

DEVELOPING PSYCHOLOGICAL CAPITAL: TEST OF A
TRAINING INTERVENTION WITH BULGARIAN STUDENTS AND
PROFESSIONALS

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ABSTRACT

The following thesis project consists of an empirical investigation regarding the Psychological Capital (*PsyCap*) and its development through influence over its dimensions - hope, self-efficacy, resilience and optimism, supported by a theoretical integration of literature in the areas of Positive Psychology, Organizational Behavior, and Human Resources Management.

For the purposes of the project, a short-term intervention over a sample of students and employed people (professionals) from Bulgaria served as a method for reflecting over the four resources of *PsyCap*.

The objective of this paper is to provide answers to the questions “To what extent the four dimensions of *PsyCap* (previously mentioned) could be increased in a random sample of students and employed people (professionals)?” and “Would this enhancement last in time (i.e., one month) after the training intervention?”.

As a result of the analysis of the executed intervention, some valuable findings and insights were drawn, the use of which can contribute to further researches in related areas.

KEYWORDS: Psychological capital, intervention, hope, self-efficacy, resilience, optimism

RESUMO

O projeto apresentado consiste numa investigação empírica respeitante ao desenvolvimento do Capital Psicológico (*PsyCap*) via influência sobre as suas dimensões – esperança, auto-eficiência, resiliência e otimismo, sustentado por uma integração teórica de literatura nas áreas da Psicologia Positiva, Comportamento Organizacional e Gestão de Recursos Humanos.

Para efeitos da presente investigação, foi conduzido um exercício de curto-prazo em dois grupos amostrais oriundos da Bulgária: um constituído por estudantes e outros por trabalhadores. Este serviu como método de reflexão sobre os quatro componentes do *PsyCap*.

O objetivo deste trabalho é fornecer resposta às questões “Em que medida poderão as quatro dimensões do *PsyCap* ser incrementados numa amostra aleatória de estudantes e pessoal trabalhador (profissionais)?” e “Será este incremento perdurável (por ex.: um mês) após a condução do estudo?” Como resultado da análise e dos estudo efetuados, foi possível inferir importantes percepções e conclusões que, futuramente, poderão sustentar pesquisas mais aprofundadas nas áreas relacionadas.

PALAVRAS-CHAVE: Capital psicológico, influência, auto-eficiência, resiliência, optimismo

Classifications according to the JEL Classification System:

JEL: M54 – Labor Management (team formation, worker empowerment, job design, tasks and authority, job satisfaction)

JEL: O15 – Human Resources; Human Development; Income Distribution; Migration

CONTENTS

1. EXECUTIVE SUMMARY	1
2. INTRODUCTION	4
3. THEORETICAL OVERVIEW	5
3.1. THE ROLE OF POSITIVE PSYCHOLOGY	5
3.2. POSITIVE ORGANIZATIONAL BEHAVIOR.....	7
3.3. PSYCHOLOGICAL CAPITAL.....	11
3.4. TRAIT-LIKE AND STATE-LIKE CONSTRUCTS	12
3.5. THE HOPE RESOURCE IN <i>PSYCAP</i>	13
3.6. THE SELF-EFFICACY RESOURCE IN <i>PSYCAP</i>	15
3.7. THE RESILIENCE RESOURCE IN <i>PSYCAP</i>	17
3.8. THE OPTIMISM RESOURCE IN <i>PSYCAP</i>	19
4. EMPIRICAL ANALYSIS	21
4.1. HYPOTHESES	22
4.1.1. HYPOTHESIS 1	22
4.1.2. HYPOTHESIS 2	22
4.1.3. HYPOTHESIS 3	23
4.2. PARTICIPANTS.....	23
4.3. TRAINING IMPLEMENTATION.....	24
4.3.1. HOPE.....	25
4.3.2. SELF-EFFICACY.....	26
4.3.3. RESILIENCE.....	26
4.3.4. OPTIMISM	26
4.4. MEASUREMENT OF <i>PSYCAP</i>	27
4.5. RESULTS.....	29
4.5.1. STUDENTS	29

4.5.2.	PROFESSIONALS	32
4.6.	DISCUSSION	33
5.	CONCLUSION	39
6.	BIBLIOGRAPHICAL REFERENCES	40
7.	APPENDICES	44
7.1.	APPENDIX A: PSYCHOLOGICAL CAPITAL TRAINING SUMMARY	44
7.2.	APPENDIX B – DESCRIPTIVE ANALYSIS	46
7.2.1.	ALL PARTICIPANTS	46
7.2.2.	STUDENTS	47
7.2.3.	PROFESSIONALS	48
7.3.	APPENDIX C: RELIABILITY ANALYSIS ALPHA CHRONBACH	50
7.3.1.	ALL PARTICIPANTS	50
7.3.2.	STUDENTS	51
7.3.3.	PROFESSIONALS	53
7.4.	APPENDIX D: TEST FOR NORMALITY	55
7.4.1.	NORMALITY OF THE STUDENTS’ SAMPLE GROUP	55
7.4.2.	NORMALITY OF THE PROFESSIONALS’ SAMPLE GROUP	55
7.5.	APPENDIX E: TEST FOR HOMOGENEITY	56
7.5.1.	HOMOGENEITY OF THE STUDENTS’ SAMPLE GROUP	56
7.5.2.	HOMOGENEITY OF THE PROFESSIONALS’ SAMPLE GROUP	56
7.6.	APPENDIX F: ANOVA TEST	57
7.6.1.	STUDENTS	57
7.6.2.	PROFESSIONALS	57
7.7.	APPENDIX G: PARED-SAMPLE T TEST	58
7.7.1.	STUDENTS	58
7.7.2.	PROFESSIONALS	60

1. EXECUTIVE SUMMARY

The following paper exposes an approach to the effect of a training intervention over individuals in the frame of positive psychology, regarding the possibility of improving the Psychological Capital (*PsyCap*) tracked out in a short period of time. The objective is to provide answers to the questions “To what extent can the dimensions of *PsyCap* be increased in a random sample of students and employed people (professionals)?” and “Would this enhancement last in time (i.e., one month) after the training intervention?”. The findings can be applied in combination with some human resources or positive organizational behavioral practices and be adopted in the contemporary management methods.

The literature review exposed in the first chapter, used for supporting the objective of the thesis, corresponds to numerous theories specifically referring to the four capacities of the Psychological Capital, namely hope, self-efficacy, resilience and optimism. Each of these components addresses different dimensions of the individual’s character and, when developed, their combination can serve as a strong tool in goal achieving.

The second chapter provides answers to the main questions of this thesis, based on the intervention held in Bulgaria over a sample of Bulgarian students and employed people (professionals) in different areas. They participated in a short-term training – *Psychological Capital Intervention* (PCI) – developed by Luthans, Avey *et al.*, (2006) and preliminarily tested in two samples of North American students and managers (Luthans, Avey, Avolio, Peterson, 2010). The intervention was specifically designed to influence the four major components of *PsyCap*. The measuring tool, which served the needs of the project, was the 24-item Psychological Capital Questionnaire (PCQ) created and validated by Luthans, Youssef and Avolio (2007); Luthans, Avolio *et al.* (2007). A crucial role in the research played the three-round data collection from the questionnaire: before the training (Time 1), immediately after the training (Time 2) and in a follow up round – one month after the training (Time 3). The data comparison between these three timely points revealed not only a significant improvement of *PsyCap* from Time 1 to Time 2 but also a retain of the high level of *PsyCap* throughout time

(Time 3). It was stimulating to find that the results obtained from the analysis of both sample groups indicated similar improvement and sustainability of *PsyCap*.

These outcomes led to several conclusions supporting the previously placed hypotheses and raised various recommendations for future development and research. A practical implication of the findings was exposed in the latter interpretations, in consort with their contribution to the practices in the area of the positive organizational behavior.

SUMÁRIO EXECUTIVO

O presente trabalho expõe uma abordagem ao impacto de um exercício de intervenção sobre indivíduos no escopo da psicologia positiva, introduzindo novas percepções relativamente à capacidade de influenciar o Capital Psicológico (*PsyCap*) num curto período de tempo. O objetivo é dar resposta às questões “Em que medida poderão as quatro dimensões do *PsyCap* ser incrementados numa amostra aleatória de estudantes e pessoal trabalhador (profissionais)?” e “Será este incremento perdurável (por ex.: um mês) após a condução do estudo?” Estas descobertas podem ser conjugadas com algumas práticas correntemente aplicadas no âmbito dos recursos humanos ou do comportamento organizacional positivo, e ser adotadas nos métodos contemporâneos de gestão.

A revisão literária apresentada no primeiro capítulo, utilizada como fundamentação do objetivo do projecto, compreende diversas teorias referentes aos quatro componentes do Capital Psicológico: esperança, auto-eficiência, resiliência e otimismo. Cada um destes componentes empresta diferentes dimensões ao carácter individual e, quando desenvolvidos, a sua combinação pode servir como importante ferramenta na obtenção de resultados.

O segundo capítulo procura dar resposta às principais questões enunciadas, baseando-se na pesquisa realizada na Bulgária, utilizando uma amostra aleatória de estudantes e profissionais de diversas áreas, de nacionalidade búlgara. Foi aplicado o modelo de treino Psychological Capital Intervention (PCI) – desenvolvido por Luthans, Avey *et al.*, (2006) e testado previamente testado em duas amostras de estudantes e gestores Norte-Americanos (Luthans, Avey, Avolio, Peterson, 2010), tendo o exercício sido desenhado especificamente para influenciar os quatro

componentes do *PsyCap*. Como instrumento de medição de resultados foi utilizado o “24-item Psychological Capital Questionnaire” (PCQ), criado e verificado por Luthans, Youssef e Avolion (2007); Luthans, Avolio *et al.* (2007), considerado apropriado para o corrente projeto. A recolha de dados tri-fásica a partir de questionários desempenhou um papel crucial na pesquisa efetuada, tendo sido efetuada antes da aplicação do modelo PCI (T1), imediatamente após (T2) e um mês após o treino (T3). A comparação entre os resultados obtidos revelou não só um incremento significativo no *PsyCap* de T1 para T2, mas também a sua manutenção a níveis elevados através do tempo (T3). Verificou-se ainda o carácter transversal das conclusões retiradas, com ambos os grupos a apresentarem similitude nas melhorias do *PsyCap* e na sustentabilidade das mesmas.

Estes resultados conduziram a várias conclusões que suportam e comprovam as hipóteses anteriormente formuladas, levantando simultaneamente diversos tópicos susceptíveis de pesquisa e desenvolvimento futuros. Por fim, foi enunciada uma implicação prática dos resultados e sua contribuição para as práticas positivas de comportamento organizacional.

2. INTRODUCTION

Business organizations today are undergoing through a rapidly changing environment, facing rigorous competitors and unstable economy. In these circumstances, the importance of an efficient management of their assets becomes more evident and assumes a crucial role. Companies are forced to pursue a way to differentiate from the competitors, to build up new markets or to gain competitive advantage by increasing inner innovation, among other possibilities. Indisputably, one of the best ways of having an organization capable of dealing with such challenges is implementing an effective human resources management in the organization. Nowadays companies have focused their efforts on developing the human capital as their most important asset. Undeniably, it is their only tangible resource which cannot be replicated and can be used as a powerful way to overcome challenges, to achieve the set goals, to create a dynamic organizational culture or to acquire innovational knowledge. Modern organizations can survive in the vibrant, competitive environment of today only if they take advantage of their full potential.

In search of a new more efficient, easier to implement and sustainable Human Resources management technique, scholars have turned their attention to a relevantly new aspect of the area of Positive Psychology: *PsyCap*. This construct, together with its four dimensions, became a potential source of creating positive organizational climate, job satisfaction and better performance, according to several researches (Luhans, 2007a, 2007b, Luthans et al. 2006, 2007).

The concept of Psychological Capital and its components are presented in detail in the current paper, alongside with some of their most important features: intrinsic flexibility and developable state-like nature. Based precisely on these features we have conducted our analysis and inferences and have presented the practical implications of the concept.

Having several papers already presented evidences supporting the positive effect of *PsyCap* in organizational context, the current research furthermore exposes new insights regarding the sustainability of the construct in time. This new approach in the field allows the connection of Positive Psychology with some Human Resources and management practices and their efficient implementation in the business organizational environment.

3. THEORETICAL OVERVIEW

3.1. THE ROLE OF POSITIVE PSYCHOLOGY

A relatively new aspect of the psychology plays a major role in the present research, namely Positive Psychology. Starting from the last decades of the 20th century, this new branch in the social science has been growing steadily. Seligman and Csikszentmihalyi (2000) describe positive psychology as “*a science of positive subjective experience, positive individual traits and positive institutions (which) promises to improve quality of life and prevent the pathologies that arise when life is barren and meaningless*” (p. 5). The approach intends to complement and focus, not to replace or ignore the rest of psychology. It does not seek to deny the importance of studying how things go wrong, but rather to emphasize the importance of determining how things go right (Peterson, C. 2009). This field brings attention to the possibility that focusing only on the negative and problematic issues would result in only a partial understanding of the person’s real condition.

The positive psychology has rapidly acquired strong supporters and scholars since then: Luthans (2007), Seligman (1998), A. Bandura (1997), S. Lopez & Snyder (2003) and many others who have numerous publications and scientifically proved researches in favor of this new branch of Psychology. According to some well-known research-oriented positive psychologists - Seligman, Ed Diener (2000), Christoher Peterson (2000), and Rick Snyder (2000) the focus of the social sciences has changed from *what is wrong with people to what is right with people*: the focus on strengths (as opposed to weaknesses), to be interested in resilience (as opposed to vulnerability) and to be concerned with enhancing and developing wellness, prosperity and good life (as opposed to the remediation of pathology).

A key element identified in the developed theories and practices of positive psychology is the conception of *human happiness* – a temporary emotional mental state of an individual of experiencing pleasant emotions. Positive psychology provides scope for enhancing satisfaction, motivation, and productivity in the workplace (i.e. to provoke happiness), in combination, with

indicating a number of strategies to amplify individuals' success orientation (Weigand & Geller, 2004). The *Actively Caring Model*, presented by the formerly mentioned authors, contemplates useful means of representing three critical facets of a motivating climate: the belief that one can make a difference, the belief in one's value and one's sense of belonging. On a practical level, the authors disclose several strategies to improve individuals' success orientation, including the increment of their self-efficacy, appreciation of the organization, learning-based focus, goal-setting, persistence and personal control.

Positive affect has also been found to promote creativity in problem solving and negotiation, and both efficiency and thoroughness in decision making (Isen, 2001; Isen, Daubman, & Nowicki, 1987). Thus, under many circumstances, the influence of mild positive feelings on thinking and decision making has been found to be not only substantial but facilitative, leading to improved decision making and problem solving.

Practical applications of positive psychology include helping individuals and organizations identify their strengths and use them to increase and sustain their respective levels of well-being. Therapists, counselors, coaches, and various psychological professionals, as well as HR departments, business strategists and others, are using these new methods and techniques to broaden and build upon the strengths of individuals who are not necessarily suffering from mental illness or disorder. (Yanar, Budworth, Latham, 2008). The unique strength of the application of positive psychology can also find an optimal use of human capital development by being a key source of competitive advantage because it is so difficult for competitors to replicate (Barney, 1991). This finding led to considerable attention in the human resource development field, focused on evaluating the value and impact of human capital on organizational performance (e.g., Arthur, 1994; Huselid & Becker, 1997).

Lastly, the "power of the positive thinking" and the positive approach has found a lot of supporters recently spread by several coaches, speakers and authors such as Stephen Covey ("The 7 Habits of Highly Effective People"), John Kehoe ("The Power into the 21st Century"), Anthony Robbins ("Unlimited Power: The New Science Of Personal Achievement"), Tony Buzan ("The Genius Formula"). Nowadays publications related to the positive psychological approach which leads to the desired outcomes, turn into bestsellers due to the wide appreciation and receiving from the audience. Yet not scientifically verified or measured, the literature about positive thinking acquires a lot of successors and followers.

3.2. POSITIVE ORGANIZATIONAL BEHAVIOR

The Positive Psychology movement, initiated by Martin Seligman in the late 90s, triggered a new approach towards management and work related practices – the *Positive Organizational Behavior* (POB). This new practical style was adopted by Fred Luthans who integrated positive psychology to organizational state and thereby placed the grounds of the positive organizational behavior research in 1999. Since laying the foundations, this new area has been an object of research by scholars, who aim to design new work settings in order to enhance and develop people's strengths and reach their full potential.

Positive Organizational Behavior has been defined 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*” (Luthans, 2002b). For a positive psychological capacity to qualify for content of POB, it must be identified as positive, have extensive theory and research foundations, along with valid measures. In addition, it must be state-like, in order to be open to development and performance improvement management. Likewise, positive states that meet the POB definitional criteria are primarily *researched, measured, developed, and managed at the individual, micro level* (Luthans, 2002b).

The state-like criterion distinguishes POB from other positive approaches that focus on positive traits. The right components meeting the inclusion criteria for POB are the state-like psychological capacities of hope, self-efficacy, resilience, and optimism. When combined they constitute the higher-order core construct of Positive Psychological Capital or *PsyCap* (Luthans, & Youssef, 2007).

Scientific contributions to this new approach to organizations' management have been given from numerous authors and publications. Alice Isen from Cornell University published several articles referring to positive emotions and their positive correlation with decision taking, creative thinking, performance and well-being, (Isen 2001, 11(2), 11(3)) having as primary focus

the discovery of what happens to people's thought processes and social interaction when they feel good.

In a study which involved a group of students as well as practitioners, people in whom positive affect had been induced, showed that they were more creative or more able to solve problems requiring ingenuity or innovation (Isen, Daubman, & Nowicki, 1987; Isen, Johnson, Mertz, & Robinson, 1985). In other studies has also been shown that positive affect leads people to elaborate and organize their thoughts more efficiently, and to be more varied and flexible in the way they think about neutral objects or people (e.g., Isen & Daubman, 1984; Isen *et al.*, 1992; Lee & Sternthal, 1999). When it concerns directly to business, in a negotiation context, people in whom positive affect had been induced and who were bargaining face-to-face, were better able to take a problem-solving approach to the negotiation and reached a better outcome. The results indicated that the session was much less stressful and more enjoyable for them than for their neutral-affect counterparts (Carnevale & Isen, 1986). Another study, involving students in whom positive affect had been inducted, revealed that they were more efficient in reaching a decision about a hypothetical car for purchase (Isen & Means, 1983).

All these evidences lead to the fact that positive affect influences people to think in a more creative and flexible way in their working performance and behaviour. Isen provided numerous empirical evidences that people who are positively affected take significantly less time to reach a decision, are more open minded than controls and less defensive (Isen, 2001; Estrada, Isen & Young, 1997).

As shown, positive affect over individuals reveals numerous of positive outcomes in their behaviour and performance. In addition to these studies, several researches were led in the area of organizational climate, concerning the role of positive emotions. Avey, Wernsing and Luthans (2008) demonstrated the positive relation between positive emotions and employees' performance. Furthermore, the authors exposed empirical findings which proved that the supportive climate in the examined organization relate positively not only with the satisfaction and commitment but also with performance. In other words, individuals who possess higher level of *PsyCap*, perform better than those with lower one. (Luthans, Avolio, et.al 2007).

In a research regarding positive emotions in the same framework, has been proposed that individuals and groups of people who has been stated with higher levels of positive emotions, operate at more optimal levels of cognitive and emotional functioning (Fredrickson & Losada,

2005). Avey and his colleagues (2008) argued that those employees who interpret events in a positive way, that is to say with hope, efficacy, resilience and optimism (i.e., *PsyCap*), may be more likely to experience positive emotions at work even during potentially stressful situations, associated with organizational change. According to them, employees must learn to forge new paths and strategies to attain redefined goals. They must have the confidence (efficacy) to adapt quicker and easier to the implemented organizational changes as well as the strength (resilience) to bounce back from obstacles and setbacks which are likely to occur during the change process. Moreover, when undergoing stressful conditions, employees would need to have the motivation and alternate pathways determined (i.e., hope) when obstacles are encountered and make optimistic attributions of when things go wrong and have a positive outlook for the future (Avolio, Youssef, Luthans, 2008). In other words, positive emotions may help employees cope with organizational change by broadening the options they perceive, maintaining an open approach to problem solving, and supplying energy for adjusting their behaviors to new work conditions (Baumeister, Gailliot, DeWall, & Oaten, 2006).

Not only concerning an organizational change but in general, *PsyCap* was proved to be a contributing factor to individual positive emotions. For example, if employees are optimistic and efficacious, they generally possess positive expectations for goal achievement and successfully deal with change, therefore experience positive feelings of confidence. Similarly, in goal pursuing, positive emotions are likely to stimulate exploration of new pathways and encourage creative thinking (Fredrickson, 2001). If a setback or challenge occurs during a process of change, they are likely to attribute the setback to external, one-time circumstances and immediately consider alternative pathways to goal success, demonstrating hope and resilience.

More and more the importance of positive constructs and employees' commitment to change has been recognized from the organizational behavior research and the new management practices. Fredrickson's (2001, 2003b) built theory examining the role that positive emotions play in generating broader ways of thinking and behaving, which is especially relevant when explaining the role of positive employees play in adapting and coping with the organizational change. Based on Fredrickson's studies, a research of Avey *et al.* (2008) investigated the impact of positive emotions, represented by their levels of psychological capital, and concluded that these result in relevant behaviors and performances regarding the introduced change. In other words, higher levels of engagement attitudes and organizational citizenship behaviors would

facilitate positive change. On the contrary, employees who express low level of *PsyCap* will experience lower levels of positive emotions and in turn are more likely to experience cynical attitudes and deviant behaviors (Figure 1), (Avey *et al.* (2008), p.51).

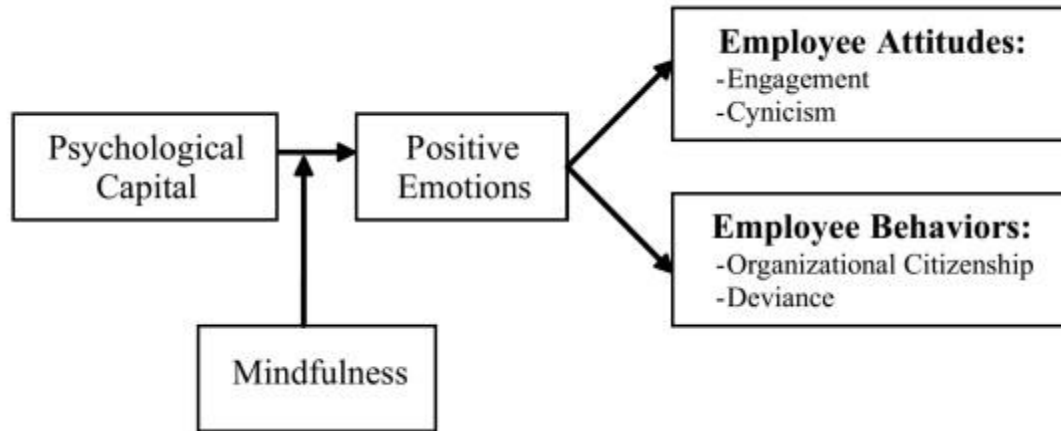


Figure 1 - Model for Impact of Psychological Capital (*PsyCap*), Mindfulness, and Positive Emotions on Attitudes and Behaviors Relevant to Positive Organizational Change

It was also found that this employee engagement would not only express at the individual level but may also impact other team members' motivation and emotions, which in turn can be a positive influence on organizational change (Bakker, Emmerik, & Euwema, 2006).

Numerous conclusions in the last decades led to a new approach in the field of positive psychology, which challenged managers to apply the strengths and new findings at the workplace. POB is the link between theory and the contemporary management practice and can bring profound understandings of the real impact of positive states for organizational functioning and how these states can be enhanced within the work place. This thesis has adopted the POB framework and will serve further on as a contribution to the improvement of the on-the-job practices through training programs.

3.3. PSYCHOLOGICAL CAPITAL

The new wave in the development of the positive psychology, previously discussed, gave the scholars new directions to explore. There has been a call to go beyond human capital (generally recognized to be the education, experience, and implicit knowledge of human resources) by focusing on what has been termed positive "psychological capital" (Luthans & Youssef, 2004; Luthans, Youssef, & Avolio, 2007). The formal definition of psychological capital is "*an individual's positive psychological state of development that 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, Youssef, & Avolio, 2007, p. 3). Hope, self-efficacy, resilience and optimism have been determined to best meet the *PsyCap* operational definition and inclusion criteria (Luthans, 2002a; Luthans & Youssef, 2004). Specifically, psychological capital is not only concerned with "who you are" (i.e., human capital) but also, in the developmental sense, to "who you are becoming", your "best self" (Luthans, Youssef *et al.*, 2007, p. 20).

In this project *PsyCap* is our major foundation together with its components. More and more evidences lead to the conclusion that *PsyCap* is significantly related to desired employee behavior (and negatively to undesired behavior), attitude (e.g., satisfaction and commitment) and performance (Luthans, Avolio *et al.*, 2007; Avey, Luthans, & Youssef, in press). Besides, recent research indicates that *PsyCap* has implications for combating stress (Avey, Luthans, & Youssef, in press), may help in facilitating positive organizational change (Avey, Wernsing, & Luthans, 2008), and catalyzes the positive organizational climate through an optimal employee performance (Luthans, Norman, Avolio, & Avey, 2008).

However, there is no literature regarding the fluctuation of *PsyCap* in a time frame after being influenced. For that reason, in the current paper we have inspected in depth the variance of

this high order construct, caused by external intervention and have discussed its practical implications.

3.4. TRAIT-LIKE AND STATE-LIKE CONSTRUCTS

A useful distinction for the further development of this research is the concept of trait-versus state-like constructs. This concept encompasses the ability of an individual's characteristics to be altered or shaped under external influences. Luthans, Avey, Avolio and Peterson (2010) propose positions for such characteristics along a state–trait continuum. At one extreme of the continuum stand relatively pure states, which are momentary and very changeable, representing feelings (e.g., pleasure, moods, and happiness). The pure states could be easily influenced by external factors and fluctuate depending on the emotional state of the individual. Afterwards come state-like constructs which are more malleable and open to development, representing the positive psychological resources found in *PsyCap* (i.e., hope, self-efficacy, resilience, and optimism). They can be influenced in relatively easy way, through interventions, interactive activities, cognitive interferences and others. Next, moving along the continuum, follow trait-like constructs, which are more fixed and difficult to change, representing personalities and strengths (e.g., Big Five personality dimensions, core self-evaluations, character strengths and assets). Trait-like characteristics are more personal and reflect the intrinsic facets of an individual. At the other extreme of the continuum are positioned relatively pure traits, which are relatively fixed and very difficult to change (e.g., intelligence, talents, and heritable characteristics).

Notice that the *PsyCap* constructs fit in the continuum as being “state-like,” that is, they are not as stable and are more open to change and development compared with “trait-like” constructs, but importantly they also are not momentary states. In the short run, the state-like psychological capacities may be somewhat stable and not change with each momentary situation, as would the more “pure” states such as positive moods.

A very detailed research of Conley (1984) made a great contribution to the distinction of state and trait-like characteristics. In his analysis, Conley compared the test– retest reliabilities between intelligence, personality, and what he describes as self-opinion constructs (e.g., life

satisfaction and self-esteem). Results of his research support that such psychological constructs are best understood as being more or less stable. Specifically, Conley found a “hierarchy of consistency”, with intelligence and personality being more stable over time than self-opinion. His almost perfect test-retest correlations for conventional traits, (i.e. intelligence, personality) revealed also high test-retest correlation for self-opinions, however still significantly lower than the one for traits. In other words, the self-opinions were relatively less stable than the more fixed traits.

Luthans and Avolio (2007) supported this state-like and trait-like discussion by executing a corrected test-retest where reliabilities showed that conscientiousness and core self-evaluations measures both had relatively high stability versus the psychological capital scale and the positive emotions measure. Based on those empirical evidences we can continue the research assuring that *PsyCap* falls in the state-like category on the proposed continuum. Additionally, similar intervention through an on-line training exercise (Luthans, Avey, & Patera, in press; Luthans, Avey, Avolio, Peterson, 2010), serves as a basis for proposing that the *PsyCap* resources of hope, self-efficacy, resilience, and optimism are open to change and development.

3.5. THE HOPE RESOURCE IN *PSYCAP*

In the late-20th century, hope attracted the focus of the social research scientists. Originally it was determined almost solely on cognitions but with the evolving of the theory, emotions have been included as an important element of hope (Snyder, 1994; Snyder *et al.*, 1991). One of the initial definitions of hope came from Snyder and his colleagues (Snyder *et al.*, 1991), determining it as “*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)*”. Later within the process of researching and studying, hope was defined as “*the process of thinking about one’s goals, along with the motivation to move toward those goals (agency), and the ways to achieve those goals (pathways)*” (Snyder, 1995, p.355). In other words, hope was considered to be a natural human trait, expressed in the intrinsic instinct of people to follow a specific goal (Snyder, 2000).

Depending on the time frame given to a goal, it may be short- or long-term. Nevertheless, a certain goal must be of sufficient value before a person will pursue it (Lopez, Snyder, Pedrotti, in press). In addition, goals may be used as a tool for inducing certain positive effect (approach-oriented) or avoiding from suchlike negative one (preventive). At last, goals can vary in difficulty of attainment and even seemingly “impossible” goals may at times be attained through supreme planning and efforts.

“*Pathways thinking*” reflects on triggering the mind to seek for new alternative routes when impeded, as well as concentrating in positive attitude towards the desired goal by encouraging self-talk (e.g., “*I’ll find a way to solve this*” (Snyder *et al.*, 1998). In addition, “*agency thinking*” represents the motivational component of hope theory whereas individuals provoke their willpower by self-talk phrases such as “*I won’t give up*” (Snyder *et al.*, 1998). Such agency thinking can be in particular importance in cases when person perceives high motivation to alternative pathway when facing an impediment.

Under this conceptualization, hope can play a role in many areas and serve as a tool in mastering certain technics. In the cognitive process hope finds great implication in the concept of “*learning goals*”, which are beneficial to development, improvement and growth. A learning goal is a generalized goal to achieve knowledge in a certain topic or field, and it can ultimately lead to better performance in the specific or related area (Locke, Latham, 2006). People with such goals are highly committed to learning and stay strict in the process of pursuing the desired outcome. Contrarily, those lacking hope tend to adopt mastery goals (Elliot, 1999). People with mastery goals satisfy themselves with succeeding in easy and less challenging tasks which very often don’t provide an opportunity for improvement. Such individuals often lose sense of control of their circle of influence, lack in self-confidence in their own abilities to attain any merit and lose hope. Thus, they can’t easily deal with failure and often quit.

Though hope may approximate in some extent to other psychological capacities, such as self-efficacy and optimism, it should be clearly distinguished from them. Self-efficacy reflects the confidence in the own abilities to obtain a success whereas optimism refers to a general expectation that it will all ‘be alright’. Generally, the three dimensions express similar approach toward a set up goal and its achieving; they all refer to the expected positive outcome in the future and play an important role for the inner motivation of the individual. However, the three components of *PsyCap* must be viewed as complimentary but different aspects of the positive

construct. Self-efficacy assures one in his abilities, so he expects to gain certain merit due to his own performance. Optimism implies a general positive expectation towards an outcome regardless of any personal influence. In contrast, hope unites the alternative thinking (pathways thinking) and the will of one to apply different strategies in order to achieve the ultimate goal.

Hope can be influenced by external affections and as this project also aims, it can be improved by a short-term intervention. In her research, Rebecca Görres (2011) notes that if an individual is being reminded that a high performance and achievement are expected as an outcome of a contest or other situation, people tend to improve their will and strength to do well, so that their potential can be better utilized.

3.6.THE SELF-EFFICACY RESOURCE IN *PSYCAP*

Self-efficacy concept has been extensively studied during the years and the greatest contribution has been given by Albert Bandura, who started by publishing his Social Cognitive Theory. He introduced the construct of self-efficacy has been defined as *“how people judge their capabilities and how, through their self-percepts of efficacy, they affect their motivation and behavior.”*(Bandura, 1982, p.122). Along with it he added that *“perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations.”*

Albert Bandura (1997) has identified four widely recognized and crucial inputs regarding self-efficacy: task mastery, modeling (vicarious learning), social persuasion and positive feedback, and physiological and/or psychological arousal. Mastery can be enabled when a person successfully accomplishes a challenging task and this way his/her confidence generally increases when it comes to perform this task again. The modeling component can be generally defined as learning by observing a relevant task done by another person with whom one can identify himself - peer, colleague, friend, etc. As higher the similarity seems, as confident one would be regarding successfully accomplishing the task himself. The third component, social persuasion and positive feedback, is important to build high self-efficacy by helping the individual to feel noticed, appreciated, and valued for what he does. The efficacy can be also influenced when this feedback comes by a highly ranked or respected person (leader). Finally, the physiological

and/or psychological arousal is associated with the wellness of an individual. When a person keeps himself mentally and physically fit he can increase his efficacy and handle the stress and the burnout at work.

Another conceptual issue that is pertinent to be discussed is the extent to which self-efficacy overlaps with the concept of Locus Of Control (LOC): a theory that refers to the perception in which individuals believe that they can control events that affect them (Ng, Sorensen, Eby, 2006). LOC addresses one's belief of having control over his/her own fate. Rotter (1966) differentiates internal and external LOC. Internals are those who believe that they are the masters of their fate and, therefore, often are confident, alert, and directive in attempting to control their external environments. Further, they often perceive a strong link between their actions and consequences. Externals, on the other hand, are those who believe that they do not have direct control of their fate and perceive themselves in a passive role with regard to the external environment. They, therefore, tend to attribute personal outcomes to external factors of luck.

This theory complements the personal efficacy (self-efficacy), examined and studied by Albert Bandura in his work *Social Cognitive Theory* (1997). There he explains that if people have high level of self-efficacy, they respectively believe that the reason for attaining the expected outcome is due to their own efforts and determination towards it. Similarly to the concept of Locus of Control, when people perceive themselves as in control, they are assuming that the desired outcome will surely occur through their personal efforts (Carver *et al.*, 2000; Carver & Scheier, 1998). Complimentarily, the statement is valid also if applied vice versa: if an individual lacks self-confidence, he/she will not take the plunge. Very often people tend to doubt their own skills and therefore refrain from performing at their optimum, even though they know their potential (Bandura, 1982). Only with high self-confidence people will perform closer to what they are really able to. When they are confident about an eventual outcome, effort continues even in the face of great adversity (Carver & Scheier, 1998).

Despite all the similarities in the concepts of Locus Of Control and self-efficacy they cannot be referred as a same issue and it is important to make a differentiation. LOC is viewed as a general belief that actions lead to a desired outcome (internal locus) whereas the self-efficacy refers to a task-specific confidence and derives from the overall confidence of an individual (Phillips & Gully, 1994).

Similarly, we should make a clear distinction with another source of *PsyCap* - optimism. Efficacy is a belief within the boundaries of a specific task and/or context, whereas optimism is a general expectation of positive outcomes. Additionally, efficacy is a perception or belief about the process and results of applying one's personal abilities, whereas optimism is a positive expectation about outcomes that is less connected to one's personal ability. (Luthans, Avey, Avolio, Peterson, 2010)

3.7. THE RESILIENCE RESOURCE IN *PSYCAP*

In the field of positive psychology, resilience is considered to be the ability of one to maintain positive actions and to adapt to environment changes when facing adversity - "*a class of phenomena characterized by good outcomes in spite of serious threats to adaptation or development*" (Masten, 2001). In the professional context, resilience is known 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). Resilience is the difference between those who recover well after adversity and those who remain devastated and unable to move ahead (Masten *et al.*, 1988). Furthermore, individuals may actually become more resilient to an adverse situation each time they effectively bounce back from a previous setback. Such positive reactions have been found in studies of emotions to have upward spiraling effects (Fredrickson & Joiner, 2002).

There are numerous and also interesting findings about resilience across different cultures and contexts, researches among demographic and ethnic groups, among children and immigrants, etc. (Castro & Murray, 2010; Reich, Hall, 2010). Vast resilience cases are observed in the literature deriving from the high level of adversities that come across to the everyday life of people and their ability to cope with them.

It is often mistakenly assumed to be a trait of the individual, an idea more typically referred to as "resiliency" (Masten, 1994). Some researches distinguish the two terms, referring that 'resiliency' represent relatively stable state or attribute over time, whereas 'resilience' enables fluctuations and external effects to influence it and in such way assuming it as a dynamic process of development. Most researches now show that resilience is the result of individuals

being able to interact with their environments and the processes that either promote well-being or protect them against the overwhelming influence of risk factors. (Reich, Zautra & Hall, 2010). These processes can be individual coping strategies, or may be helped by good families, schools, communities, and social policies that make resilience more likely to occur (Peters, Leadbeater & McMahon, 2004). In this sense "resilience" occurs when there are cumulative "protective factors" which are likely to play an important role when the individual is facing greater exposure to cumulative "risk factors".

Interesting findings have been made in other approaches, for example, high levels of resilience within some people prevents depression or usage of addictive substances such as cigarettes or marijuana (Bonanno *et al.*, 2007). Moreover, low resilient people exhibit the difficulties of regulating negative emotions and demonstrate sensitive reaction to daily stressful life events, e.g., the loss of loved one (Ong *et al.*, 2006). They are likely to believe and to accept the unfortunate state as permanent and thus their level of daily stress increases. Contrary, the highly resilient people influence over adversity using positive emotions and attitude.

There have been developed different programs, activities and interactions to boost the resilience and develop it throughout the people such as: "accept circumstances that cannot be changed"; "move towards your goal"; "develop confidence in your abilities and yourself"; "look for opportunities for self-discovery", etc.

As mentioned above resilience is a developable state and therefore in this research it will be a subject of influence through our training intervention.

3.8. THE OPTIMISM RESOURCE IN *PSYCAP*

“Optimists are people who expect good things to happen to them; pessimists are people who expect bad things to happen to them” and the difference between the two is not trivial, as optimists “differ in how they approach problems and challenges and differ in the manner and success with which they cope with adversity.”

Carver & Scheier, 2002, p. 231

The above deviation may even be amplified when things get difficult. Optimists believe that setback can be successfully overcome one way or another, whereas pessimists tend to accept it as a long term state or even failure. These differences bring high importance for the researchers and practitioners in the field of psychology and more specifically to the measures used in coping with the stress. (Carver & Scheier, 1999).

There are also many cases in which people raise the question whether optimists can really be expected to exert efforts toward attainment of desired goals. Why should they not just wait for the desirable and expected outcome to happen, without it being triggered or pursued? Scheier and Carver (1999) explain this issue with the positive expectation by realism opposing to pure faith. They state that person's own efforts may be crucial for achieving the goal, or simply being involved into the cause may lead to some positive reactions in future. Either way, optimists believe and expect the good result without forgetting to take part of the process and to initiate the desired outcome.

Optimism also influences the general well-being. People with high levels of optimism take in stride various kinds of adversities. They cope easier with the stress and the daily on-the-job difficulties; they appear to be more flexible, focused and committed to certain task and eventually to be more productive. Optimists are less likely to demonstrate disengagement or to quit on their goals. (Carver & Scheier, 2001).

Optimism, as an inclusion of the construct of *PsyCap*, can be subject of change and management through influential interactions - it can be developed and improved. A prove of this statement gave Seligman (1998) with his developed concept of “learned optimism”, according to which “*anyone can learn optimism*”. Whether currently an optimist or a pessimist, benefits can be gained from exposure to the process of learned optimism. Seligman’s theory is simple and trains a new way of responding to adversity. A test developed by Seligman is used to determine an individual’s base level of optimism and sort it on a scale. Being in the more pessimistic categories means that learning optimism has a chance of preventing depression, helping the person achieve more, and improve physical health.

In support of the Seligman’s concept, Carver and Scheier (2002) more recently have concluded that “*change in an optimistic direction is possible*” (p. 240) through developmental interventions.

4. EMPIRICAL ANALYSIS

This chapter presents a deeper and more analytical approach to the topic and reveals some new findings in this area. The following empirical part will also provide the answers of the main questions placed previously, namely: “To what extent the four components of *PsyCap* (hope, self-efficacy, resilience and optimism) could be improved in a random sample of students and employed people (professionals)?” and “Would this improvement last in time (i.e., one month) after the training intervention?”.

Based on the literature sources overviewed in the previous chapter, the hypotheses were placed. Subsequently, the sample groups were described, as well as the methods and tools used and finally the training intervention was presented. Aimed specifically to influence the four constructs of *PsyCap* and being entitled Psychological Capital Intervention (PCI), this intervention was designed by Luthans and colleagues (Luthans, Avey *et al.*, 2006; Luthans, Youssef, & Avolio, 2007) specifically for the purpose of improving the Psychological Capital dimensions.

Luthans and his colleagues conducted an analogous training (PCI), specially designed to positively influence the four scales of *PsyCap*, over a group of American students and managers (Luthans *et al.* 2010). Their states were measured before and after the training and the outcomes were compared. Using their pilot test as a guideline, in our research we replicated the tasks of PCI over a sample group and tested the validity of their outcomes. The conducted intervention was held in Bulgaria with sample of Bulgarian students and employed people (professionals) and led by a post-graduate student. The pilot project was adjusted to our participants and conditions (translation of all the materials needed, personal or online approach, venue, facilitators, among others).

Besides the replication on a culturally and geographically different sample, one of the expectably most valuable contributions of this thesis is the follow-up data, gathered from the participants one month after the intervention, that may allow us to draw conclusions and point new direction on the development of the Psychological Capital of an individual.

4.1. HYPOTHESES

4.1.1. HYPOTHESIS 1

The *PsyCap* of randomly selected group of people is increased after a short-term training intervention.

The empirical part of this thesis consists of examining the Psychological Capital on a random sample of people who underwent a short-term training intervention. Based on their intrinsic state-like nature, all of *PsyCap*'s four components are flexible and possible to develop. Therefore, the first hypothesis stated, regardless of its high probability, is as previously enunciated.

4.1.2. HYPOTHESIS 2

The *PsyCap* will keep its improved level also one month after the intervention.

Being a state-like construct, respectively open to change and development, gives us grounds to expect that after being influenced *PsyCap* won't alter in large extent, shortly after the intervention. Reasons for such assumption are also given by several papers (Avey *et al.* 2008; Bakker, Emmerik, & Euwema, 2006) which revealed that positive emotions and team members' motivation can be a positive influence upon organizational change. In other words, positive employees create a better environment not only for themselves but also for the organization. As our workshop targeted goals that are to be achieved in the future, we expect the participants to keep their *PsyCap* level constant in time.

4.1.3. HYPOTHESIS 3

In Time 3, one month after conducting the training intervention, the level of *PsyCap* will maintain a statistically significant difference compared to its initial level in Time 1.

In their study Luthans and colleagues (2010) observed the fluctuation of *PsyCap* in a very small interval of time - 3 days before and 3 days after the training. These time frames limit the findings and don't provide a notion towards the period in which the components will remain high. Referring again to its state-like nature, in short term *PsyCap* may be somehow stable and not change with each momentary situation, as would the more "pure" states. The question is: How long would this short-term last? This paper aims to acquire new perspectives in this direction by exploring and measuring the dimensions of *PsyCap* in one month period of time after the conducted training. Our forecast is positive and, consequently, Hypothesis 3 states as above.

4.2. PARTICIPANTS

For the present study, two different samples were considered. One consisting of students from diverse universities in Varna, Bulgaria and another group comprising working people from different professional areas, mostly from the region of Burgas, Bulgaria. All of them were invited to participate voluntarily in a goal-setting and soft skills training. The two research samples took part in distinct workshops and were examined separately. The overall number of participants in the study was 78 (50 students and 28 professionals). The training for the students was promoted through the members of the international student organization AIESEC, settled in the University of Economics - Varna and there were contacted approximately 200 people, 50 of which voluntarily agreed to take part in the project. The individuals who underwent the training session were 26¹ and those who only took part in the initial data collection (T1), without being involved in an intervention were 24. The only incentive that was promised during the workshop

¹ Data from two participants missing in Time 1 and considered for Time 2 and Time 3.

was a personalized profile with the results of their questionnaires. The average age of the student sample group was 21.19 (SD = 1.92), 38.5% of whom were male.

Training for the professionals' study group of professionals was held in the same contours. Participants were contacted online or through a local community centre. Altogether, approximately 50 people were contacted, with different occupation mainly in the areas of tourism, IT, finances, and accounting. 14 of them participated voluntarily in the training intervention, whereas 14 other decided only to provide data for the first stage of the project (N=28). The data collected from the non-participants will be used complementary, during the analytical part, as a comparison with the trained sample group. The average age for this group was 28.36 (SD = 4.84) and 35.5% of the individuals were male. The youngest participant was 25 years old while the oldest was 42 years old.

All individuals taking part in this project were Bulgarian citizens.

4.3. TRAINING IMPLEMENTATION

The intervention followed closely the original pattern of the PCI intervention of Luthans and colleagues, with all exercises being performed to influence the four individual resources of *PsyCap*. Similarly, it included 4 major exercises as well as a small group session for positive thinking. All individuals were asked to do the same exercise at the same time and in the same order. Participants were only explained the purpose of the training, namely the concept of *PsyCap*, its elements and their meanings, by the end of the same, in order to prevent any deviation on the outcomes of the sample group. The workshops had the short duration of approximately three hours, so that participants could keep fully attentive during the tasks. Detailed characteristics about the executed tasks can be found in Appendix A.

The training was structured in three stages: individual, small working groups and debriefing (group discussion). An essential role in the implementation of the training was played by the process of goal setting. It included instructing people on how to set goals and accomplish them. A proper strategy was illustrating SMART goals: Specific, Measurable, Attainable, Relevant, and Time-bounded. To master this technic individuals were asked to set three goals

which were to be achieved in the near future and then to pick up one of them and focus over it during the rest of the training. The individual part consisted of tasks in which participants had to frame up different ways of pursuing the ultimate desire and to identify possible adversities or obstacles that could prevent them from achieving the needed results. Once each participant had clarified the exact constituents of the goal and how to answer the setbacks, participants settled a list with sub-goals. This list contained all the steps along the way to their goal, spread in time. Thereby they could clear up the picture of what is the way to the goal. Lastly, they were asked to recall all the resources at their disposal which can serve them. Here the participants were encouraged to think of all the physical goods, finances, knowledge, skills or networks, among others, and to anticipate others which they can acquire with time. These exercises aimed to reinforce the motivation and the will of the individual to follow his/her goal and to reflect on their hope and resilience, by building strong devotion and determination. To boost this growing progress, the second part of the training played a major role. Organized in small groups of people, participants could share their plan and receive feedback and opinions about how to perform better in future, gaining confidence with the approval. Crucial for improving the self-efficacy was not only sharing, but also listening to the peers. As a very significant part of the Social Cognitive Theory of Bandura (1997), the process of monitoring and identification was very likely to occur, more specifically in the students group.

Finally, we concentrated the minds positively in the third session. The group participated in a brainstorming, accumulating positive phrases, quotes and thoughts that could maintain optimism and motivation at high levels on daily basis. All these exercises aimed to impact the four dimensions of Psychological Capital as explained as follows.

4.3.1. HOPE

Hope is a reflection of the inner motivation of an individual (agency) and can be identified by the will of seeking for new pathways when following a goal. We tried to influence this component by performing Task 1, where participants were challenged to look for more and new horizons and ways towards their goal. This goal-setting task helped sustaining the motivation and increase agency. In addition, when receiving feedback from the group, they found even more solutions which prepared them for facing possible obstacles.

4.3.2. SELF-EFFICACY

Self-efficacy was increased by building awareness and belief of self and having high confidence about the ability of undertaking what it needs to be done. When participants were asked to set up a list of sub-goals and share them with the peer group, they saw clearly all the steps till the final goal and created a real image of themselves achieving all of them. This task enhanced the positive expectations of attaining the goal. In addition, by listening to other members of the group and their pathways of reaching a goal, they could practice ‘learn by observing’ (monitoring). Recalling that the age of the participants, specifically in the students group was quite homogeneous as well as the occupation, identification with someone within the small working group was to be expected.

4.3.3. RESILIENCE

Resilience was influenced by Task 4, where participants were asked to determine the resources they possess or could use. They increased their awareness of the assets they have and made them feel in control of the situation. Moreover, when identifying possible obstacles they got ready to face them and to ‘bounce back’. Finally, when participants were stimulated to think positively and received the support of the peer group, they developed resilient behavior to overcome adversity.

4.3.4. OPTIMISM

Optimism is the concept of expecting good outcomes and it was built throughout the whole intervention. Participants were encouraged by each task to believe that they have whatever is necessary to reach the goal and sooner or later they will. Optimism was reinforced by seeking and finding solutions for the possible problems, by gaining confidence in possessing what is needed and by setting a positive mind. All those exercises led to high expectations for success.

4.4. MEASUREMENT OF *PSYCAP*

In both study groups – students and professionals - was applied the same method of measurement: the 24-item psychological capital questionnaire (PCQ), created by Luthans, Youssef, and Avolio (2007) and empirically validated by Luthans, Youssef, and Avolio (2007). Permission to use the PCQ was ensured from www.mindgarden.com and provided to us on behalf of researchers and for the purposes of this study. This instrument was utilized 3 times during the whole research period – before the training (Time 1), immediately after the training (Time 2) and a follow up round – one month after the training (Time 3).

The initial edition of the questionnaire was analysed and supported in the positive psychology literature by multiple studies (Luthans, *et al.*, 2007; Luthans *et al.*, 2005). It consists of six items from each of the following components – hope, self-efficacy, resilience, optimism. All of them were distributed in the survey in such way that none of the items from the same category were in direct sequence. The questions regarding the students were specifically adapted to respond their occupation. For the purposes of this study the questionnaire in its two editions – for students and for professionals - was translated in Bulgarian by Petya Stoykova, student of Master degree in ISCTE-IUL, Lisbon, Portugal and approved by Velislava Chardakova, student of Master degree in Aarhus University, Herning, Denmark. The entire questionnaire followed strictly the original paper and the meaning was conveyed in accordance.

Sample of each of the four components items include: “If I should find myself in a jam in my studies/projects, I could think of many ways to get out of it. (Ако изпадна в ситуация на затруднение/блокаж, когато работя върху проект, изпит или друга учебна дейност, мога да измисля различни начини да изляза от нея.), (hope); “I feel confident representing my colleagues and the project we are working on when meeting professors. (Чувствам се уверен, когато представям колегите си или проекти, по които работя при срещи с преподаватели.). (efficacy); “When I have a setback in my studies, I have trouble recovering from it, moving on. (Когато претърпявам неуспех в обучението си, ми е трудно да го превъзможна и да продължа.), (resilience); “When things are uncertain for me at the university, I usually expect the best.” (Когато нещата са несигурни за мен в университета, обикновено очаквам най-доброто.), (optimism). Responses used the 6-point Likert-type scale: “1 = Strongly disagree”; “2 = Disagree”; “3 = Somewhat disagree”; “4 = Somewhat agree”; “5 = Agree”; “Strongly agree”.

	<i>Students</i>	<i>Professionals</i>	<i>All</i>
24-item	0.848	0.903	0.876
Self-efficacy	0.795	0.891	0.837
Hope	0.654	0.844	0.754
Resilience	0.560	0.649	0.602
Optimism	0.679	0.715	0.702

Table 1. Test for reliability Alpha Chronbach

To test the 24-item tool we executed an Alpha Chronbach test for reliability. The questionnaire with all items presented very high reliability for both sample groups – students and professionals (Table 1), where all the values of alpha were greater than 0.7 (students $\alpha = 0.85$, professionals $\alpha = 0.90$, all the participants $\alpha = 0.88$). Almost all the subscales demonstrated reliability alphas greater than 0.7, exception of this norm being Resilience, which showed 0.56 in the students' group and 0.65 in the professionals' group. In the cases of Hope and Optimism, values of 0.65 and 0.68 were obtained for the students' group. However, within the workers was obtained a higher reliability – 0.84 and 0.72. The low values of alphas will be taken into consideration further in the analysis. Nevertheless, the importance of the perception of the questionnaire as a whole was good. As stated previously, the construct *PsyCap* is a combination of four elements which cannot be influenced separately, given that they inter-relate and complement each other to complete the construct in its entirety.

4.5. RESULTS

Referring to the original questionnaire, three of the items responded to the scale conversely. Therefore, the need to recode them into new variables before proceeding with analyzing the data was raised. When we constructed the questionnaire for the purpose of this study we distributed the questions regarding each *PsyCap* component in a way that questions from the same category are not in direct sequence. That way the reverse scale questions 13, 20 and 23 in the original PCQ refer respectively to 3, 8 and 20 in our questionnaire. We recoded the new variables as follows: 1 = 6; 2 = 5; 3 = 4; 4 = 3; 5 = 2; 6 = 1; for questions 1.3; 1.8; 1.20; 2.3; 2.8; 2.20; 3.3; 3.8; 3.20.

4.5.1. STUDENTS

After recoding the variables we analyzed the first sample group – the students. Primarily, we tested the normality and homogeneity of the variances. Respectively, the Shapiro-Wilk test for participants and non-participants (0.27; 0.59) and the Levene's test (0.07) showed values higher than 0.05 which lead to the conclusion that the sample groups come from the same normally distributed population where the variances between that group and the non-participants are equally homogeneous. Additionally, the One-way ANOVA test gave a high p-value (0.58) which once again proves the validity of the data, specifically that the initial mean values of *PsyCap* of both groups are not significantly different.

The most important results we drew are from the Paired-Sample t test conducted comparing the results of the participants consecutively between Time 1 and Time 2, then Time 2 and Time 3 and finally between Time 1 and Time 3. The tests included only participants in the training (N = 26) and the results can be found in Table 2. When comparing the means of the four components of *PsyCap* before the training and immediately after it, respectively in Time 1 and Time 2, we can state that the means of Self-efficacy and Hope are statistically significantly different ($t = -4.45; -4.39; p = 0.00 > 0.05$ for both). The case of the Optimism is arguable but we can assume that it also belongs to the same line of conclusions because $t = -2.04$ and $p = 0.05$.

Not the same case is observed over the result of Resilience ($t = -1.30$; $p = 0.21$), where the data is obvious - the means for this indicator in Time1 (4.08) and Time 2 (4.88) are not significantly different. However, what is the most important to this research from this first stage of analysis is the indicator of *PsyCap*, which shows significant improvement of the means (4.67 in T1 to 4.97 in T2, $t = -4.23$, $p = 0.00$).

In the comparison between the immediate results after the training and the following ones after a month, Time 2 and Time 3, within the students we witnessed a very small difference between the means – 4.92 in T2 and 4.94 in T3 ($t = -0.29$, $p = 0.78$) for the value of *PsyCap*. In fact the cases of Self-efficacy and Hope showed even lower performance in T3 ($t = 0.92$; 0.22 ; $p = 0.37$; $p = 0.83$). In these two cases the indicators couldn't maintain their high levels and decreased with time. In the other two cases of Resilience and Optimism, though values in Time 3 remained somehow high, it is not observed statistical significant difference ($t = -1.25$; -0.66 ; $p = 0.22$; 0.52).

The paired sample t test for T1 and T3 exposed some interesting results as *PsyCap* mean roused from 4.67 in T1 to 4.94 in T3 ($t = -3.18$; $p = 0.00$). Additionally, all the contents also showed significant improvement ($t = -2.06$; -2.66 ; -2.14 ; -2.69 ; -3.18 and $p = 0.05$; 0.01 ; 0.04 ; 0.01 ; 0.00) even one month after the intervention. (We can still consider self-efficacy as a valid result as its value $p = 0.05$ didn't overpass the permissible value of $p = 0.05$).

DEVELOPING PSYCHOLOGICAL CAPITAL:
TEST OF A TRAINING INTERVENTION WITH BULGARIAN STUDENTS AND PROFESSIONALS

<i>Variable_Students</i>	<i>Mean</i>	<i>t</i>	<i>df</i>	<i>p-Value</i>	<i>Variable_Professionals</i>	<i>Mean</i>	<i>t</i>	<i>df</i>	<i>p-Value</i>
<i>PsyCap_T1_Stud -</i>	4.67	-4.23	23	.000	<i>PsyCap_T1_Prof -</i>	4.61	-3.17	13	.007
<i>PsyCap_T2_Stud</i>	4.92				<i>PsyCap_T2_Prof</i>	4.90			
<i>PsyCap_T2_Stud -</i>	4.92	-0.29	25	.775	<i>PsyCap_T2_Prof -</i>	4.90	0.76	13	.459
<i>PsyCap_T3_Stud</i>	4.94				<i>PsyCap_T3_Prof</i>	4.88			
<i>PsyCap_T1_Stud -</i>	4.67	-3.18	23	.004	<i>PsyCap_T1_Prof -</i>	4.61	-2.97	13	.011
<i>PsyCap_T3_Stud</i>	4.94				<i>PsyCap_T3_Prof</i>	4.88			
<i>Self_T1_Stud -</i>	4.76	-4.45	23	.000	<i>Self_T1_Prof -</i>	4.73	-2.22	13	.045
<i>Self_T2_Stud</i>	5.05				<i>Self_T2_Prof</i>	5.06			
<i>Self_T2_Stud -</i>	5.05	0.92	25	.366	<i>Self_T2_Prof -</i>	5.06	0.62	13	.548
<i>Self_T3_Stud</i>	4.95				<i>Self_T3_Prof</i>	4.97			
<i>Self_T1_Stud -</i>	4.76	-2.06	23	.051	<i>Self_T1_Prof -</i>	4.73	-2.33	13	.037
<i>Self_T3_Stud</i>	4.95				<i>Self_T3_Prof</i>	4.97			
<i>Hope_T1_Stud -</i>	4.78	-4.39	23	.000	<i>Hope_T1_Prof -</i>	4.76	-2.01	13	.066
<i>Hope_T2_Stud</i>	5.09				<i>Hope_T2_Prof</i>	5.05			
<i>Hope_T2_Stud -</i>	5.09	0.22	25	.831	<i>Hope_T2_Prof -</i>	5.05	0.31	13	.763
<i>Hope_T3_Stud</i>	5.08				<i>Hope_T3_Prof</i>	5.02			
<i>Hope_T1_Stud -</i>	4.78	-2.66	23	.014	<i>Hope_T1_Prof -</i>	4.76	-2.07	13	.059
<i>Hope_T3_Stud</i>	5.08				<i>Hope_T3_Prof</i>	5.02			
<i>Res_T1_Stud -</i>	4.80	-1.30	23	.207	<i>Res_T1_Prof -</i>	4.72	-1.75	13	.103
<i>Res_T2_Stud</i>	4.88				<i>Res_T2_Prof</i>	4.85			
<i>Res_T2_Stud -</i>	4.88	-1.25	25	.221	<i>Res_T2_Prof -</i>	4.85	-0.33	13	.746
<i>Res_T3_Stud</i>	5.01				<i>Res_T3_Prof</i>	4.92			
<i>Res_T1_Stud -</i>	4.80	-2.14	23	.044	<i>Res_T1_Prof -</i>	4.72	-1.59	13	.135
<i>Res_T3_Stud</i>	5.01				<i>Res_T3_Prof</i>	4.92			
<i>Opt_T1_Stud -</i>	4.34	-2.04	23	.053	<i>Opt_T1_Prof -</i>	4.22	-3.22	13	.007
<i>Opt_T2_Stud</i>	4.63				<i>Opt_T2_Prof</i>	4.63			
<i>Opt_T2_Stud -</i>	4.63	-0.66	25	.518	<i>Opt_T2_Prof -</i>	4.63	0.86	13	.407
<i>Opt_T3_Stud</i>	4.70				<i>Opt_T3_Prof</i>	4.62			
<i>Opt_T1_Stud -</i>	4.34	-2.69	23	.013	<i>Opt_T1_Prof -</i>	4.22	-2.42	13	.031
<i>Opt_T3_Stud</i>	4.70				<i>Opt_T3_Prof</i>	4.62			

Table 2. Paired-Sample t Tests for all variables and both sample groups

4.5.2. PROFESSIONALS

Analogously to the first examined group, the test of the professionals sample group started by testing the normality and homogeneity of the variances. The Shapiro-Wilk test for participants and non-participants in the training (0.63; 0.13) and the Levene's test (0.67) showed values greater than the critical norm 0.05, which proves the normal distribution of the population where the sample group came from, as well as the equally homogeneity of variances in both trained and non-trained groups. Additionally, the One-way ANOVA test showed high p-value (0.87) which indicates the insignificant difference in the mean values of *PsyCap* in both groups.

Further analysis led to the execution of the Paired Sample t Test which was conducted in three rounds, comparing the results between Time 1 and Time 2, then Time 2 and Time 3, and finally Time 1 and Time 3.

The case with the professionals notably differs from the sample of students (Table 2). After performing the paired sample t test for the value of *PsyCap* as well as its four dimensions in Time 1 and Time 2 we can infer the significant increase in the mean of *PsyCap* from the first to the second period of time (Time 1 M = 4.61, Time 2 M = 4.90; $t = -3.17$; $p = 0.01$). Regarding the sub-elements we can only conclude with certainty that Optimism significantly differs in the examined period ($t = -3.22$; $p = 0.01$). The cases of Self-efficacy and Hope are arguable but considering the small number of the sample cases in this study we can assume their significant improvement, also by the difference in their means in both time bounds (Self Efficacy - Time 1 M = 4.73, T2 = 5.06, $t = -2.22$; $p = 0.05$; Hope - Time 1 M = 4.76, T2 = 5.05; $t = -2.01$; $p = 0.07$). In contrast, Resilience highly differentiate from the set ($t = -1.75$; $p = 0.10$) and it cannot be assumed its significant difference.

Similarly to the outcomes of the first sample group, in the comparison between Time 2 and Time 3 for professionals all cases demonstrate $p > 0.05$ which comes to prove that the means don't differ significantly in these two periods of time. *PsyCap* value decreased it's mean from 4.90 to 4.88 ($t = 0.76$; $p = 0.46$). As expected, the high results of the workshop tend to remain constant within the short-term period of time for all the dimensions, a subtle decrease is observed in their values ($t = 0.62, 0.31, -0.33, 0.86$; $p = 0.55, 0.76, 0.75, 0.41$).

Lastly, the results of the Paired Sample t Test for professionals in T1 and T3 exposed positive overall change. Improvement remained high in Self-efficacy and Optimism ($t = -2.33$; -2.42 ; $p = 0.04$; 0.03); Hope, though with smaller value can still be interpreted as significantly different from its value in T1 ($t = -2.07$; $p = 0.06$), having its mean increased from 4.72 to 5.02. The only low element is the Resilience which didn't remain high with time and it is not significantly different from its value in T1 ($t = -1.59$; $p = 0.14$). However, the ultimate value of *PsyCap* in T3 showed indication much higher than in T1 ($t = -2.970$; $p = 0.01$). In overall it increased significantly its mean from 4.61 to 4.88.

4.6. DISCUSSION

The primary purpose of this study was to develop the construct of Psychological Capital through its four components by a training intervention and to achieve positive effects over the individuals. Both examined groups which underwent the training supported the initial hypothesis that *PsyCap* can be developed but moreover provided new findings regarding the state of *PsyCap* throughout time.

The initial findings of the analysis regarding the reliability of the PCQ showed some ambiguous results (Table 1). Some of the scales didn't provide the critical 0.7 reliability of alpha (e.g. resilience, 0.56 in the students' sample; 0.65 in the professionals' sample). Therefore, we need to be aware of these limitations when interpreting the results concerning these specific dimensions. However, we have to clarify that, for the purposes of the thesis, was used the full version of the PCQ with all its 24-items which, overall, showed a very high level of reliability (0.85 and 0.90).

A possible reason for the low reliability of the PCQ may be related with its presented version, being subject to translation into Bulgarian language. A strict proximity with the original questions was kept during the translation. Nonetheless, such literal translation may have caused a certain mislead in the perception of the questions (e.g. *I approach this job as if "every cloud has a silver lining"*). Additionally, all the questions for the students' sample group were rephrased in a more relevant form, adapted to the academic setting. This transformation of the items' focus

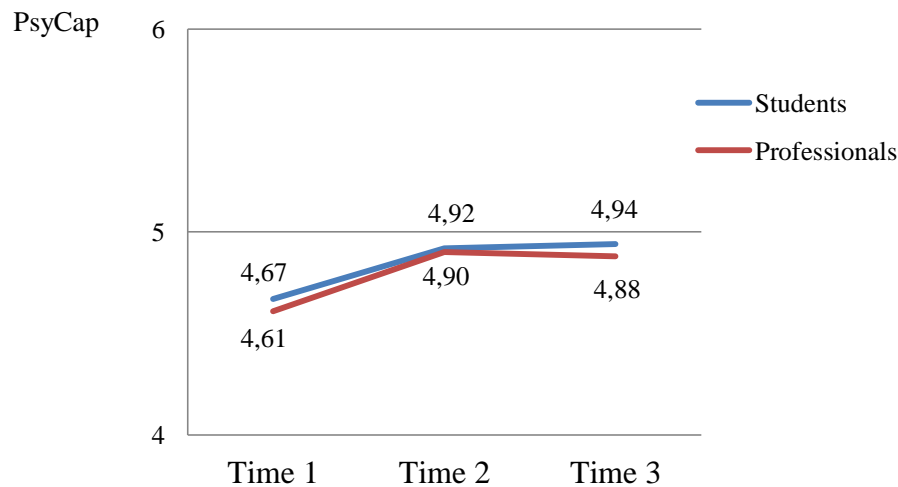
(moved from the working place to the academic context) may have caused additional misinterpretation, when the individual was trying to imagine himself/herself in a situation that is less likely to occur or is not quite applicable (e.g. *In this study program, things never work out the way I want them to.*). Even though the applied questionnaire to participants strictly followed the original, these transformations in the initial PCQ were inevitable.

Continuing to the core of the analysis we will proceed with the comparison between Time 1 and Time 2. As we predicted in Hypothesis 1, as well as stated as an objective for the thesis, an increase of the *PsyCap* would be obtained within our sample groups. In the case with the students it was found that the means of the construct were significantly different, increasing from 4.67 to 4.92 which presented the desired outcome. When looking at the specific dimensions, we verify that resilience didn't correspond to our forecast and didn't show significant increase. The reasons for that result should be sought, firstly, within the low reliability, noted previously. Any misunderstanding of a question may have led to unreliable respond. Secondly, another probable cause can be found within the execution and perception of the intervention tasks. In the intervention we tried to influence resilience by encouraging the participants to recall their assets and try to predict possible obstacles. In its nature, resilience reflects on the ability of one to adapt and bounce back to a certain adversity. In contrast with the other 3 dimensions, resilience pertains to some future possible setback that cannot be entirely anticipated and therefore involves some uncertainty. It also requires time during which the individuals will face the predicted threats and later would be able to reflect on them with more confidence. Therefore, this specific scale should be followed more closely during a longer period of time.

The case of the sample group of employed people repeats some of the results of the students in the first wave of the analysis (Time 1 – Time 2). Similarly, and most importantly *PsyCap* as a full dimension reached the expected increase (from 4.61 to 4.90) and this way once again we confirmed the Hypothesis 1. Likewise the outcome of the previous group, the single dimensions increased as well, with the exception of resilience which didn't increase significantly. To the previously mentioned hypothetical influential factors, in this case we can consider the small number of the individuals who took part in the intervention (N = 14). We identified it as a limitation and future researches in the area should use a wider sample of participants.

Next step, the analysis over Time 2 – Time 3 provided consistency in all the variables. There was no statistical significant difference between the observed variables in the studied period of time for both sample groups. Still, to test the validity of the Hypothesis 2 we should observe in detail the alteration in the means of the inspected variables.

Looking at the students' case, the overall level of *PsyCap* scored a slight improvement according to its mean (Time 2 – 4.92; Time 3 – 4.94). Nevertheless, such increase is not statistically significant and we cannot state with certainty that this increase is due to the attending to our training. Similar results are observed in the sub-dimensions of *PsyCap*, where yet insignificantly, optimism and resilience did increase their values. Hope remained almost in the same state (5.09 to 5.08), whereas only self-efficacy slightly decreased (5.05 to 4.95). Such consistency of all the scales as well as the level of *PsyCap* revealed numerous of new insights regarding the nature of *PsyCap* and its ability to sustain in short-term period. Graph 1 presents in an explicit way the development of the positive construct over time. The graph contains the part of the scale between 4 and 6 where is located the progress of *PsyCap* in the three examined stages of time. The graph itself stands as a clear evidence of supporting Hypothesis 2 regarding the observed sample group.



Graph 1. The *PsyCap* progress in time

Similarly, our second group of participants showed the expected sustainability. The decrease of the mean of *PsyCap* from 4.90 to 4.88 was proved statistically insignificant by the Paired Sample t Test. Likewise, none of the scales of *PsyCap* altered their values significantly.

Three of them slightly lowered their value – self-efficacy, hope and optimism, and only resilience showed some increase (Table 2). The participants from this group proved what we have anticipated previously, that *PsyCap* is able to maintain its higher value, acquired right after the conducted training (Graph 1).

To sum up, the outcomes found on the third stage of the analysis supported Hypothesis 2 in both study groups, by providing explicit evidences of the consistency of *PsyCap* during the one-month follow-up period. These results could serve as a base for additional researches regarding the variance of *PsyCap* in a long-term time-frame, in order to understand better the state of the construct.

Finally, and most importantly we returned back to Time 1 to find how different was the value of *PsyCap* of the students in Time 3 compared to its initial level. Now, based on our previous findings we can easily infer the significant difference between the two. The tested variables showed statistically significant difference in the mean of the construct in Time 3 (4.94) comparing with Time 1 (4.67), which stands in favour of Hypothesis 3. Interestingly, all the dimensions of *PsyCap* also presented statistically significant difference. These outcomes come to show again that the *PsyCap* of an individual could not only be influenced and improved but also its value could sustain for a certain period of time. For better understanding the given results, we should note that the follow-up period of time overlapped with the exam session of the students (January). This external factor could have influenced the behaviour and the state of mind of the individuals as well as their *PsyCap*. In other words, going through an exam session during this specific one-month period could have either boosted the self-efficacy of the participants or lowered it, depending on the level of difficulty and importance of each exam. It is also important to note that the examined group of participants were members of a student organisation – AIESEC, and as such their behaviour or attitude towards challenges might differ from an average student. As a suggestion for further studies we recommend a random sample of non-AIESEC students to be used.

The case with the professionals repeats and confirms the findings of the previous group as well as Hypothesis 3. The level of *PsyCap* significantly differs from Time 1 (4.61) to Time 3 (4.88). Similarly, we can assume that other external factors could have also contributed to the sustainability of *PsyCap*, although the group of employed people tends to be more reliable for this research due to the diverse range of occupation of the participants. They all belong to

different professional areas with different backgrounds and education and as well, tend to follow some repeated patterns of behaviour on their working place. So, regardless of its smaller number of participants, the study group of the workers provides a valuable insight to our research.

Having proved that the level of *PsyCap* remains high after one month of implementing a training intervention, an important question still has not been answered – “How long would the high level of *PsyCap* last?”. This question could not be answered within the frames of this master thesis however, an additional research will be submitted later on, in a 6-month follow-up stage with the same participants. For better understanding the alteration of *PsyCap* over time we recommend more frequent view over the study group - 1-month, 3-month, 6-month, 9-month monitoring.

Finally, we would like to refer to the Positive Organisational Behaviour and its importance for the business environment. As it was stated in Chapter 1, *PsyCap* belongs to the tools of POB and can be used as an influential feature over the on-the-job performance (Luthans, & Youssef, in 2007a). Useful aspect for further research in this area could track the performance of the individuals on their working places. A study of Luthans *et. al* (2008) provides evidences of the important role of *PsyCap* and its positive impact over the performance and work attitudes of employees and its potential contribution to an organization’s competitive advantage. Thus, we suggest analogous research to be conducted over a sample group that consists of same or identical professional occupation individuals in order their performance to be measured and compared respectively. Such individuals must execute the same or similar tasks and duties, during the same period of time. That way, the variation of the performance could be better tracked and understood.

Several practical implications emerge from the results of the study mainly in the areas of Human resources management, Organizational behavior and Performance management. Firstly, this study provides evidences of the development of Psychological Capital, replicated in different organizational and cultural context. Stated previously, empirical evidences prove that practices of Positive Organizational Behavior increase and support the role of *PsyCap* as a valuable psychological resource for today’s organizations. Thus, it is important to note the effectiveness of the PCI and *PsyCap* regardless the working or social environment. Secondly, the expected alteration of *PsyCap* could serve as an indicator for better planning for personnel trainings (serving POB, management and/or HR practices, etc.). Such technique can also be applied in

periods of organizational internal changes, merges and acquisitions, implementation of innovations, etc. These changes always require more intensive measures regarding the personnel, in order to maintain a stable on-the-job environment.

Third: given the competitiveness of today's business environment, it is essential for each organization to sustain the uniqueness of its human capital. Undoubtedly, the human resources are the biggest tangible assets of an organization, which are impossible to copy or reproduce. Some empirical studies of Wright, Cropanzano and Bonett (in press) using Fredrickson's broaden-and-build model, found that psychological well-being moderates the relation between job satisfaction and job performance, supporting the contribution of positivity to desirable work-related outcomes. Job performance was measured to be highest when employees reported high scores on both psychological well-being and job satisfaction. In another study, based on Hobfoll's (2002) Conservation of Resources Model, management human capital were found to be most likely to turn over when both their psychological well-being and job satisfaction were low (Wright & Bonett, in press). Therefore, using positive emotions and sustaining the high *PsyCap* would fortify the working environment as well as the job performance and satisfaction.

Lastly, the short duration of the intervention training combined with its positive outcomes of the psychological construct and its dimensions, makes this training very efficient in the economical point of view. It can be considered as a low budget human resources investment when paralleling the low time consumption and costs, versus the potential positive effects over the employees and the organization. As there were previously presented evidences, regarding the positive effect deriving from the high level of *PsyCap* of the individuals, we can infer that sustaining it high in time would give us grounds to expect better performance and higher productivity of the organization in future. Moreover, in a study research of Luthans *et al.* (2006), was presented some preliminary return on investment calculation. Using some validated utility formulas well-known in the field of HR management, as well as Forbes' published data regarding the top mid-sized companies, the scholars calculated that a conservative 2 per cent increase in the level of Psychological capital could reflect on a potential increase in the revenue by over \$10 million per year (Luthans *et al.* 2006). Noticeably, such calculation raises many questions and has adopted various assumptions nevertheless, we can still infer that putting on a scale the minimal budget of a 3-hour micro-intervention and the return on *PsyCap* growth, the potential benefit for the company can be significantly noted.

5. CONCLUSION

The results of this study not only confirm the flexible and developable features of individuals' psychological capital, but also its sustained high level over time. Such findings may result as valuable insights regarding organizations in different areas and geographical locations, for better planning, effective application of human resources practices by creating positive and supportive organizational climates and future return on investment. Since the psychological capital as a construct is proved to be "state-like" and there are evidences that it can be influenced (e.g., Luthans *et al.*, 2006; Luthans, Avey, & Patera, in press), *PsyCap* may be used as a powerful tool used in developing the human capital, accepted and implemented as an example of the new thinking and new approaches of HR management. Moreover, the growing researches in the area of positive emotions and employees' engagement, based on positive mediators (i.e. trainings, workshops) expose the need of applying positive organizational behavior. This paper proposes a contributing aspect in this line of management which helps the optimization of the human resources practices. Measuring the time frame in which *PsyCap* keeps evolving will allow a better influential development plan to be applied and as well will allow more precise monitoring over the construct.

Measuring the cycle of *PsyCap* is an area which is still not examined and studied enough but its practical implication has the potential to improve and optimize the human capital. More and more organizations nowadays already recognize their human resources as a unique and powerful asset that cannot be copied or replicated. Further development and practices in this area, such as long-term training interventions, daily influential *PsyCap* factors or developing mindfulness at work (Avey *et al.* 2008), are some of the practical implications for developing more positive professional environment.

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7. APPENDICES

7.1. APPENDIX A: PSYCHOLOGICAL CAPITAL TRAINING SUMMARY

During the training participants were asked to work on a goal which they set up in the beginning and to examine it deeply by different techniques, brainstorming and group discussion.

In order to make sure that all of them set up a proper goal in the beginning they were explained what is a SMART goal and how it should be set. This tool, first created by Paul J. Meyer's nowadays is widely used in the literature for coaching, mentoring and human capital development. The letters broadly conform to the words Specific, Measurable, Attainable, Realistic and Time-bounded.

Specific - The goal should be clear and unambiguous; without vagaries and platitudes. To make goals specific one should define (1) what is expected to happen, (2) why is it important, (3) where is it going to happen and (4) which attributes are important.

Measurable - Need for concrete criteria for measuring progress toward the attainment of the goal. Measuring progress is supposed to help the individual stay on track and reach its target dates. A measurable goal will usually answer questions such as: (1) How much, (2) How many or (3) How will I know when it is accomplished?

Attainable - Goals that are realistic and achievable and not extreme. An attainable goal should be able to answer the question: How can the goal be accomplished?

Relevant - Goals that matter. A relevant goal can answer yes to these questions: (1) Does this seem worthwhile?, (2) Is this the right time?, (3) Does this match our other efforts/needs?

Time-bound - Goal which is put in time frame, with a target date.

After clarifying how the goal should be set up, the participants were asked to think of up to three goals that they would like to achieve in the near future. One of them was chosen afterwards and the focus was directed over it for all the tasks.

Task 1 – Create pathways. Participants were asked to think individually of different ways of how to achieve their goal.

Task 2 – Be aware of obstacles. Participants were asked to identify possible obstacles that can appear on their way toward the goal and how could they overcome them.

Task 3 – Set sub-goals. Participants were asked to create a list of sub-goals which will be their plan to follow in order to reach the ultimate goal.

Task 4 – What are your assets? Participants were asked to create a list of all the resources they have got on their disposal which will help them for achieving the goal. To make it explicit we explained what should be included in this category: skills, abilities, knowledge, belongings, technical and physical assets, other people, connections, financial resources, etc. Here also was placed the question of what are the possible threats that might appear, would they have enough resources to react, if not – what else they would need.

Task 5 – Small group discussion. Participants were asked to form small working groups of 4-5 people and to repeat the previous exercises this time together by sharing one by one their execution plan and exchanging feedback and ideas of how to improve it.

Task 6 – ‘Positive’ Brainstorming. This task included the whole audience. It was conducted a brainstorming about positive phrases, thoughts or quotes which could inspire or drive the individuals towards their goals in times of difficulty and setback. Phrases which on daily bases will keep strong their motivation and willingness towards the goal.

In the end the participants were debriefed about the concept of *PsyCap* and the meaning of its four elements.

7.2. APPENDIX B – DESCRIPTIVE ANALYSIS

7.2.1. All participants

Are you student or worker

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Student	50	64.1	64.1	64.1
Worker	28	35.9	35.9	100.0
Total	78	100.0	100.0	

Table 3. Distribution of all participants in the research from both study groups by occupation.

Taken participation in the workshop

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	38	48.7	48.7	48.7
Yes	40	51.3	51.3	100.0
Total	78	100.0	100.0	

Table 4. Participation in the training intervention from both study groups.

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	30	38.5	38.5	38.5
Female	48	61.5	61.5	100.0
Total	78	100.0	100.0	

Table 5. Total participants in the research by gender.

7.2.2. Students

Age				
	Frequency	Percent	Valid Percent	Cumulative Percent
19	7	14,0	14,0	14,0
20	9	18,0	18,0	32,0
21	19	38,0	38,0	70,0
22	6	12,0	12,0	82,0
Valid 23	5	10,0	10,0	92,0
24	1	2,0	2,0	94,0
25	1	2,0	2,0	96,0
26	2	4,0	4,0	100,0
Total	50	100,0	100,0	

Table 6. Participants from the students' study group by age.

Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Male	20	40,0	40,0	40,0
Valid Female	30	60,0	60,0	100,0
Total	50	100,0	100,0	

Table 7. Participants from the students' study group by gender.

		Year of study			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1st year of Bachelor	7	9.0	14.0	14.0
	2nd year of Bachelor	10	12.8	20.0	34.0
	3rd year of Bachelor	21	26.9	42.0	76.0
	4th year of Bachelor	9	11.5	18.0	94.0
	1st year of Master	2	2.6	4.0	98.0
	2nd year of Master	1	1.3	2.0	100.0
	Total	50	64.1	100.0	
Missing	System	28	35.9		
Total		78	100.0		

Table 8. Students by the year of their studies.

7.2.3. Professionals

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	24	2	7,1	7,1	7,1
	25	9	32,1	32,1	39,3
	26	9	32,1	32,1	71,4
	27	2	7,1	7,1	78,6
	29	1	3,6	3,6	82,1
	30	2	7,1	7,1	89,3
	35	1	3,6	3,6	92,9
	42	1	3,6	3,6	96,4
	47	1	3,6	3,6	100,0
	Total	28	100,0	100,0	

Table 9. Participants from the professionals' study group by age.

Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	10	35,7	35,7	35,7
Valid Female	18	64,3	64,3	100,0
Total	28	100,0	100,0	

Table 10. Participants from the professionals' study group by gender.

What is your working area				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Accounting	3	10,7	10,7	10,7
Bank cashier	1	3,6	3,6	14,3
Brocker	1	3,6	3,6	17,9
Commerce	2	7,1	7,1	25,0
Content Marketing	1	3,6	3,6	28,6
Customer support	2	7,1	7,1	35,7
Database analyst	1	3,6	3,6	39,3
Electrician	1	3,6	3,6	42,9
Finance specialist	2	7,1	7,1	50,0
Furniture design	1	3,6	3,6	53,6
Graphic Designer	2	7,1	7,1	60,7
Human Resources	1	3,6	3,6	64,3
IT and computer maintenance	1	3,6	3,6	67,9
IT specialist	1	3,6	3,6	71,4
Manager	2	7,1	7,1	78,6
Office manager	1	3,6	3,6	82,1
Software Engineer	1	3,6	3,6	85,7
Supervisor	1	3,6	3,6	89,3
Teacher	1	3,6	3,6	92,9
Tourism	2	7,1	7,1	100,0
Total	28	100,0	100,0	

Table 11. Professionals by occupation.

7.3. APENDIX C: RELIABILITY ANALYSIS ALPHA CHRONBACH

7.3.1. All participants

		N	%
Cases	Valid	76	97.4
	Excluded ^a	2	2.6
	Total	78	100.0

a. Listwise deletion based on all variables in the procedure.

Table 12. Statistical summary of the examined cases.

7.3.1.1. Overall 24-item reliability

Cronbach's Alpha	N of Items
.876	24

Table 13. Reliability of 24-item among the total amount of participants.

7.3.1.2. Self-efficacy reliability

Cronbach's Alpha	N of Items
.837	6

Table 14. Reliability of Self-efficacy among the total amount of participants.

7.3.1.3. Hope reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.754	6

Table 15. Reliability of Hope among the total amount of participants.

7.3.1.4. Resilience reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.602	6

Table 16. Reliability of Resilience among the total amount of participants.

7.3.1.5. Optimism reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.702	6

Table 17. Reliability of Optimism among the total amount of participants.

7.3.2. Students

Case Processing Summary			
		N	%
Cases	Valid	48	96.0
	Excluded ^a	2	4.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Table 18. Statistical summary of the examined cases, students.

7.3.2.1. Overall 24-item reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.848	24

Table 19. Reliability of 24-item among the students.

7.3.2.2. Self-efficacy reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.795	6

Table 20. Reliability of Self-efficacy among the students.

7.3.2.3. Hope reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.654	6

Table 21. Reliability of Hope among the students.

7.3.2.4. Resilience reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.560	6

Table 22. Reliability of Resilience among the students.

7.3.2.5. Optimism reliability

Cronbach's Alpha	N of Items
.679	6

Table 23. Reliability of Optimism among the students.

7.3.3. Professionals

		N	%
Cases	Valid	28	100.0
	Excluded ^a	0	.0
	Total	28	100.0

a. Listwise deletion based on all variables in the procedure.

Table 24. Statistical summary of the examined cases, professionals.

7.3.3.1. Overall 24-item reliability

Cronbach's Alpha	N of Items
.903	24

Table 25. Reliability of 24-item among the professionals.

7.3.3.2. Self-efficacy reliability

Cronbach's Alpha	N of Items
.891	6

Table 26. Reliability of Self-efficacy among the professionals.

7.3.3.3. Hope reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.844	6

Table 27. Reliability of Hope among the professionals.

7.3.3.4. Resilience reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.649	6

Table 28. Reliability of Resilience among the professionals.

7.3.3.5. Optimism reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.715	6

Table 29. Reliability of Optimism among the professionals.

7.4. APPENDIX D: TEST FOR NORMALITY

7.4.1. Normality of the students' sample group

Tests of Normality							
	Taken participation in the workshop	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
<i>PsyCap_T1_Stud</i>	No	.077	24	.200 [*]	.967	24	.592
	Yes	.141	24	.200 [*]	.950	24	.271

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 30. Test for normality of the students' sample group.

7.4.2. Normality of the professionals' sample group

Tests of Normality							
	Taken participation in the workshop	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
<i>PsyCap_T1_Prof</i>	No	.194	14	.163	.904	14	.131
	Yes	.166	14	.200 [*]	.954	14	.626

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 31. Test for normality of the professionals' sample group.

7.5.APPENDIX E: TEST FOR HOMOGENEITY

7.5.1. Homogeneity of the students' sample group

Test of Homogeneity of Variances
PsyCap_T1_Stud

Levene Statistic	df1	df2	Sig.
3.504	1	46	.068

Table 32. Test for homogeneity of the students' sample group.

7.5.2. Homogeneity of the professionals' sample group

Test of Homogeneity of Variances
PsyCap_T1_Prof

Levene Statistic	df1	df2	Sig.
.186	1	26	.670

Table 33. Test for homogeneity of the professionals' sample group.

7.6. APPENDIX F: ANOVA TEST

7.6.1. Students

ANOVA

PsyCap_T1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.073	1	.073	.305	.584
Within Groups	11.055	46	.240		
Total	11.128	47			

Table 34. ANOVA Test of the students' sample group.

7.6.2. Professionals

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.012	1	.012	.029	.866
<i>PsyCap_T1_Prof</i> Within Groups	10.804	26	.416		
Total	10.816	27			

Table 35. ANOVA Test of the professionals' sample group.

7.7.APPENDIX G: PARED-SAMPLE T TEST

7.7.1. Students

7.7.1.1. Time 1 – Time 2

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	<i>PsyCap_T1 - PsyCap_T2</i>	-,2430556	,2817053	,0575029	-,3620093	-,1241018	-4,227	23	,000
Pair 2	<i>Self_T1 - Self_T2</i>	-,3680556	,4052171	,0827146	-,5391637	-,1969474	-4,450	23	,000
Pair 3	<i>Hope_T1 - Hope_T2</i>	-,2986111	,3332578	,0680260	-,4393336	-,1578887	-4,390	23	,000
Pair 4	<i>Res_T1 - Res_T2</i>	-,1111111	,4189551	,0855188	-,2880203	,0657981	-1,299	23	,207
Pair 5	<i>Opt_T1 - Opt_T2</i>	-,1944444	,4679761	,0955252	-,3920534	,0031645	-2,036	23	,053

Table 36. Pared-Sample T Test of the students' sample group (T1- T2).

7.7.1.2. Time 2 – Time 3

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	<i>PsyCap_T2 - PsyCap_T3</i>	-,0208333	,3684144	,0722520	-,1696391	,1279725	-,288	25	,775
Pair 2	<i>Self_T2 - Self_T3</i>	,0897436	,4971715	,0975034	-,1110683	,2905555	,920	25	,366
Pair 3	<i>Hope_T2 - Hope_T3</i>	,0192308	,4554044	,0893121	-,1647110	,2031726	,215	25	,831
Pair 4	<i>Res_T2 - Res_T3</i>	-,1282051	,5213395	,1022431	-,3387787	,0823685	-1,254	25	,221
Pair 5	<i>Opt_T2 - Opt_T3</i>	-,0641026	,4990589	,0978735	-,2656768	,1374717	-,655	25	,518

Table 37. Pared-Sample T Test of the students' sample group (T2- T3).

7.7.1.3. Time 1 – Time 3

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	<i>PsyCap_T1 - PsyCap_T3</i>	-,2517361	,3872748	,0790521	-,4152679	-,0882043	-3,184	23	,004
Pair 2	<i>Self_T1 - Self_T3</i>	-,2638889	,6273105	,1280492	-,5287789	,0010011	-2,061	23	,051
Pair 3	<i>Hope_T1 - Hope_T3</i>	-,2569444	,4739065	,0967358	-,4570576	-,0568313	-2,656	23	,014
Pair 4	<i>Res_T1 - Res_T3</i>	-,2222222	,5099651	,1040962	-,4375616	-,0068828	-2,135	23	,044
Pair 5	<i>Opt_T1 - Opt_T3</i>	-,2638889	,4813344	,0982520	-,4671386	-,0606392	-2,686	23	,013

Table 38. Pared-Sample T Test of the students' sample group (T1- T3).

7.7.2. Professionals

7.7.2.1. Time 1 – Time 2

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	<i>PsyCap_T1 - PsyCap_T2</i>	-,3452381	,4080613	,1090590	-,5808457	-,1096305	-3,166	13	,007
Pair 2	<i>Self_T1 - Self_T2</i>	-,3928571	,6621873	,1769770	-,7751927	-,0105216	-2,220	13	,045
Pair 3	<i>Hope_T1 - Hope_T2</i>	-,2857143	,5328065	,1423985	-,5933476	,0219190	-2,006	13	,066
Pair 4	<i>Res_T1 - Res_T2</i>	-,2261905	,4830775	,1291079	-,5051111	,0527302	-1,752	13	,103
Pair 5	<i>Opt_T1 - Opt_T2</i>	-,4761905	,5541496	,1481027	-,7961469	-,1562340	-3,215	13	,007

Table 39. Pared-Sample T Test of the professionals' sample group (T1- T2).

7.7.2.2. Time 2 – Time 3

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	<i>PsyCap_T2 - PsyCap_T3</i>	,0744048	,3647746	,0974901	-,1362098	,2850194	,763	13	,459
Pair 2	<i>Self_T2 - Self_T3</i>	,0833333	,5053136	,1350508	-,2084261	,3750927	,617	13	,548
Pair 3	<i>Hope_T2 - Hope_T3</i>	,0357143	,4345081	,1161272	-,2151632	,2865918	,308	13	,763
Pair 4	<i>Res_T2 - Res_T3</i>	,0357143	,4039261	,1079538	-,1975057	,2689343	,331	13	,746
Pair 5	<i>Opt_T2 - Opt_T3</i>	,1428571	,6231199	,1665358	-,2169216	,5026359	,858	13	,407

Table 40. Pared-Sample T Test of the professionals' sample group (T2- T3).

7.7.2.3. Time 1 – Time 3

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	<i>PsyCap_T1 - PsyCap_T3</i>	-,2708333	,3411542	,0911773	-,4678099	-,0738567	-2,970	13	,011
Pair 2	<i>Self_T1 - Self_T3</i>	-,3095238	,4972452	,1328944	-,5966246	-,0224230	-2,329	13	,037
Pair 3	<i>Hope_T1 - Hope_T3</i>	-,2500000	,4517298	,1207299	-,5108210	,0108210	-2,071	13	,059
Pair 4	<i>Res_T1 - Res_T3</i>	-,1904762	,4474865	,1195958	-,4488472	,0678948	-1,593	13	,135
Pair 5	<i>Opt_T1 - Opt_T3</i>	-,3333333	,5147400	,1375701	-,6305354	-,0361313	-2,423	13	,031

Table 41. Pared-Sample T Test of the professionals' sample group (T1- T3).