicate that Americans tend to place character education as a top precedence in schools restructuring programs (Edgington, 2002; Jones et al., 1998). Character education was introduced as a solution to the spread of crimes, violence and depression among teenagers, moral intimidation and unethical behaviors that are rising (Dovre, 2007; see also the results of the Joesephson institute of ethics surveys in 2008, 2010 and 2012). Character education programs like *Character Counts* (<http://charactercounts.org>) and the

HeartWood Institutes's An Ethics Curriculum for Children (www.heartwoodethics.org) focus on values such as honesty, self-discipline, respect and perseverance (Prestwich, 2004; Lickona, 1998). Other programs focus on life skills and leadership like the leader in me program by Steven Covey (see <http://www.theleaderinme.org/>). However, what remains controversial is the integration of such programs within the school day and curriculum (Edgington, 2002; Schwartz, Beatty, & Dachnowicz, 2006). Though there are many centers available worldwide to assist character education administrators and schools, for example, www.charactered.net, www.character.org, www.teachvalues.org, and www.ethicsusa.com (Eaterbrooks & Scheetz, 2004; Lickona, 2004), and also many books that explain how a character education program could be implemented (see for example, *Comprehensive Character Building Classroom*, 1998, by Lori Wiley), positive psychology researchers like Martin Seligman still question the effectiveness of the programs and argue that it is not accompanied by enough research (Seligman et al., 2009). However, it would be misleading to assume that character education programs still lack research ground as many have proved positive impact on discipline, student and faculty member morale, and student performance (Berkowitz & Bier, 2005; Lickona & Davidson, 2005; Schwartz et al., 2006). However, the need for a more comprehensive definition for character education and the inclusion of new components of character was introduced as a result of the extensive research presented in the Smart & Good Schools Report (Davidson, 2014; Lickona & Davidson, 2005; Lickona, 2014) where character education researchers highlighted the importance of performance beside morals and ethics (Berkowitz & Bier, 2005; Lickona & Davidson, 2005). Therefore, supporting the main goal of education which is academic achievement and whole person development, performance character includes strengths like creativity, discipline, perseverance and teamwork (Davidson, 2007; Davidson et al., 2010, 2011). The term "Positive character" was then introduced by Sameer and colleagues (2014a) where the inclusion of positive psychology constructs was introduced.

Defined as the science of happiness or as "the study of positive emotion, of engagement, and of meaning, the three aspects that make sense out of the scientifically unwieldy notion of happiness" (Seligman, 2007, p.266), positive psychology focuses on the study of positive emotions, positive traits and positive institutions (Seligman et al., 2005). Positive psychology at the subjective level is mainly about "valued subjective experiences" like well-being and happiness.

At the individual level, it is about positive traits like courage, wisdom, forgiveness, spirituality and novelty. While at the group level, it is about work ethics, conscientiousness and tolerance (Seligman & Csikzentmihalyi, 2002). So strengths of character are among the main research variables of positive psychology (Seligman, 2002; Park, Peterson and Seligman, 2004; Peterson et al., 2005).

The positive psychology movement was triggered as psychologists realized that for so long their main focus of psychology was on problems and disorders prevention, neglecting the competency building dimension or the strengths that people need (Luthans 2002a, 2002b ; Peterson & Seligman, 2004; Seligman, 2006; Seligman & Csikzentmihalyi, 2002). As stated by Seligman and his colleagues (2005), "it makes sense to study what is right about people in addition to what is wrong" (p. 413). Since the birth of psychology with all its branches, psychologists were able to measure what is wrong with people and how to cure their mental diseases ignoring what is right about them (Peterson & Seligman, 2004). The aim of positive psychology is to swing the main intention of psychology from revamping the worst things in life to building the best qualities in life (Seligman, 2002a, 2002b, 2006). Therefore, positive psychology is an effort yet a challenge to push psychologists to start taking on a more open point of view regarding what human beings could do or have (Sheldon & King, 2001). Martin Seligman, the father of positive psychology, introduced positive psychology schemes that included positive health, positive education, and positive psychotherapy (see www.authentic happiness.com).

Related to the current study is the positive education which is defined as the “education for both traditional skills and for happiness” (Seligman et al., 2009, p. 293). Positive education is about teaching students the skills of wellbeing beside the skills of achievement which is what schools conventionally do (Seligman et al., 2009). Since positive moods produces broader attention (Bolte et al., 2003; Fredrickson, 1998; Fredrickson & Branigan, 2005; Rathunde & Csikszentmihalyi, 2005a, 2005b; Rowe et al., 2007; Seligman et. al, 2009), leads to more creative thinking (Isen et al.,1987), and expectancy motivation (Erez & Isen, 2002), while negative moods leads to narrower attention (Bolte et al., 2003), which is the reason behind the negative mood we see in the classrooms (Seligman et al., 2009), schools should pay attention to the skills of well-being. In fact, the role that schools play in the development of the positive side of character cannot

be ignored. Teachers' feedback and comments about children's performance might affect their explanatory style about their success and failure and so their level of optimism (Peterson & Steen, 2002; Seligman, 2004; Seligman 1995). Therefore, skills of well-being should be taught in schools so that children and adolescents would enjoy higher levels of wellbeing and creativity and less levels of depression (Seligman et al., 2009).

In addition to the positive education initiative, Paterson and Seligman (2004) developed what is called the Values in Action or VIA as an initiative for identifying important character traits or strengths. Few research studies were done on adolescents and VIA strengths (Gillham et al., 2011; Ruch et al., 2010; Weber & Ruch, 2012). The VIA included 24 character strengths where a strength ""contributes to various fulfillments that constitute the good life" (Peterson & Seligman, 2004, p. 17). Character strengths can be defined as "positive traits reflected in thoughts, feelings, and behaviors" (Park et al., 2004, p.603). The VIA classification describes six main virtues, that are used to classify 24 more specific strengths of character, which are courage, love, justice, temperance, transcendence, and wisdom (Peterson and Seligman, 2004). These strengths are "the subset of personality traits that are morally valued" (Gilham et al. 2011, p. 31). Related to this study, a *Positive Psychology Curriculum* integrated in an art class that focused on the VIA strengths was created to help students identify their strengths and increase their daily use of them (Seligman et al., 2009). Though the program was found to increase enjoyment and engagement in school and social skills (Seligman et al. 2009), Seligman and his colleagues (2009) suggests combining the *Penn Resiliency Program* (PRP) with the positive psychology program as there was no significant difference in adolescents' levels of depression and anxiety symptoms. The Positive Psychology Program also did not increase character strengths of students. The PRP also teaches optimism and skills like problem-solving, creative brain storming, relaxation and other coping and surviving skills (Seligman et al., 2009) and was found to decrease depression, anxiety, and hopelessness (Brunwasser et al., 2009; Seligman et al., 2009) . These findings offer basis for what this study is attempting to prove. That is, a comprehensive program is needed, one that not only focuses on morals and strengths, but also on the psychological aspect for students or what Seligman called the skills of wellbeing (Seligman et al., 2009).

Sameer and colleagues (2014a) introduced the positive character aspect as a main component in character education. They argued that the integration of positive psychology schools programs under the character education umbrella and call for cooperation between the two is based on three main points. First, the two fields have common research topics, share the same goal for educating the whole person (Davidson, 2014; Seligman et al., 2011), work with similar strengths, and are working under the umbrella of personality psychology or trait theory (Bennet, 2013; Lickona, 1999, 1998). Second, both fields focus on ethics and morals. However, the fact that positive psychology programs or interventions do not give it much attention is crucial. Students are taught sex absenteeism before marriage for example in character education programs (Lickona, 1991, 1993, 2014; Wynne & Ryan, 1993) were research proved mental illness among young mothers (Lickona, 1993, 2004). Therefore there is a link between the teaching of character morals and wellbeing. Programs like the PRP might not be enough for students to be happy and satisfied with the lack of ethics and morals. Finally, the third point they raised is how the two fields aim at happiness and a meaningful life and elaborated the link between character education and positive psychology constructs. Based on the above points, they offered research collaboration between the two fields in addition to introducing positive character so that there are three components to character; moral character, performance character and positive character.

The Character Education Programs of the Two Schools in Egypt

The way character education programs are implemented at schools varies from a school to the other. Lickona (1998) explained an approach to character development that entails twelve strategies, nine that are classroom based and three that are school wide. These twelve strategies involve direct and indirect ways of teaching character. For example, indirect ways include having the teachers as role models, caregivers, and an adviser. The teacher also works on building a moral community that appreciates respect, cooperation and responsibility, and creating a democratic environment as well as teaching values and virtues through the curriculum (Lickona, 1998, 2004). This comprehensive approach also focuses on the school as a whole and calls schools to encourage service learning, create a positive moral culture that encourages values like discipline and promotes discussion about virtues, build role models, and recruit parents and the community as partners in the character education by involving them in the program application (Lickona, 1998).

In the current study, we extracted information on the two character education programs directly from the school's brochures, magazines, websites, qualitative interviews conducted (refer to the methodology section), as well as other resources from school staff responsible for the character education section.

The two schools presented here adopt different types of character education programs. The first one applies the American system. School (A) as I will call it, has its own character education program that teaches many skills like problem solving skills, communication skills, time management, emotional intelligence and anger management. The schools' mission is "(A) international schools, along with parents, foster an enabling community that brings forth well-balanced leaders, guided by mentors who unleash students' creativity, in an equipped safe environment". School-wide enrollment is around 980 students from preschool to Grade 12. The school adopts character education program that starts from kindergarten till grade 12. It also emphasizes values like honesty, integrity, and other ethical behaviors. Based on an interview with the school psychologist, we were able to gather info about activities and exercises that they have so as to compare it to other character education programs, positive psychology interventions and also the VIA strengths to be able to link to them. This link will be elaborated under each variable in the coming sections. So according to the figure below of character education components (Sameer et al., 2014a), this school has a focused mainly on skills education, ethics and morals, strengths, included some related inputs for the skills of wellbeing like the problem solving part, however, we didn't find any special activities directly related to increasing optimism for example like the explanatory style activities that will be discussed later in details. We also did not find any activities or curriculum input that relates to happiness and wellbeing directly. So we assume that the positive character component was ignored in this school. As for creativity, the school applies the whole school approach that was discussed above in a way to promote creativity by encouraging activities related to writing, drama and art in a way that fosters students' creativity as there are little procedures and students are self-supervised. It is also worth mentioning that school (A) didn't include religious or spiritual content in its character education program like school (B).

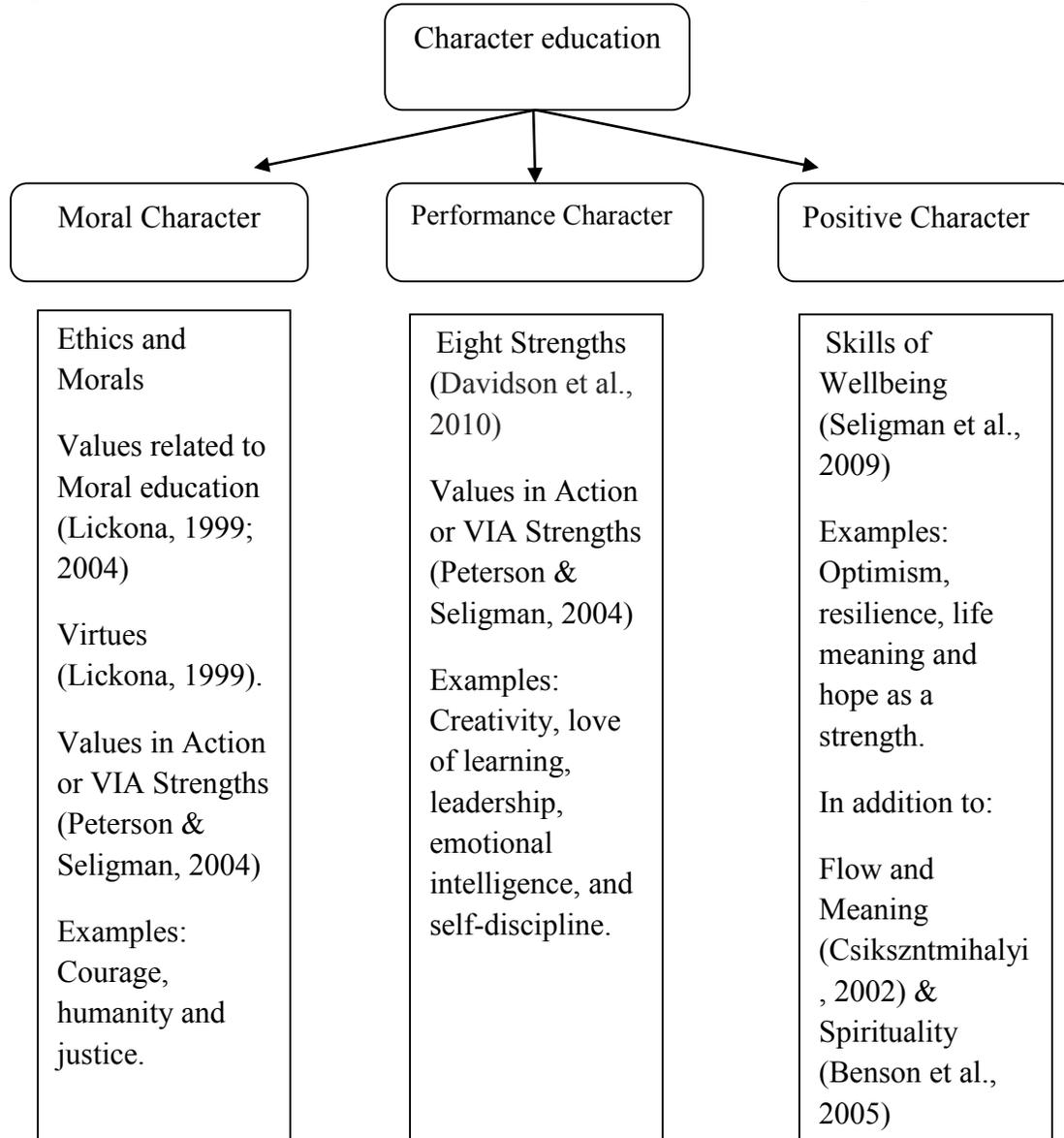
The second school that I will call (B) is an American school that applies the six pillars character education program named "character counts" (see

<http://charactercounts.org/research/summary.html>) but also adds some spiritual and religious components to it. Some American international schools in Egypt introduced the character education beliefs and approaches and adapted it to the Islamic culture (El-Bassiouny et al., 2008). They attempt to capture the best of the two worlds; the Islamic culture and the American educational system (El-Bassiouny et al., 2008). A very well-known school named Hayah (meaning "life") International Academy (www.hayahacademy.com) was the first to adopt this approach of Islamic values applied to character education. School (B) followed the same approach. The character counts program in school (B) focuses on six main pillars or strengths which are citizenship, caring, trustworthiness, respect, responsibility and fairness. The school's mission is "to equip students with the necessary tools and essential skills vital to achieving academic excellence and to prepare the students so as to participate and contribute responsibility to contemporary society as informed and aware, active, aware and caring citizens". School-wide enrollment is around 900 from kindergarten to Grade 12. According to the school psychologist, the school needs to apply other values and strengths and finds the six pillars program not so effective. So, according to the figure below, this school applies the two components of ethics and morals and strengths or the moral and performance but we didn't find any activities or exercises related to skills enhancement in the character education program itself.

The *Character Counts* is one of the well-known character education programs. So, by examining this school, we are also providing research results for the effectiveness of the character counts program in general. The school has been implementing the program since 7 years. As for the program worldwide, it was found to increase academic performance, drop in suspensions, drop in expulsions, a decrease in crime and drug use, less cheating, and other positive outcomes (see <http://charactercounts.org/research/summary.html>). However, we didn't find anything directly related to wellbeing or creativity or any of the psychological capital components. The link between the program strengths and wellbeing will be discussed in details below as there are similar strengths in the VIA and the character counts like fairness, kindness, self-regulation, and honesty (Gillham et al., 2011). As for the religious and spiritual component that is found in school (B), the psychologist gave us examples on how examples from the prophets lives were included in the character education classes as they act as role models. The school also applies a whole school

spiritual approach in a way that prayers are encouraged but with no obligation, Islamic virtues are encouraged through the prophets stories and values, and posters that motivates positive behaviors and feelings through Quran is written and communicated all over the school. These posters are supposed to promote the spiritual development of students by encouraging them to get to know their creator and know that he is near and that they can trust him. One poster for example says "And your lord is going to give you and you will be satisfied", from Ad-Duhaa 5. In religious classes talking about life purpose and life meaning was also a main topic as "making earth a better place" is the mankind purpose discussed in Quran and so this topic was a main one in religion classes.

Figure 1. Character Education: A New Approach that includes all Aspects of Character



Source: Sameer et al. (2014a).

The Hypothesized Model

Outcomes of character education are difficult to measure and with the exception of few studies (Berkowitz & Bier, 2005; Berkowitz & Simmona, 2003; El-Bassiouny et. al, 2008; EL-Bassiouny et al., 2011; Lickona & Davidson, 2005;), most studies either have referred to the results of specific commercial programs or have relied on unreliable accounts (Schwartz et al., 2006). Lickona (1998) elaborated the psychological components of character as cognitive, affective and behavioral. He stated that “good character consists of knowing the good, desiring the good, and doing the good-habits of the mind, habits of the heart and habits of behavior” (p. 78). So it is about knowing what is right, caring for what is right and then doing what is right even in the face of pressure. Related to the current study is the cognitive side of character which includes at least six components. The first component is moral alertness which asks the questions “does the situation at hand involve a moral issue requiring moral judgment?” (Lickona, 1998, p. 78). The second component is about recognizing the virtues and what they entail of us in particular situations. The rest of the components are perspective-taking, moral interpretation, thoughtful decision-making and moral self-knowledge.

As highlighted earlier, character education scholars introduced the Smart and Good schools project where the need for a paradigm shift in character education was then triggered (Davidson, 2014; Davidson et al., 2010; Lickona & Davidson, 2005). The newly introduced performance character dimension focused on attributes that include positive psychology virtues developed by Peterson and Seligman (2004) in their book *Character Strengths and virtues* such as creativity, curiosity, love of learning, and persistence (Lickona & Davidson, 2005; Davidson et al., 2010). The Smart & Good high schools report initiated eight strengths of character that were based many research backgrounds including positive psychology and the character strengths by Peterson and Seligman (2004). The Smart and Good High Schools report introduced eight Strengths of character which are "(1) lifelong learner and critical thinker, (2) diligent and capable performer, (3) socially and emotionally skilled person, (4) ethical thinker, (5) respectful and responsible moral agent, (6) self-disciplined person who pursues a healthy lifestyle, (7) contributing community member and democratic citizen, and (8) spiritual person engaged in crafting a life of noble purpose" (Davidson

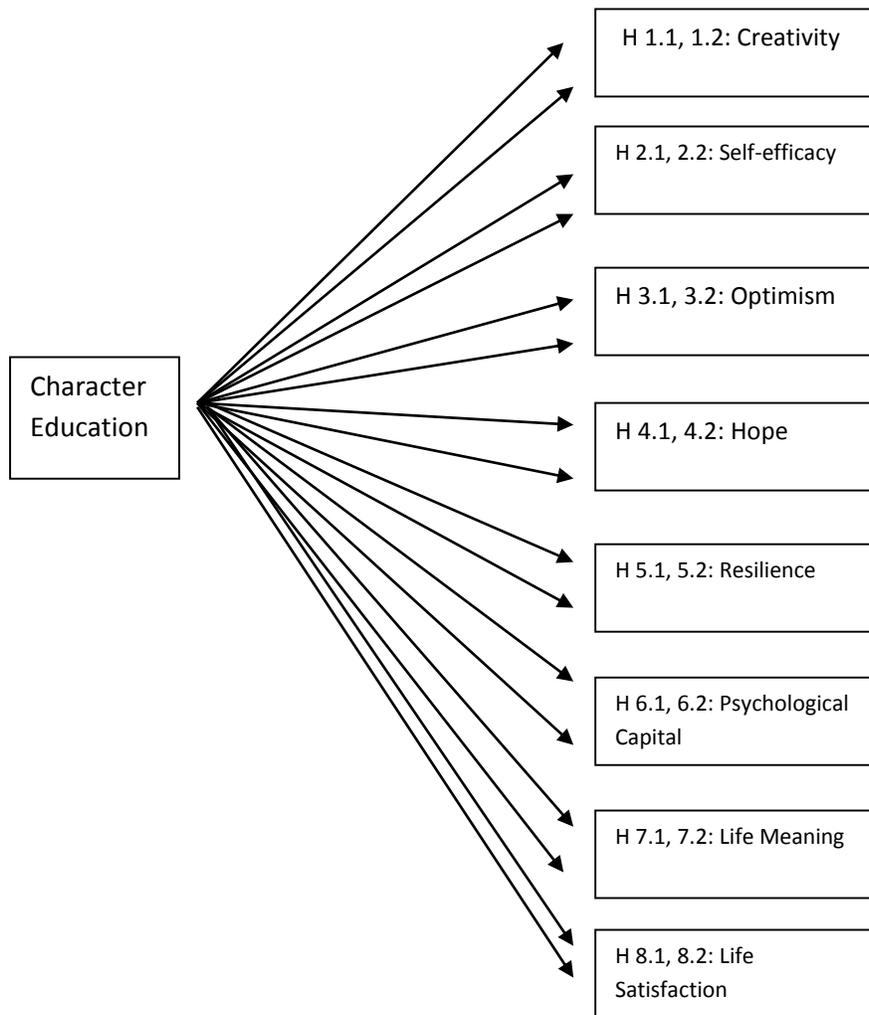
et al., 2010, p.432). The eight strengths were based on many research backgrounds including the positive psychology movement (Seligman, 2002a) and the character strengths classification by Peterson and Seligman (2004). In addition to how Lickona and Davidson (2005) linked positive psychology to the strengths related to performance character, other values education scholars tackled the issue of wellbeing at schools and how values could lead to happier and more satisfied students (for further information see Lovat et al., 2010).

The link between positive psychology and character education that was proposed by Sameer and colleagues (2014a) and also discussed above offers some theoretical linkages for the hypothesized model. For example, if the VIA strengths (Values in Action) was found to predict increased levels of wellbeing and less depression (Gillham et al., 2010), then it is likely to assume that character education programs that include similar strengths to be taught to students should lead to more positive outcomes like increased wellbeing or life satisfaction as a component of subjective wellbeing (see Gillham et al., 2010; Park et al., 2004 &). Moreover, as Lickona (2001) highlighted that character education programs is about teaching values, morals and strengths to achieve the ultimate purpose in life which is happiness, the it is likely to assume that such character education programs should lead to more optimistic and hopeful adolescents that are having higher life satisfaction than other adolescents in schools without character education programs. Therefore, as illustrated in the hypothesized model, we are assuming that the two schools with character education programs will differ in terms of the proposed constructs than the school without character education.

As for the school with a religious focus, the basic assumption was to study such schools as no research up to our knowledge examined the impact of such programs on psychological outcomes of students. The inclusion of religion and the importance of adding it to the curriculum have been highlighted by the character education scholar Thomas Lickona where he offered seven ways how educators could incorporate religion in character education (Lickona 1999; see also Benson et al., 2005). He added that research proved evidence to the impact of religion on healthy human development and for youth in particular and that religion contributes to "civic virtue and is protective against high-risk and antisocial behavior" by adolescents. Religion continues to serve

as a framework for character education with its clear curriculum (Jones et al., 1998). Peterson and Seligman (2004) came up with foundational values that are approved across every major religious tradition whether from Judeo, Christianity, or Islam (see also McLaffery & Kirylo, 2011). Several positive outcomes were associated with religion and religious activities like delayed entry into sexual activity and achievement (Hofferth & Curtin, 2005; Udry & Billy, 1987), positive behaviors (Hofferth & Curtin, 2005), and wellbeing (Day, 2010; Saroglou et al., 2008). Lickona (1999) highlighted on the importance of adding religion to the character education curriculum. Seligman and colleagues (2009) integrated life meaning topics in religion sessions in the Greenlong Grammer school project. Religiousness and spirituality as a VIA strength refers to "beliefs and practices that are grounded in the conviction that there is a transcendent (nonphysical) dimension of life" (Peterson & Seligman, 2004, p. 600). To further elaborate the relationships and hypothesis, the below section offers more insight into the model.

Figure 2: Hypothesized Model: The impact of Character Education Programs on Creativity, Meaning, life satisfaction and PsyCap



Character education and Creativity

Though creativity is becoming essential for organizations and entrepreneurs to survive and be able to compete (Baer & Frese, 2003; West & Altink, 1996), character education did not pay it enough attention to creativity for decades. However, it was then introduced under the performance character component of character (Davidson, 2007, 2014; Lickona & Davidson, 2005). The importance of fostering creativity in education therefore should no longer be a luxury but an essential component in the education process (Simonton, 1999, 2002). Unfortunately however, it remains a neglected topic in adolescence research (Lassig, 2013). Creativity is the generation of ideas that fulfill the two conditions of being original and adaptive (Simonton, 2002). Originality alone does not define creativity (Peterson & Seligman, 2004).

Creativity was addressed decades ago by prominent psychologists like William James and Wolfgang Kohler (Simonton, 2002) but the question remains unclearly answered "what is it that creates creativity and how can schools foster it?" In fact, several answers were offered by scholars from different fields. For example, Seligman and colleagues (2009) highlighted on the importance of educational system in encouraging creative thinking even over critical thinking. Simonton (2002) also argued that the development of creativity in children and adolescents requires great effort and exceptional commitment from both home and school. Amabile's componential model of creativity predicts that three main components contribute to creativity: skills specific to the task domain like expertise, technical skill, and innate talent, general (cross-domain) creativity-relevant skills or creativity-relevant processes, and intrinsic task motivation (Amabile 1983; Amabile & Pillemer, 2012; Amabile et al., 2012; Conti et al., 1996). Such skills if taught in the classroom could then enhance students' creativity. Optimism, courage, physical and mental energy, vision and a sense of power to change things were among the traits of creative persons (Renzulli, 2012). Besides, positive states of emotion, engagement and meaning were also found to increase life satisfaction and creative learning (Fredrickson, 1998; Peterson et al., 2005; Seligman et al., 2005).

A study by Sameer and colleagues (2014b) also found positive significant relationship between states of optimism, self-efficacy, resilience, and hope and creativity. Therefore, it is likely to assume that character education programs that focus on building such states will increase students' creativity. However, the two character education programs examined here did not focus in a direct way on building such states. Creativity is not encouraged in children and adolescents by incentives and rewards and in fact rewards could have a negative impact on creativity (Amabile et al., 1986). School A developed several activities as discussed above in an attempt to increase creativity and make students have a creative personality through encouraging arts, drama and freedom of choice. School B did not include specific creativity or creative personality enhancement activities. However, since the two schools focused on developing character strengths and skills, it is likely to assume that character education programs with a focus on skills and strengths should increase creative personality characteristics as one of the strengths of the performance character. Longitudinal studies such as Talented Teenagers (Csikszentmihalyi et al., 1997) find that gifted adolescents tend to show high levels of performance character strengths such as goal-setting and wise time management, two strengths that were emphasized in the two programs. Besides, according to Maddux (2002), self-confidence should lead to more ability to create and innovate. As per the two schools psychologists, the two character education programs placed great emphasis on increasing student's sense of self-confidence and also on reflection were the two are among the creative personality characteristics. Finally, creative persons were raised in families that provided a set of values that are religious, moral, ethical, and intellectual where daily routines and discipline helped them to be creative (Gute et al., 2008). Therefore, the below hypotheses are proposed:

H 1.1: Character education programs contribute truly and significantly to students' Creativity

H 1.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' Creativity

Character Education and the States of Self-efficacy, Optimism, Hope and Resilience

The states of Self-efficacy, optimism, hope and resilience make what up is called PsyCap, (Youssef & Luthans, 2007; Luthans et al., 2007b). Positive psychological capital (PsyCap) was developed in response to a call for a positive organizational behavior (POB), a field that has its roots in positive psychology. All constructs that should fall under the umbrella of POB should meet the criteria of being open to development or state-like, theory-based, researchable, measurable and have demonstrated performance impact (Luthans et al., 2007b; Youssef & Luthans, 2007). However, as it is obvious from the field it came from; PsyCap is mainly about the workplace and was never tested before on adolescents. PsyCap was first measured on adolescents in a study conducted in Egypt where the measure provided good psychometric properties. Below, we will elaborate more on each component of the PsyCap.

Self-efficacy

The first component of PsyCap is Self-efficacy. Self-efficacy is defined as "an individual's convictions (or confidence) about his or her abilities to mobilize the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998b:66). Self-efficacy is an important ingredient for success and achievements as a person achieves a task or a goal not only based on skills but also beliefs of self-efficacy that could help out to his/her skills well (Bandura, 1993).

As for the determinants of self-efficacy, Bandura (1997) has identified four categories of experiences that determine efficacy beliefs which is completion of a given task, vicarious learning, verbal persuasion, and psychological arousal. Self-confidence could be one of the values or virtues of character (David Isaacs, 1976; Lickona, 1998). So, the relationship between self-efficacy and character education could be direct in the sense that it is directly taught in the program itself, just

like how optimism could be learned (see Seligman, 1995). In this case the self-efficacy virtue would be directly taught or focused on in the classroom and the determinants of self-efficacy highlighted above would be the methods through which it will be taught. There could also be an indirect impact of character education on self-efficacy. Seligman (1995) claimed that “Feelings of self-esteem in particular and happiness in general develop as side effects of mastering challenges, working successfully, overcoming frustration and boredom and winning” (p.33). In their article about character education, Berkowitz and Bier (2005) reported that character education boosts school academic performance. So, if character education leads to better academic performance and so more success, then this might lead to more self-confident students.

One of the definitions for self-esteem is "confidence in our right to be happy, the feeling of being worthy, deserving, entitled to assert our needs and wants and entitled to enjoy the fruits of our efforts (feeling good)" (Seligman, 1995, P.32). The doing well side could be encouraged through arts, community service, and teaching students the world job skills (Seligman, 1995), which are practices and activities that are supposed to be parts of any character education program. Another crucial link between character education programs and self-efficacy comes from the link between positive psychology and character education. That is, the VIA strengths of hope, love of learning, perseverance, prudence, gratitude, perspective, zest, and teamwork were found to predict self-efficacy (Weber & Ruch, 2012). Therefore, based on the linkages discussed above, it is likely to assume that character education programs should lead to more self-efficacy.

H 2.1: Character education programs contribute truly and significantly to students' self-efficacy

H 2.2: Character education programs with a religious and spiritual contribute truly and significantly to students' self-efficacy

Optimism

The third POB criteria-meeting capacity is optimism, which is defined by Seligman (2006) as an explanatory style that explains positive events in terms of personal, lasting, and persistent causes and negative events in terms of external, temporary, and situation-specific and not universal

ones. Though research on optimism of adolescents is common (see Vacek et al., 2010), it has been rare in the area of character education. According to Seligman (1995), “the pessimism of our children is not inborn” (p. 51). Carver and Scheier (2002) also defined optimists as “people who expect good things to happen to them” while pessimist as “people who expect bad things to happen to them” (p.231). Pessimism is a theory of reality that children learn from their parents, teachers, coaches and the media where pessimists achieve less at school and in their careers, there are more likely to suffer from physical health problems and depression. Pessimistic beliefs shape experiences through two powerful mechanisms: self-fulfilling prophecy and the confirmation bias where pessimistic people rely on their negative thoughts all the time and then they only see the evidence that supports these pessimistic thoughts (Seligman, 1995).

According to Seligman (1995), optimism is not just about positive thinking or positive words and quotes, but it is about the way we think about causes. He explained that children use three dimensions to explain why good or bad things happen to them. These are permanence, pervasiveness, and personalization. Permanence is about the permanent versus temporal cause of a certain situation. Optimistic children relate bad events to temporal causes while relate good events to permanent causes. For example, a pessimistic child would say “no one wants to be friends with me at Bywood” while an optimistic child would say “it takes time to find a new best friend when you move to a new school”. Pervasiveness is about explaining the causes of a bad or good event in a specific versus global way. For example, an optimistic child will attribute the cause of a bad event to a specific cause like “Mrs. Carmine is unfair” versus “teachers are unfair”. In the other hand, they would do the opposite with good events, like “I am smart” versus “I am smart in Math”. The third dimension is about general versus behavioral self-blame where Seligman explained that children need to be held accountable for their actions. However, at the same time we cannot teach them to always be “self-blammers”.

In his book, he explained how a program (The PENN Prevention Program) that was designed to be given to fifth and six grade students was found to have significant impact on children specially those who suffered from depression. Before the program started, 24% of the children in both the control and the prevention group has moderate to severe depression symptoms whereby the prevention group was down to 13% after the program and the control group stayed at

23%. To build optimism in a child is not an easy task; a first step is modeling where teachers and parents themselves should be a model to children (Seligman, 1995). Parents and teachers should learn the optimism techniques and skills before they start teaching them to children. Martin Seligman in his book explained three important cognitive skills that were used in his Penn Prevention Program to enhance individuals' optimism level which are thought catching, evaluating the situation, and generating more accurate explanations and "decatastrophizing". The model is somehow close to problem-solving skills in the accurate explanation for example. Besides, life meaning was found to increase optimism (Sameer et al., 2014), an important ingredient in school B in religion and normal character education classes. Planning and goals setting was also a main component in school A program, Hence, it is likely to assume that character education programs should predict higher levels of optimism compared to the control group.

H 3.1: Character education programs contribute truly and significantly to students' optimism.

H 3.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' optimism.

Hope

The term "Hope" is used in our daily language but as discussed here hope is based on the theory and research of C. Rick Snyder. Hope, which is on the VIA classification, is defined as "a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals) (Snyder et al., 1991, p.571). Snyder (2002) defined hope more precisely as "the perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those pathways". Hope differs from self-efficacy in that hope covers the cognitive elements of pathways and agency so it includes planning and motivation. However, self-efficacy is concerned with the belief that one can perform a certain task or behavior (Feldman et al., 2009). However, high hoppers' emotions are flavored with friendliness, happiness and confidence (Snyder et al., 1999; Snyder 2002). The agency

component refers to individuals' thoughts about their ability to initiate and prolong movement toward goal achievement (Peterson & Byron, 2008). Agency can be viewed as having the motivation or will to meet goals (Snyder et al., 1991). Pathways are cognitive means to goals (Snyder, 2002; Snyder et al., 1996). Thus, the pathways component refers to one's sense of ability to generate ways or means to meet these goals (Snyder et al., 1991; Snyder et al., 1996). Together, the two components make the will or the "I believe I can do it" and the way or the "I believe there are so many ways".

Though agency and the pathways help individuals achieve their goals (Peterson & Byron, 2008), one might be high in hope and yet not achieve his or her goals (Feldman et al., 2009; Snyder et al., 1996, 2002). However, Feldman and colleagues (2009) argued that hope's two components of pathways and agency lead an individual to "behave so as to attain personal goals" so it serves as the cognitive basis needed to reach such goals. In their study about hope and goal attainment, they found out that hope's agency component is related to goal attainment. As for the pathway component, it should lead to the creation of different plans and ways so as to achieve the goals (Peterson & Byron, 2008). The two components of agency and pathways could already be part of a character education program just like self-efficacy as highlighted above (Lickona, 1998; Peterson & Seligman, 2004). Moreover, some character education programs like the one used in school A in this study base their virtues on religion and spiritual development (see El-Bassioun et al., 2008). Lickona (2004) emphasized on the importance of spiritual development for the virtues to be practiced in our daily life. Since hope was found to be a component of life purpose (Feldman & Snyder, 2005), a topic that was emphasized on in the school B, and based on the link between hope and goals which was a main component of character education in school A, and based on the finding that life meaning predicts PsyCap, it is likely to assume that character education programs that focus on life meaning and goals and life planning should result in high levels of hope.

H 4.1: Character education programs contribute truly and significantly to students' hope

H 4.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' hope

Resilience

During the 1970s, a group of psychologists started to raise the issue of resilience in children who have experienced adversity or risk (Masten, 2001). Masten (2001) defined resilience as "a class of phenomena characterized by good outcomes in spite of serious threats to adaptation or development" (p.288). As a positive psychological state, resilience is defined as "the positive psychological capacity to rebound, to 'bounce back' from adversity, uncertainty, conflict, failure or even positive change, progress and increased responsibility" (Luthans, 2002a, p.702). This process of bouncing back is occurred through the positive evaluation of risks and personal resources (Luthans, Vogelgesang, & Lester, 2006). Therefore, resilience is characterized by proactive responses in the face of breakdown, failure or even great success where some people choose to shatter while others decide to bounce back (Coutu, 2002). However, individuals vary in the degree of adaptability and the way they respond to the changes that they face (Block & Kremen, 1996) as problems occur when the adaptational systems responsible for the resiliency ability are not operating normally (Masten & Obradovic, 2006). These adaptational systems could be learning systems of the human brain which involves problem solving, mastery inspiration system which involves self-efficacy processes, and also cultural and social systems (Masten & Obradovic, 2006). This is why it is no surprise that Seligman and colleagues (2009) focused on problem-solving, creative brainstorming, decision making and coping skills, and flexibility and realistic thinking activates in their Penn Resiliency Program (PRP). A crucial issue that should not be ignored is that one might adapt yet still might not enjoy wellbeing and happiness (Block & Kremen, 1996).

As a positive state-like capacity, resilience was found to be positively related to individual OCB (Organization citizenship behavior) and positive attitudes like engagement, and negatively related to organizational cynicism, intentions to quit, and counterproductive workplace behaviors (Avey et al., 2008). Therefore, schools and universities should pay enough attention not only to academic studies but to the character and skills that make the students more able to compete in today's competitive environment. The ability to compete and survive in today's turbulent environment becomes possible with coping skills and flexibility skills. The two programs here

contained problem-solving exercises and activities. School A also included decision-making activities. Therefore, it is likely to assume that the two programs might affect students' levels of resilience.

H 5.1: Character education programs contribute truly and significantly to students' resilience

H 5.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' resilience

Character Education and PsyCap

Based on all the above arguments and linkages, it is likely to assume that character education programs should contribute to student's PsyCap.

H 6.1: Character education programs contribute truly and significantly to students' PsyCap

H 6.2: Character education programs contribute truly and significantly to students' PsyCap

Character Education and Life meaning and life satisfaction

Life Meaning

According to Ryan and Bohlin (1999) life meaning and finding the ultimate purpose in life has been a neglected topic in schools though it is very crucial and ignoring it is "miseducative". One reason why American schools ignored this issue is the fact that students who attend public schools come from different cultures where the question of "what is our purpose in life?" is answered in different ways (Ryan & Bohlin, 1999). Life meaning has been an obscure and indefinable concept in the fields of psychology and philosophy (Feldman & Snyder, 2005). Theories of meaning share two concepts; the first one suggests that life meaning is a global way of assessing or understanding one's life, and the second one is that the belief that life has a meaning is related to lower levels of negative feelings and emotions and lower risk of mental illness (Feldman & Snyder, 2005). Another definition for life meaning was proposed by Seligman and his

colleagues (2009) which is relates meaning to one's knowledge and use of the highest strengths. Failure to contend with questions related what life meaning or purpose in life in schools has lead to confusion and drift and could be the reason why students, though exposed to the best character education programs, might still behave inappropriately or aggressively and sometimes do crimes (Ryan & Bohlin, 1999).

Frankl (1992) defined three classes of values that when experienced leads to life meaning. These are creative, experimental, and attitudinal values. Creative values are actualized when inventing or creating something new like inventing something, writing a paper, or sketching a picture. Experimental values are when an individual experiences something so it is about touching, smelling and hearing. Attitudinal values are when the person can no longer develop creative or experimental values like patients for example. These individuals in this case can find meaning by consciously adopting an attitude that makes them suffer but with dignity. These values again could be part of a character education program where creative, experimental and attitudinal values are integrated in the curriculum to produce more value-based individuals.

One of the dangers that Seligman (1995) explained in his attempt to find why the depression rates are becoming higher is the obscurity finding meaning in life. According to him, the movement towards individualism and the focus on the consuming self and not being attached to large entities, played a major role in that. Communities could be able to agree on core virtues, such as justice, responsibility, courage, and comparison; however they will struggle with the purpose in life question (Ryan & Bohlin, 1999). In his project to embed positive psychology in the whole school, Seligman and colleagues (2009) tried to do so by integrating positive psychology in all subjects including religion. In Greenlong Grammer school, religious education teachers examined topics that included what gives life meaning and purpose (Seligman et al., 2009). Lickona (1999) also highlighted on the importance of religion and life meaning in schools. As highlighted previously in this paper, school B, which is the one with a spiritual and religious focus adopted this same approach in religious education. Religiousness and spirituality as a VIA strength are related to wellbeing and purpose (Peterson & Seligman, 2004). So it is likely to assume that this program should contribute to students' life meaning. School A did not include specific topics or activities related to life meaning but will values and ethics lead to student' finding their meaning

in life or it should be taught? As highlighted earlier, this study is the first to examine such link either in character education research or positive psychology research. Therefore it is likely to assume that character education leads to more “life meaning” among students.

H 7.1: Character education programs contribute truly and significantly to students' life meaning

H 7.2: Character education programs with a spiritual and religious focus contribute truly and significantly to students' life meaning

Life Satisfaction

Though research on character education lacked the investigation of the impact of character education programs on students' wellbeing or life satisfaction as a component of wellbeing, positive psychology researchers examined the relationship between strengths and wellbeing of adolescents (Gillham et al., 2011; Weber & Ruch, 2012). In their study, Gillham and colleagues (2011) found that the VIA strengths of transcendence (e.g hope, gratitude and meaning), temperance, other-directed, and intellectual strengths (e.g curiosity, love of learning) significantly predicted greater life satisfaction. Another study by Weber and Ruch (2012) showed significant positive relationships between all VIA strengths and satisfaction with school experiences. Strengths of love of learning and curiosity were emphasized in both schools. As for hope, gratitude and meaning, we did not find any curriculum content in school A that showed their focus on such strengths. However, some problem-solving and anger management sessions might be indirectly related to hope in that they included activities related to scenario planning and how to develop different ways for any goal or problem. As for school B, the six pillars did not include strengths that match the above ones though the VIA and character counts share similar strengths like fairness, kindness, self-regulation, and honesty. However, strengths of hope and gratitude might have been tackled in the prophets' stories as discussed earlier. Besides, the emphasis on the reason behind mankind creation which is making Earth a better place is a common topic in school B and so it creates a sense of life meaning and understanding purpose which in turn leads to more life satisfaction (see Sameer et al., 2014b). School B also emphasizes religiousness and spirituality which are directly related to life satisfaction (Peterson & Seligman, 2004). Hence, the below hypotheses are derived.

H 8.1: Character education programs contribute truly and significantly to students' life satisfaction

H 8.2: Character education programs with a spiritual and religious focus contribute truly and significantly to students' life satisfaction

Methodology

Participants

Participants in this study included 577 adolescents from 3 different schools in Cairo, the capital of Egypt. Research proved that adolescents are capable of taking surveys just like adults (Mussen et al., 1975). The total number of questionnaires sent to participants was 800. However, only 685 questionnaires were received so the response rate was 85 percent. This number was then reduced to 577 because of the missing data where 57.7% of the participants were male and 42.3% were female, ranging in age from 10 to 18 years with a sample mean of 14 years (s.d= 1.84). In addition to the quantitative research highlighted below, qualitative data that included observations and in-depth interviews with schools psychologists and teachers were conducted to gain more insight on the two programs. The researchers chose the "posttest-only control group design" where the experimental group is exposed to treatment but the control group is not and no pretest measure is taken (Pallant, 2010). The two schools with character education programs discussed earlier were compared to a third school that is also an international one with similar education but does not adopt any character education program.

Measures

Psychological capital

Positive psychological capital was measured using a new tool developed by the researchers for measuring PsyCap for adolescents where some parts are exactly the same as the original PsyCap questionnaire and others are not. The PsyCap questionnaire was developed by Luthans

and colleagues (2007a, 2007b). Results of their study provided psychometric support for a new PsyCap survey designed to assess the four facets or constructs, as well as a composite factor. Researchers (Luthans et.al, 2007b) have selected the four scales for each of the four positive constructs based on certain selection criteria. That is, the scale is reliable and valid, applicable to the workplace, and is capable of measuring the state-like capacities that make up the PsyCap. According to the above-mentioned criteria, the scales that are used by Luthans and colleagues (2007a, 2007b) are (1) hope (Snyder et al., 1996), (2) resilience by Wagnild & Young (see Luthans et al., 2007b). (3) optimism (Scheier & Carver, 1985), and (4) self-efficacy (Parker, 1998). As for the current study, hope was measured using the children's hope scale (Snyder et al., 1997; Snyder et al., 2002). Hope scale was used previously with adolescents (see Ciarrochi et al., 2007). It is not the same questionnaire used by Luthans and colleagues (2007) however, it is developed by the same author (Snyder 2002, Snyder et al., 1996) and it was originally developed as a state (Snyder et al., 1996). Sample items include "Right now, I think I am doing pretty well" and "I am doing just as well other kids my age".

As for optimism, the life orientation test (LOT) (Scheier & Carver, 1985) was used which is the same one used in the original Psycap. However it was not tailored to the workplace of course. The scale was used with adolescents before (e.g Huan et al., 2006) and was originally tested among undergraduates (Scheier & Carver, 1985). Although the Scheier and Carver (1985) scale is associated with dispositional optimism (or life orientation), this instrument has also been demonstrated to be capable of measuring state-like optimism (Luthans et al., 2007b). Sample items include "I always look on the bright side of things" and "I am optimistic about what will happen to me in the future". Self-efficacy was measured by the scale by Schwarzer and colleagues (1997) which is different than the one was used in the original PsyCap questionnaire (Parker, 1998). The questionnaire was used before in adolescents' samples (e.g Vieno et al., 2007). Sample items include "I can remain calm when facing difficulties because I can rely in my coping abilities" and "I can always manage to solve difficult problems if I try hard enough". Resiliency, like optimism, is also the same one that was used in the original PsyCap questionnaire. The scale by Wagnild & Young was used. The scale was used in adolescence studies (e.g Hunter & Chandler, 1999).

Sample items include "When I have a setback in my life, I have trouble recovering from it, moving on" and "I can usually manage difficulties one way or another at work".

The Cronbach alphas across studies on PsyCap conducted by Luthans et al (2007) show support for the reliability of each of the four facets and for the overall PsyCap as follows: hope (.72-.80), optimism (.69-.79), self-efficacy (.75-.85), resilience (.66-.72), and PsyCap (.88-.89). For the current study, the Cronbach alphas show support for the reliability of each of the four facets and for the overall PsyCap too and are as follows: hope (.80), optimism (.59) then changed to (.74) when the two reversed items were eliminated, self-efficacy (.77), resilience (.62), and then (.70) after eliminating the reversed coded item, and finally PsyCap (.81). Reliability coefficients around .90 are considered to be "excellent", values approximately .80 as "very good", and values around .70 as "adequate" (Pallant, 2007). Details of psychometric analyses including reliability and validity for the PsyCap adolescents version can be found in the study by Sameer and colleagues (2014b) where it demonstrated good psychometric properties and promising validity evidence.

Creativity

Creativity was measured using the Creative Personality Scale (CPS; Gough, 1979) of the Adjective Check List (ACL; Gough et al., 1983). The CPS is one of the most widely used and valid paper-and-pencil measures of the creative personality (Domino 1970; Hocevar, 1981; Wink, 1991; 1992; Sheldon, 1995). Some of the adjectives were changed to more common ones that would be easier for the subjects to understand. Changes were made after the pilot study and based on the recommendations from the teacher and the students. The 30 trait adjectives in the scale are 18 indicative and 12 contradictory. Adjectives were derived empirically from a study of 1701 people and were found to be the most predictive of actual creativity (Gough, 1979; Gough et al., 1983).

Life Satisfaction

Adolescents completed the Student's Life satisfaction Scale (SLSS; Huebner, 1994). The scale consist of seven statements that adolescents rate on a 6-point Likert Scale ranging from form

'strongly disagree' to 'strongly agree'. Sample items include "My life is going well" and "I wish I had a different kind of life" (reverse coded). Items are summed where higher score means higher satisfaction. The SLSS has a good internal consistency and test-retest reliability and correlates highly with other subjective well-being measures (Huebner, 1994). In this study, internal consistency was acceptable which is .81.

Life Meaning

Life meaning was measured using the Purpose In Life (PIL) test (Crumbaugh, 1977) that measures a person's sense of meaning. The test includes 20 statements where each one is rated on a 7-point scale. An example of a statement on the PIL is "In life I have....." where individuals can select a response from a 7-point scale ranging from *no goals or aims at all* to *very clear goals and aims*. Adding the scores of each of the 20 statements creates a composite PIL score of between 20 and 140 points. Based on the findings of previous studies, individuals with higher PIL scores are expected to have greater sense of purpose in life (DeWitz, 2004). The PIL has reliability estimates that range from 0.90 to 0.92 and was previously administered on adolescents (Durant, 1994; DuRant et al., 1994). In the current study, internal consistency was .85 which is very good.

Results

The mean values (standard deviation) for the main variables are as follows : creativity, 5.09 (3.2), life satisfaction; 30.17 (5.69); hope, 27.25 (5.4); self efficacy, 26.6 (4.84); optimism, 24.8 (4.94); resilience, 26.06 (4.65); PsyCap, 104.7 (15.9); and finally life meaning, 96.3 (17.88).

A one-way between-groups analysis of variance (ANOVA) was conducted to explore the impact of character education programs, with or without a spiritual and religious focus, on students' levels of creativity, self-efficacy, optimism, hope, resilience, PsyCap, life meaning and life satisfaction. For creativity, there was no significant difference found between any of the three schools. Therefore hypotheses 1.1 and 1.2 were rejected. No significant difference was found between the three schools in the levels of self-efficacy or resilience. There was a statistically significant difference at the $p < .05$ level in the hope scores for the three schools. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the controlled school ($M = 26.6$, $SD = 5.6$) was significantly different from school A ($M = 28.5$, $SD = 4.9$) and from school

B ($M = 28.6$, $SD = 4.6$) where school B received relatively the highest scores. As for optimism, there was a statistically significant difference at the $p < .05$ level in the optimism scores for the three schools where Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the controlled school ($M = 17.1$, $SD = 4.3$) was significantly different from from school B ($M = 18.7$, $SD = 3.5$). Moreover, there was a statistically significant difference at the $p < .05$ level in the PsyCap scores for the three schools. However, no significant difference was found between the three schools. Life meaning and life satisfaction also did not reveal any significant difference.

A one-way between-groups multivariate analysis of variance (MANOVA) was also performed where all dependent variables except PsyCap were used. PsyCap was avoided for multicollinearity and singularity assumptions. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted. There was a statistically significant difference between the three schools on the combined dependent variables, $F(14, 1136) = 2.47$, $p = .002$; Wilks' Lambda = .942 ; partial eta squared = .030. However, when the results for the dependent variables were considered separately, the only difference to reach statistical significance, using a Bonferroni adjusted alpha level of .007, was hope, $F(2, 574) = 6.89$, $P = .001$, partial eta squared = .023 and optimism, $F(2, 574) = 5.50$, $P = .004$, partial eta squared = .019 . An inspection of the mean scores indicated that school B reported slightly higher levels of Hope ($M = 28.6$, $SD = 4.61$) than the other two schools.

Table 1: Hypotheses ANOVA results- School A

Hypotheses	Variable	P value	Result
H 1.1: Character education programs contribute truly and significantly to students' Creativity	Creativity	.68	Not significant.
H 2.1: Character education programs contribute truly and significantly to students' self-efficacy	Self-efficacy	.78	Not significant
H 3.1: Character education programs contribute truly and significantly to students' optimism	Optimism	.25	Not significant
H 4.1: Character education programs contribute truly and significantly to students' hope	Hope	.024	Significant
H 5.1: Character education programs contribute truly and significantly to students' resilience	Resilience	.56	Not significant
H 6.1: Character education programs contribute truly and significantly to students' Psycap	PsyCap	.16	Not Significant
H 7.1: Character education programs contribute truly and significantly to students' life meaning	Life meaning	.70	Not significant
H 8.1: Character education programs contribute truly and significantly to students' life satisfaction	Life Satisfaction	.83	Not significant.

Table 2: Hypotheses ANOVA results- School B

Hypotheses	Variable	P value	Result
H 1.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' Creativity	Creativity	.83	Not significant
H 2.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' self-efficacy	Self-efficacy	.41	Not significant
H 3.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' optimism	Optimism	.006	Significant
H 4.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' hope	Hope	.010	Significant
H 5.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' resilience	Resilience	.99	Not significant
H 6.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' Psycap	PsyCap	.06	Not Significant

H 7.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' life meaning	Life meaning	.91	Not significant
H 8.2: Character education programs with a religious and spiritual focus contribute truly and significantly to students' life satisfaction	Life Satisfaction	.71	Not significant

Discussion

According to Aristotle, morality and disposition are not accidental or random acts but habits, which have been described as habits of the mind, habits of the heart, and habits of action (Lickona 1991, 1999). The current study measured changes in life meaning, PsyCap, life satisfaction, and creativity among students enrolled in two schools that adopt two different character education programs versus a comparable control group. As outlined in the results section, findings indicated positive changes only in the levels of hope for the two schools adopting the character education programs and changes in optimism for School B that has a religious focus. The findings indicate that students exposed to character education differ somehow in terms of PsyCap or positive psychology outcomes. The importance of these findings is twofold: they indicate not only the effectiveness of character education programs in improving students' levels of hope and optimism but also the importance of positive character integration under the character education umbrella that would result in even better results.

Though the current study provide some support that character education programs could increase optimism and hope, we believe it proved too the need for a more comprehensive approach to character education that was proposed by Sameer and colleagues (2014a). Based on the call by Sameer and colleagues (2014a) for research collaboration between the two fields, this study measured the impact of character education programs on positive outcomes. The current study

proves that other programs than the PRP could also increase optimism and hope and so it also teaches the skills of wellbeing. Sameer and colleagues (2014a) argued that positive psychology researchers should investigate the impact of character education programs on optimism, hope, wellbeing, and life satisfaction. The significance and contribution of this study comes from the fact that it is the first study to examine the impact of character education programs on hope, optimism, resilience and self-efficacy or PsyCap. Previous studies proved the effectiveness of positive psychology interventions on optimism and resilience (Seligman, 1995; Seligman et al., 2009). Other character education programs studies showed increased discipline, improved student and faculty member morale, improved student performance, decline in incidence of inappropriate behavior, improved students' sense of belonging, greater student resilience and social skills, and improved sense of responsibility (Berkowitz & Bier, 2005; Lickona & Davidson, 2005; Lovat, 2010; Schwartz et.al, 2006; see also, www.valueseducation.edu.au). However, no study measured the impact on adolescents' psychological capital. Therefore, it is proved here that character strengths leads to more hopeful and optimistic students. It is worth mentioning here that school B was the one significant in terms of optimism. So, there is also support here that religion and spirituality integration in character education leads to more optimism. As for self-efficacy and resilience, self-efficacy is a main competence in Egyptian American schools in Egypt in general and this is why maybe the two character education programs did not differ from the control group in the school with no character education program. According to hope scholars (Feldman et al., 2009; Snyder et al., 1996, 2002), a person might have the will and agency so he is hopeful yet might not achieve his or her goals. Therefore, students might be high in terms of optimism and hope but not necessarily in resilience. Some students might be optimistic and hopeful but when set by adversities they find it hard to move on. Therefore, a focus on resiliency building and not just skills and general ethics and morals are essential to prepare students for the challenges they face in life.

As highlighted above, the current study also provides support for the need for positive character or the integration of the skills of wellbeing in addition to morals and strengths. We believe that the current programs investigated lacked the teaching of skills of wellbeing. That is, optimism or optimistic explanatory style, coping skills, sessions on flow and creativity and an

overall integration of positive psychology in all subjects. Insignificant differences in self-efficacy, resilience, meaning, life satisfaction and creativity might be due to the lack of a comprehensive approach that focuses on the development of the whole person. Therefore, now that this study proved significant changes in optimism and hope as a result of character education programs, the next step is to build a program that encompasses the three aspects of character; moral, performance and positive (Lickona & Davidson, 2005; Sameer et al., 2014). This program could be an integration of the positive psychology program that used the VIA strengths, a character education program that focuses on ethics and morals like Character Counts, and finally integrating programs like the PRP and the Penn Prevention program (Seligman , 1995; Seligman et al., 2009). This program could also be a new one that relies on previous programs but not necessarily adopt them. Indeed, such program would cover all aspects that should result in the development of the whole person so that a person is having a purpose, knows how to think and fight negative thoughts (positive character), is ethical and having high moral standards that would prevent him from negative behaviors like drug taking or sexual relations (moral character) and finally knows how to plan for his life based on that purpose, manage his time, communicate, and all other success skills like creativity and proactivity (Performance character).

While it is difficult to determine causation in such multi-content programs, some factors might have caused this contribution to optimism and hope. The overall culture of schools with character education programs were there is a stress on community service, values and ethics might have contributed to students' feeling more hopeful since they can add to the society. Problem-solving skills and goal setting might have contributed too. As for school B, the high levels of optimism might be due to the integration of spiritual and religious aspects within the program (see Seligman et al., 2009). Religiousness was found to be an antecedent to hope (Esteves et al., 2012). There are many guidelines in the Islamic studies that shows how people should behave when faced by a negative situation. These stories give examples to students how they should react by explaining that thing in an impersonal way, giving as many excuses to that person, and finally giving temporal explanations to them since God promised that all negative circumstances should change once you change yourself. School B made this approach alive all the time in their daily practices. The approach is so close to the explanatory style ABCD technique by Seligman (1995)

and so it increases optimism. One more indirect way of optimism increase is that the factors that causes pessimism or depression are absent in a way or at least low. According to the school psychologist, the integration of spiritual and religion components within the program in addition to moral and values caused students to be relatively very polite and treat each other in a very nice and kind way. She reported that bullying is rare at school and students show great deal of respect to each other. So ethics and values integrated with religion might have contributed to these high levels of optimism. Life meaning too, though was not significant, might have lead to the lack of mental problems and the increased levels of optimism.

Contrary to our expectations, there was no significant difference between the experiment and control groups in changes about their life satisfaction. It is indeed difficult to explain this outcome, in light of the improvement in other mental health indicators like optimism and hope. However, it may be related to the abstractness and the generality of the life satisfaction questionnaire as well as the absence of concrete positive psychology components. As for life meaning, though as expected school B showed the highest scores due to the spiritual aspect, there was no significant difference between the three schools. Again, the reason here might be the lack of a school-based or whole-school model like the one implemented in the Geelong Grammar School (Seligman et al., 2009). The whole school should be trained on positive psychology, an issue that was raised by Sameer and colleagues (2014a) where they highlighted on classroom strategies and hoe teacher comments affect students and could affect the way they look at their lives. Teachers and especially in a developed country like Egypt might tend to use negative comments and explanations about life purpose and satisfaction that might affect children and adolescents. Finally, children and adolescents need to find enjoyment, playfulness, and pleasure in character education as well as the learning process so that they will not be depressed (Hunter & Csikszentmihalyi, 2003; Shernoff et al., 2003).

Finally, though we expected positive changes in creativity based on the two schools practices, it was also no surprise that there were no significant changes in creativity or more precisely creative personality. Educational systems in general tend not to enhance creative personality characteristics (Csikszentmihalyi, 1996; Rathunde & Csikszentmihalyi, 2005a, 2005b). According to Csikszentmihalyi (1996), creative persons are playful. Csikszentmihalyi

(1997) highlighted on the relationship between flow, happiness and creativity (see also Gute et al., 2008). In addition PsyCap was found to predict creativity measure by creative personality scale among students in Egypt (Sameer et al., 2014b). Therefore, thought creativity is considered to be a character strength (Peterson & Seligman, 2004) that we believe should be taught in schools, we still believe that the absence of creative personalities might be due to the fact that the whole person development is lacking the positive side or as Sameer and colleagues (2014a) called positive character. The instrument used also might have been a reason why no significant results were found. Perhaps a more precise description of the behavior of adolescents and specially the younger ones might have been used for creativity. For example, in their study about the VIA, Park and Peterson (2006) used the description "is really talented at music, are, dance, writing" to describe whether a child is creative or not. Future research should focus on measuring creativity through other descriptive tools like this one.

The link between character education programs and positivity was mainly derived from the link between the VIA strengths and positive outcomes like happiness (Park & Peterson, 2006) and wellbeing (Gillham et al., 2011). Character strengths of love, zest, and hope were associated with happiness among children (Park & Peterson, 2006). Therefore it was no surprise that character education programs that focus on similar strengths predicted hope and optimism. Finally, the current study adds to the VIA research since religiousness was found to impact hope. Religiousness and spirituality are strengths in the VIA as well as hope. Religiousness was the main difference in school B than the other two schools. The link between spirituality and hope was dominant in the current study. Positive psychology scholar should focus their research efforts on examining the possible links between the strengths themselves. This study provides support that there is a link between optimism and spirituality and also hope and spirituality. Finally, though not clearly and precisely talked about in this study, the social and emotional learning factor at schools is a crucial component that cannot be ignored at school (see CASEL, <http://www.casel.org>). According to Sameer and colleagues (2014a), social and emotional learning should fall under the performance character component of character education (see also Lewis et al., 2009). We also suggest here that future research examine schools that pay enough attention to the social emotional aspect and measure its impact on positive psychology constructs.

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Online Resources

www.authentichappiness.com

<http://www.casel.org>

www.charactered.net

www.character.org

<http://charactercounts.org/research/summary.html>

www.ethicsusa.com

www.hayahacademy.com

www.heartwoodethics.org

www.teachvalues.org

<http://www.theleaderinme.org>

www.valueseducation.edu.au

Appendix

Appendix A: Surveys

Appendix B: Additional Models

-
- 3 I feel confident contributing to discussions about the organization's strategy.
 - 4 I feel confident helping to set targets/goals in my work area.
 - 5 I feel confident contacting people outside the organization (e.g., suppliers, customers) to discuss problems.
 - 6 I feel confident presenting information to a group of colleagues.
 - 7 If I should find myself in a jam at work, I could think of many ways to get out of it.
 - 8 At the present time, I am energetically pursuing my work goals.
 - 9 There are lots of ways around any problem.
 - 10 Right now I see myself as being pretty successful at work.
 - 11 I can think of many ways to reach my current work goals.
 - 12 At this time, I am meeting the work goals that I have set for myself.
 - 13 When I have a setback at work, I have trouble recovering from it, moving on.
 - 14 I usually manage difficulties one way or another at work.
 - 15 I can be "on my own," so to speak, at work if I have to.
 - 16 I usually take stressful things at work in stride.
 - 17 I can get through difficult times at work because I've experienced difficulty before.
 - 18 I feel I can handle many things at a time at this job.
 - 19 When things are uncertain for me at work, I usually expect the best.
 - 20 If something can go wrong for me work-wise, it will.
 - 21 I always look on the bright side of things regarding my job.
 - 22 I'm optimistic about what will happen to me in the future as it pertains to work.

23 In this job, things never work out the way I want them to.

24 I approach this job as if “every cloud has a silver lining.”

Second, below are statements that describe your behaviour in the last four weeks. Use the same scale to indicate your level of agreement or disagreement with each statement.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

Statement	1	2	3	4	5	6
1 I demonstrated originality in his/her work.						
2 I took risks in terms of producing new ideas in doing job.						
3 I found new uses for existing methods or equipments.						
4 I solved problems that had caused other difficulty.						
5 I tried out new ideas and approached to problems.						
6 I identified opportunities for new products/processes						
7 I generated novel, but operable work-related ideas.						
8 I served as a good role model for creativity						
9 I generated ideas revolutionary to our field.						

Now, please find below sentences that describes your thoughts and feelings about your work. Use the same scale to indicate your level of agreement or disagreement with each statement.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

	Statement	1	2	3	4	5	6
1	I actively attack problems						
2	Whenever something goes wrong, I search for a solution immediately.						
3	Whenever there is a chance to get actively involved, I take it.						
4	I take initiative immediately even when others don't.						
5	I use opportunities quickly in order to attain my goals.						
6	Usually I do more than I am asked to do.						
7	I am particularly good at realizing ideas.						
8	People in my work always look for fresh, new ways of looking at problems						
9	My colleagues are always moving toward the development of new answers						
10	Assistance in developing new ideas is readily available						

-
- 11 People in my work are open and responsive to change
 - 12 In my work we take the time needed to develop new ideas
 - 13 People in my work co-operate in order to help develop and apply new ideas
 - 14 My colleagues provide and share resources to help in the application of new ideas
 - 15 My colleagues provide practical support for new ideas and their application
 - 16 My company has concrete objectives on innovation
 - 17 My company provides sufficient time to pursue creative ideas
 - 18 Innovation is part of my company's mission
 - 19 My company is always prepared to invest in promising ideas
 - 20 My company always strives to deliver the "newest" and "hottest" services to its customers
 - 21 My company is willing to finance innovative activities
 - 22 I am aware of how I am expected to contribute to innovation in my company
 - 23 My company pays explicit attention to innovation and its role in future development
 - 24 The job allows me to make my own decisions about how to schedule my work.
 - 25 The job allows me to decide on the order in which things are done on the job.
 - 26 The job allows me to plan how I do my work.
 - 27 The job gives me a chance to use my personal initiative or judgment in carrying out the work.
 - 28 The job allows me to make a lot of decisions on my own.
 - 29 The job provides me with significant autonomy in making decisions.

-
- 30 The job allows me to make decisions about what methods I use to complete my work.
 - 31 The job gives me considerable opportunity for independence and freedom in how I do the work.
 - 32 The job allows me to decide on my own how to go about doing my work
 - 33 The job involves a great deal of task variety.
 - 34 The job involves doing a number of different things.
 - 35 The job requires the performance of a wide range of tasks.
 - 36 The job involves performing a variety of tasks.
 - 37 The results of my work are likely to significantly affect the lives of other people.
 - 38 The job itself is very significant and important in the broader scheme of things
 - 39 The job has a large impact on people outside the organization.
 - 40 The work performed on the job has a significant impact on people outside the organization
 - 41 The job involves completing a piece of work that has an obvious beginning and end.
 - 42 The job is arranged so that I can do an entire piece of work from beginning to end.
 - 43 The job provides me the chance to completely finish the pieces of work I begin.
 - 44 The job allows me to complete work I start
 - 45 The work activities themselves provide direct and clear information about the effectiveness (e.g., quality and quantity) of my job performance.
 - 46 The job itself provides feedback on my performance

-
- 47 The job itself provides me with information about my performance.
 - 48 The job requires that I only do one task or activity at a time
 - 49 The tasks on the job are simple and uncomplicated.
 - 50 The job comprises relatively uncomplicated tasks.
 - 51 The job involves performing relatively simple tasks.
 - 52 The job requires me to monitor a great deal of information.
 - 53 The job requires that I engage in a large amount of thinking.
 - 54 The job requires me to keep track of more than one thing at a time.
 - 55 The job requires me to analyze a lot of information.
 - 56 The job involves solving problems that have no obvious correct answer.
 - 57 The job requires me to be creative.
 - 58 The job often involves dealing with problems that I have not met before.
 - 59 The job requires unique ideas or solutions to problems
 - 60 The job requires a variety of skills.
 - 61 The job requires me to utilize a variety of different skills in order to complete the work.
 - 62 The job requires me to use a number of complex or high-level skills.
 - 63 The job requires the use of a number of skills.
 - 64 The job is highly specialized in terms of purpose, tasks, or activities.

- 65 The tools, procedures, materials, and so forth used on this job are highly specialized in terms of purpose.
- 66 The job requires very specialized knowledge and skills.
- 67 The job requires a depth of knowledge and expertise.

Now, below are statements that describe your behavior for the **last four weeks**. Use the same scale to indicate your level of agreement or disagreement with each statement.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

	Statement					
	1	2	3	4	5	6
1	I implement new ways to achieve goals or objectives.					
2	I implement new and practical ideas to improve quality.					
3	I implement my ideas when I get the chance.					
4	I often implement my new and innovative ideas.					
5	I implement creative solutions to problems.					
6	I implement my suggestions on how to perform work tasks on my own.					

Now, please find below sentences that describes your thoughts and feelings about your work. Use the same scale to indicate your level of agreement or disagreement with each statement.

1	2	3	4	5	6
Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

	Statement	1	2	3	4	5	6
1	I work with intensity on my job						
2	I exert my full effort to my job						
3	I devote a lot of energy to my job						
4	I try my hardest to perform well on my job						
5	I strive as hard as I can to complete my job						
6	I exert a lot of energy on my job						
7	I am enthusiastic in my job						
8	I feel energetic at my job						
9	I am interested in my job						
10	I am proud of my job						
11	I feel positive about my job						
12	I am excited about my job						
13	At work, my mind is focused on my job						
14	At work, I pay a lot of attention to my job						
15	At work, I focus a great deal of attention on my job						
16	At work, I am absorbed by my job						
17	At work, I concentrate on my job						
18	At work, I devote a lot of attention to my job						
19	Most days I am enthusiastic about my work.						
20	I feel fairly satisfied with my present job.						
21	Each day at work seems like it will never end.						
22	I find real enjoyment in my work.						
23	I consider my job rather unpleasant.						

Finally, what was the last performance evaluation rate for you?

(e.g 2 out of 5)

Questionnaire Study 2 (in Arabic).

عززي صاحب/صاحبة العمل

فيما يلي مجموعة من العبارات التي تصفك. لملطوب منك أنت حدد درجة لتطابق كل عبارة من هذه العبارات لعبيك، وذلك على مقياس ليتم بين الدرجة (1) و التي تشير للبيك ترفض بشدة و الدرجة (5) التي تشير لاني أنك توافق بشدة. لتوجد عبارات صحيحة و اخرى خاطئة، لملطوب منك أنت يجب براحة وثقة على أن الليك لتوافق للموج و قد في هذا لتقياس سريقت الم و لتتخذ إل لأغراض لتبحث لتخدم لباحثون هم لتتفورة لتدرا أولي الأبت اذقي من سمي من جام لتتأسل بلأضي و لتتفورة لتتدرب لتشيخ من لتجامع الأملوي لتلقا مرة.

برجاء لتعلم أن لتقوم لتقوم الأقتصم ء السبتانيان هو السبت 28 يونيو...

يتطلب م ء السبتانيان حوالي 10 دقائق..

جني لتشارك لتتعاونك لتصادق.

بلييلات الشخرية

لسن:

للنوع:

لقطاع: صناعي لامجال يريجى لكحيدي):.....

- خدمي لامجال يريجى لكحيدي):.....

المبغطة لتييوجب هال مشروع:.....

لامهينة لتييوجب هال مشروع:.....

في ملهي عبار انتصيف سلوك لغفي الال ث اش مر الاخير في غمك. استخدم اليمس لالشارة لى هوى الهاق أو الاخ الف
مع كل عبارة.

أفلق بشدة أفلق أفلق إلى حد ما أعارض إلى حد ما أعارض أعارض بشدة

Statement 1 2 3 4 5 6

1

لق دنتبت بلدا هلي شلوتى

2

فكار جيدة حيثق بيها المخرافة من لقع قمت

3

الموجودة أول معداتل الأساليب جييدة استخدما انلق دوجدت

4

آخر ملاتى كرات سببى صى صوب فلفق ق م تب حل المش كل

5

لفق ق م بت جلفكار وأساليب جففة لئن اول المش كل

6

جففة لئن مجات / فاهج و طرق / خدم اتفرص لفق ددت

7

ابل لققنى ذ ذاتصل قبل عمل جففة و لفق دت جتلفكارا

8

لقت م اللال ق دوة الجى دفى الإبداع

9

نى م لئنا قن بعلك ألكار ثورية / جففة

10

بتففى ذ طرق جففة لققن الأهداف أو الغاى اتقمت

11

بتففى لئلكار جففة و عملى لققن ل جففة قمت

12

لأ أفتكفكاري عن دم أسجل في فرصة.

13

لأ غلها ملأفتكاري ال جيدة والبتكرة.

14

لمشاكل. حلول بتكرة قدمت في

15

لأ أفتكفكاري عن دم أسجل في فرصة.

في ملهي عبار انتهى سلوكك عتفي غمك. استخدم اليمس لالشارة لى موى الهاق أو الاخال فم كل صارة.

1

1 2 3 4 5 6

لأ انص دى لمش كل ف اعاية

2

كل لم سارت الأمور بش لى سيء، ببحث عن حل على الفور.

3

كل ما كتبت من الفرص قل لانخر اطنش اط، استغل هلو فرصة

4

ذلك. أخذ الابدلة فولحتى عن دم لاني عمل الآخرون

5

استخدام فرص سرعة من أجل تحقيق أهدافي

6

إن التمهيد لكل خرافة يتحول أفكار إلى واقع

في ملهبي عبار انتصيف سلوك الفاعل يلفي غمك. استخدم الهمس لالشارة الى مهوى الهفاق أو الاذالف مع كل عبارة.

Statement 1 2 3 4 5 6

1

إذا وجدت نفسك في بيتك دس (مضغط) من العمل مرأت طيع أن فللكرفي
طرق تغيير ذلك خروج فيه

2

حللياء، أن اللس على تحقيق اهداف علميين شاط

3

فك طرق لتغير حل أي مشكلة

4

حللي أرى نفسي ناجح حلني علمي

5

تلتقطي ع أن أفكر في عدة طرق للوصول لا أهداف علمي الحلبة

6

ني هذا الوقت ، أنا أتحق أهداف علمي التي حدثت الفيسي

7

عندما أواجه تلك الحالة / أزم في العمل ، أواجه شئ في حياتي و
الضيق قدم

8

عادة تعامل مع الصعوبات في العمل بطريقة أوب أخرى

9

إذا اضطررت فلنني مبتعد ال أعمد ال نفسي في العمل

10

عادة تعامل مع الضغط في العمل بدوء

11

تلتقطي ع أنك خشي أوقات الصع في العمل ألتني واجت
الصعوبات مبقا

12

تأخر بلتق بشأن اعتيادي لمجال علمي في إحصاءات

21

تأخر بلتق بشأن حوارات عن بيتريجية لمؤسسة

22

تأخر بلتق بشأن تحيد ألداففي مجال علمي

23

تأخر بلتق بشأن اتصال إيبال خوين) نلون، مودين (خارج لمؤسسة
لهن اقشة المشكل

24

تأخر بلتق بشأن عرض مضمومات لمجموعة من الزلاء

لي فينتويهم ادله ش رلتك مق لتنا بلش رك اتم ال افس في فيس ال مج الفيل س وق؟

الغوى بلخير

اعلى

م مثل

اقل

اقل بلخير

ما هو عمر مؤسك (عملك/مشروعك)؟

- لم بلد ب عد

- اقل من 4 ش هر

- من 4 الى 42 ش هر (3 سنوات و نص ف)

الكثر من 42 ش هر

عدد ال موظين:

2012/6

2013/6

2014/6

ماي ارباح ش رلتك؟

2012/6

2013/6

2014/6

ما هو افي لربح؟

2012/6

2013/6

2014/6

Study 4 and 5 questionnaire

Dear student,

Below are some statements that describe your thoughts and feelings☺. There is no right or wrong answer. The questionnaire should take 10 to 15 minutes.

Thanks a lot ☺

Personal information:

School	.....	
Age	.....	Parents	
Grade	.....	Divorced	Married
Gender	.....	Last GPA	.....
No. of years in this school	.....	

Instructions: Below are statements that describe how you may think about yourself **right now**. Use the following scale to indicate your level of agreement or disagreement with each statement.

1	2	3	4	5	6
---	---	---	---	---	---

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
-------------------	----------	-------------------	----------------	-------	----------------

	Sentence	1	2	3	4	5	6
1	I can always manage to solve difficult problems if I try hard enough						
2	Thanks to my creativity, I can handle unexpected situation						
3	I can remain calm when facing difficulties because I can rely on my coping abilities						
4	When I'm confronted with a problem, I can find several solutions;						
5	If I am in trouble, I can think of a good solution						
6	I can handle whatever comes my way.						
7	Right now, I think I am doing pretty well						
8	At the moment, I think the things I have done in the past will help me in the Future						
9	At the present moment, I am doing just as well as other kids my age						
10	When I have a problem, I can come up with lots of ways to solve it						
11	I can think of ways to get the things in life that are most important to me						
12	Even when others want to quit, I know that I can find ways to solve the problem						
13	When I have a setback in my life , I have trouble recovering from it, moving on						
14	I usually manage difficulties one way or another.						
15	I can be "on my own," so to speak, if I have to.						
16	I usually take stressful things in stride (step/I can get through stressful times).						
17	I can get through difficult times because I've experienced difficulty before.						
18	I feel I can handle many things at a time						

19	In uncertain times, I usually expect the best						
20	.If something can go wrong for me, it will.						
21	I always look on the bright side of things						
22	I'm optimistic about what will happen to me in the future						
23	Things never work out the way I want them to.						
24	I'm a believer in the idea that "every cloud has a silver lining" (I see something good in everything even if it is a bad thing)						

Now, with **Scale 1** being the lowest to **Scale 7** being the highest please complete each item by marking a single response.

1	I am usually	1 completely bored	2	3	4 Neutral	5	6	7 Exuberant Enthusiastic
2	Life to me seems	7 Completely routine	6	5	4 Neutral	3	2	1 always exciting
3	In life I have	1 No goals or aims at all	2	3	4 Neutral			7 Very clear goals and aims
4	My personal existence is	1 Utterly meaningless	2	3	4 Neutral	5	6	7 Very purposeful

		without purpose						and meaningful
5	Everyday is	7 Constantly new and different	6	5	4 Neutral	3	2	1 Exactly the same
6	If I could choose, I would:	1 Prefer never to have been born	2	3	4 Neutral	5	6	7 Like nine more lives just like this one
7	After retiring I would	7 Do some of the exciting things I have always wanted to	6	5	4 Neutral	3	2	1 Loaf completely the rest of my life
8	In achieving life goals I have:	1 Made no progress whatever	2	3	4 Neutral	5	6	7 Progressed to complete fulfillment
9	My life is:	1 Empty, filled only with despair	2	3	4 Neutral	5	6	7 Running over with exciting good things
10	If I should die today, I would feel that my life has been	7 Very worthwhile	2	3	4 Neutral	5	6	1 Completely worthless
11	In thinking of my life, I	1 Often wonder why I exist	2	3	4 Neutral	5	6	7 Always see a reason for my being here
12	As I view the world in relation to my life, the world:	1 Completely confuses me	2	3	4 Neutral	5	6	7 Fits meaningfully with my life
13	I am a:	1	2	3	4 Neutral	5	6	7

		Very irresponsible person						Very responsible person
14	Concerning man's freedom to make his own choices. I believe man is:	7 Absolutely free to make all life choices	6	5	4 Neutral	3	2	1 Completely bound by limitations of heredity and environment
15	With regard to death, I am:	7 Prepared and unafraid	6	5	4 Neutral	3	2	1 Unprepared and frightened
16	With regard to suicide, I have:	1 Thought of it seriously as a way out	2	3	4 Neutral	5	6	7 Never given it a second thought
17	I regard my ability to find a meaning, purpose, or mission in life as:	7 Very great	6	5	4 Neutral	3	2	1 Practically none
18	My life is:	7 In my hands and I am in control of it	6	5	4 Neutral	3	2	1 Out of my hands and controlled by external factors
19	Facing my daily tasks is:	7 A source of pleasure and satisfaction	6	5	4 Neutral	3	2	1 A painful and boring experience
20	I have discovered:	1 No mission or purpose in life	2	3	4 Neutral	5	6	7 Clear-cut goals and a satisfying life purpose

Now, we would like to know what thoughts about life you've had during the past several weeks. Think about how you spend each day and night and then think about how your life has been during most of this time. Here are some questions that ask you to indicate your satisfaction with life. In answering each statement, check a number from **(1)** to **(6)** where **(1)** indicates you **strongly disagree** with the statement and **(6)** indicates you **strongly agree** with the statement

	Statement	1	2	3	4	5	6
1	My life is going well						
2	My life is just right						
3	I would like to change many things in my life						
4	I wish I had a different kind of life						
5	I have a good life						
6	I have what I want in life						
7	My life is better than most kids						

Finally, please indicate which of the following adjectives best describe yourself.

Check all that apply.

_____ Capable

_____ Honest

_____ Artificial

_____ Intelligent

_____ Clever

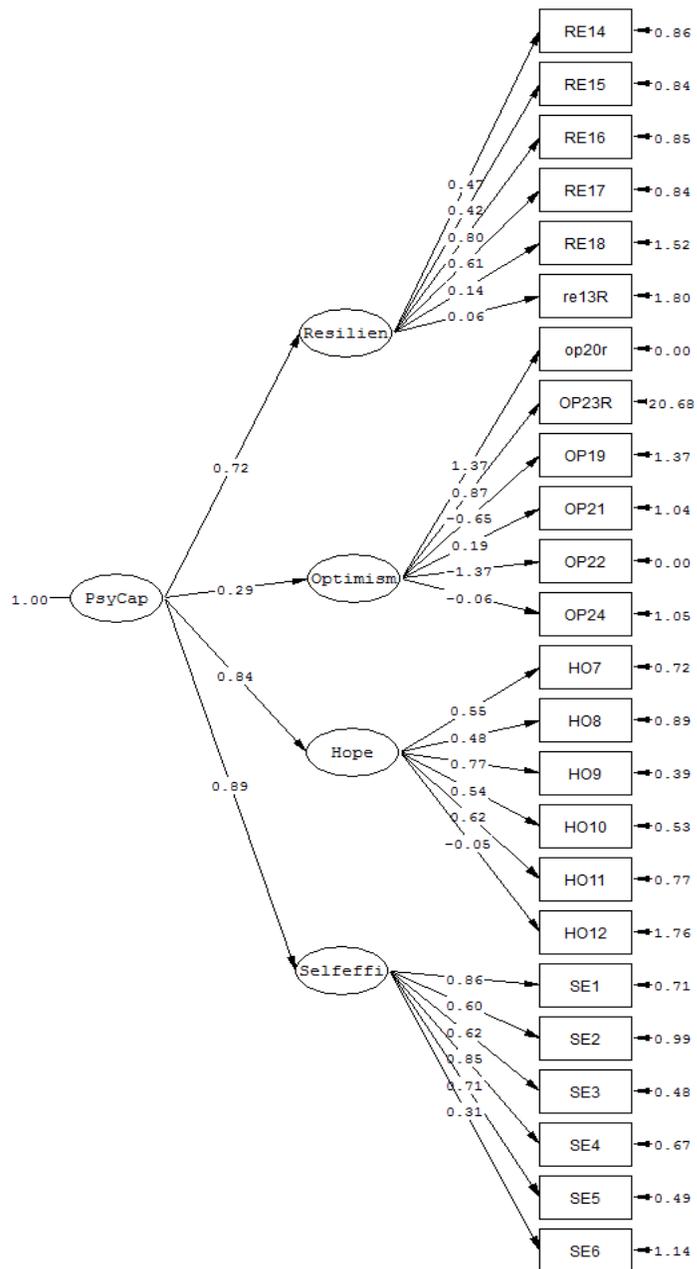
_____ Well-mannered

_____ Cautious	_____ Wide interests
_____ Confident	_____ Inventive
_____ Egotistical	_____ Original
_____ Ordinary	_____ Narrow interests
_____ Humorous	_____ Reflective
_____ Conservative	_____ Sincere
_____ Individualistic	_____ Resourceful
_____ Conventional	_____ Self-confident
_____ Casual	_____ Good looking
_____ Dissatisfied	_____ Submissive
_____ understanding	_____ Snobbish
_____ Doubtful	_____ Original

Appendix B

Additional Models

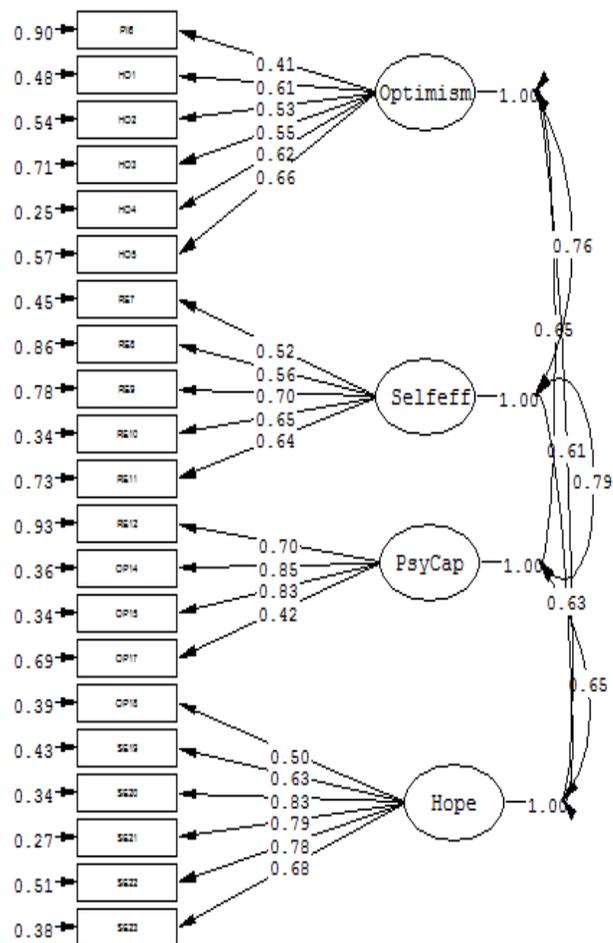
Study 1. Figure 1. PsyCap CFA



Chi-Square=619.88, df=248, P-value=0.00000, RMSEA=0.118

Study 2 Additional Models

Figure 2.1 Confirmatory Factor Analysis for PsyCap constructs with all 24 items



Chi-Square=361.68, df=183, P-value=0.00000, RMSEA=0.079

Figure 2.2. Confirmatory Factor Analysis for PsyCap with all 24 items loaded on it.

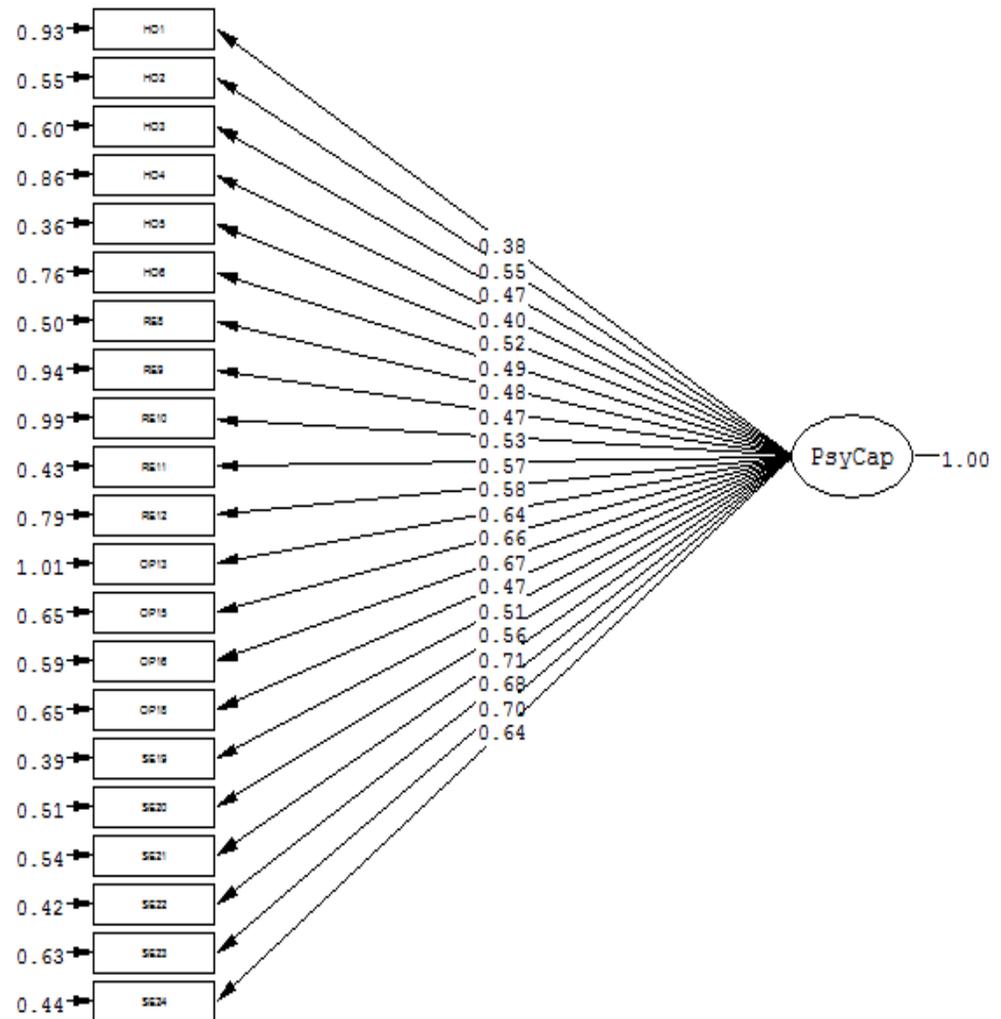


Figure 2. 3. Confirmatory Factor Analysis for Creative Behavior

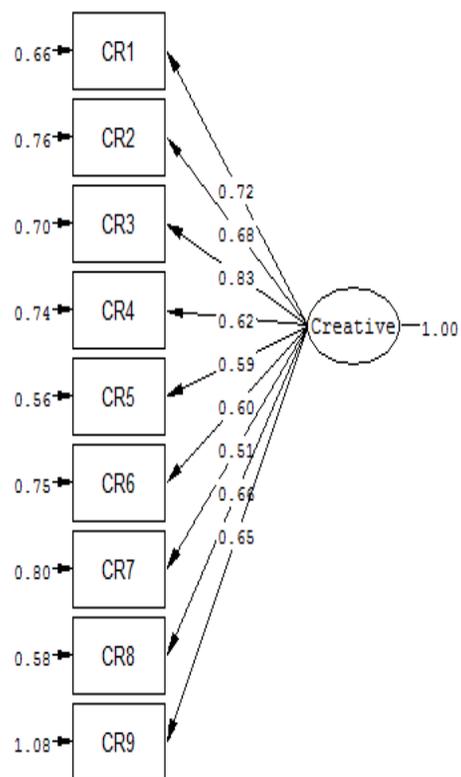


Figure 2. 4. Confirmatory Factor Analysis for Innovative Behavior

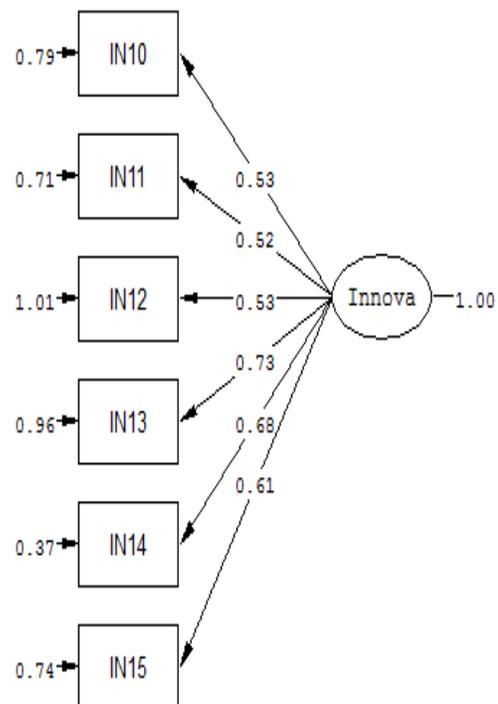
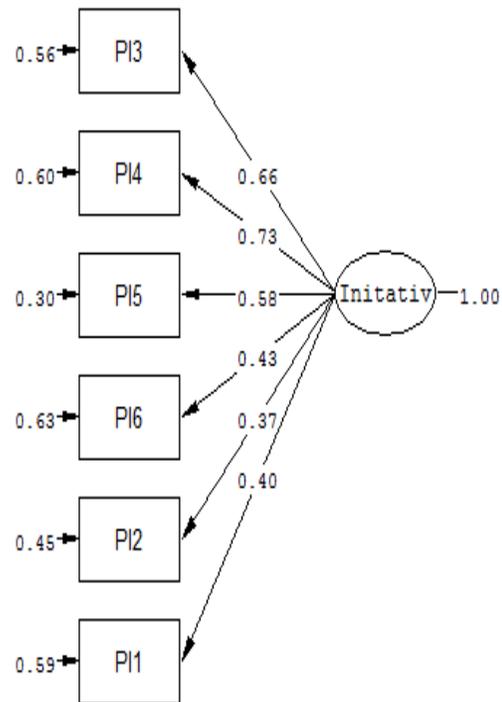


Figure 2. 3. Confirmatory Factor Analysis for Initiative



Chi-Square=62.90, df=9, P-value=0.00000, RMSEA=0.195