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Optimism, Career Decision Self-Efficacy and Career Indecision Among Greek Adolescents

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Abstract

The study explored the mediating role of career decision making self-efficacy between optimism and adolescents' career indecision. Using a sample of 153 Greek high school students, it was found that optimism influenced career indecision both directly and indirectly (via career decision making self-efficacy). The findings are discussed with reference to the social cognitive career theory (SCCT) framework. Implications for research and adolescents' career counseling are also discussed.

Keywords: Adolescents, Career Decision Making Self-Efficacy, Career Indecision, Optimism, SCCT.

INTRODUCTION

Making a career choice appears to be the result of the successful completion of a number of developmental tasks (Gati, Krauz, Osipow, 1996). A carefully planned career decision invariably leads to important future vocational outcomes. For that reason, how individuals approach the career decision-making process is of vital interest to career counselors in order to help their clients deal better with the challenge of making career decisions more effectively. Students gradually become more focused on making career choices during their secondary education. At that age, students have to decide upon a suitable university study or an adequate job to engage in, and their career decisions will strongly direct their future career paths. Greece provides a particular set of educational and social conditions, under which high school students' career development is formed. Contrary to other student populations, who are supposed to make career choices during early adulthood, Greek students are expected to make critical occupational decisions during secondary school years. Current situation of economic crisis in Greece and the high unemployment rate among 19-29-year-olds (Neets), make that career decision

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making is becoming an increasingly difficult and stressful task and career indecision one of the most important issues in Career Counseling (Lent, Brown & Hackett, 1994).

Career Indecision

Career indecision usually refers to difficulties faced by the individual in his attempt to make career decisions. These difficulties are identified either before or during the career decision making process. (Gati & Levin, 2014). Numerous publications over the past two or three decades have pointed that career indecision is considered as a dichotomy (i.e., clients were categorized as either equipped to make viable career decisions or not equipped to do so). Over time, the belief grew that clients could be plotted on a one-dimensional continuum anchored by 'undecided' and 'decided.' This view was in turn replaced by the belief that career indecision should be seen as a multi-dimensional phenomenon (Argyropoulou & Kaliris, 2018). Several studies have focused on various aspects of career indecision, such as cognitive, emotional, and personality-related aspects, and researchers have developed taxonomies and appropriate diagnostic instruments in order to map these difficulties (Gati et al., 2011). Therefore, researchers in career counseling devised assessment instruments to determine the nature of clients' indecision and began to design different interventions for different subcategories of indecision (Gati & Willner, 2013).

The study of factors related to and influence career indecision can help the career counselor identify about the type of career indecision of the person (career indecision – career indecisiveness) decide about terms and of the appropriate intervention program. Cognitive Career Theory (SCCT: Lent, Brown & Hackett, 1994. 2002) has emerged as a valid and frequently used framework for understanding academic and career choice in recent years (Betz, 2008; Lent et al., 2008). A recent trend focuses on extending the SCCT framework from career choice formation to career decision making process and its outcomes/attainments, such as level of career decidedness/indecision. Therefore, SCCT could serve as a helpful theoretical tool for understanding career indecision.

SCCT and Career Decision Self-Efficacy

Social Cognitive Career Theory draws its roots from Bandura's social cognitive theory, which emphasizes the importance of examining the ways in which self-referential thinking, cognitive patterns, and various social processes interact to guide and influence human behavior (Bandura, 1986; Lent et al., 1994). The initial theorists of SCCT, Lent et al. (1994), adapted the elements of Bandura's social cognitive theory that were most relevant to career development processes in order to examine the influence and interaction between experiential learning processes and cognitive processes on career decisions. Three central constructs have been identified by SCCT due to their relevance within career development processes: self-efficacy, outcome expectations, and goals (Lent, Brown, & Hackett, 2002). Self-efficacy is defined as a self-evaluation of one's abilities to complete a certain task or attain a certain level of achievement or performance (Bandura, 1986). Self-efficacy belief might improve or weaken in different ways. For instance, students who have never experienced career decision making will most probably have lower self-efficacy belief in career decision making.

According to Lent et al. (2002), self-efficacy is a core component of SCCT theory, because people are theorized as more likely to develop an interest in activity, choose to pursue that activity, and ultimately perform better at the activity if they possess robust self-efficacy beliefs (assuming the individual also possesses requisite abilities and receives support from their environment) (Wu, 2018). In the development process, career decision self-efficacy refers to the individual's belief that he or she can successfully complete tasks necessary for career decision making (Taylor & Betz, 1983). Taylor and Betz (1983) developed the Career Decisionmaking Self-efficacy scale to measure this construct and showed that it was associated with career indecision. Empirical findings so far confirm the SCCT's hypothesis concerning the ability of self-efficacy to affect the career decision-making process. For example, the construct has been related to career indecision (Giannakos, 2001), career exploration (Rogers, Creed & Glendon, 2008) and vocational identity among Greek adolescents (Koumoundourou, Kounenou & Siavara, 2011). According to Scott and Cianni (2008), research on career decision self-efficacy adds to our understanding of the nature of career decision making and enhances

knowledge of many constructs relevant to the study of career development. Within Greek context, a number of factors (personality, environmental factors, and contextual supports) have been bound to affect the career decision-making self-efficacy of high school students as well as their performance in relation to the career decision-making process (Charokopaki, 2012). In this conceptualization, career decision-making self-efficacy is viewed as a causal antecedent to making a career decision, that is, a causal antecedent to being career decided or undecided. As a consequence, research has focused on the career decision-making process. More specifically, a number of researchers have explored the mediating role of career decision making self-efficacy between person inputs, such as personality traits or affective predispositions (e.g., big-five personality traits, emotional stability, core self-evaluations outcome expectation (Jin et al., 2009. Koumoundourou et al., 2011). Rogers, Creed, and Glendon (2008) also insist on the mediating role of self-efficacy belief among personality characteristics as one of the person input factors and career behaviors. These studies show that person inputs might affect career development process not only indirectly, as it is proposed by SCCT theory, but also directly. More recently, researchers also point out that as far as empirical evidence is concerned, limited attention has been given to person input variables (Sheu & Bordon, 2017). Taking into consideration that most studies within SCCT framework have explored the role of personality and other alternative personality constructs, it could be interesting to cross-validate the effect of affective predispositions and positive emotions such as optimism on career development. Given that career optimism, attitudes will likely influence one's expectations for engaging in future actions, it appears appropriate to include within-person input variables in SCCT models. This supports the need to examine career optimism specifically, rather than dispositional optimism, when applying an SCCT framework.

Positive Emotions-Optimism

Current research trend in Positive Psychology focuses on effective predispositions and positive emotions concern the scientific study of the human merits and the internal powers of character which strengthen individuals and help societies to prosper. These are important perennial values, psychosocial powers, skills and emotions such as courage, optimism, perseverance, hope, vocational adaptability, endurance, joy, altruism, etc. (Frederickson et al., 2004. Pury et al., 2014). This tendency gave, naturally, a lift within Greek context, in the research level for the study of the relationship and the effect of various positive emotions and variables to important subjects of career development such as the career decision making (Argyropoulou & Kaliris, 2018. Argyropoulou, Katsioulou, Drosos, & Kaliris, 2018. Charokopaki & Kaliris, 2018. Sovet, Annovazzi, Ginevra, Kaliris, & Lodi, 2018).

One newly identified construct that has garnered recent attention in the career development literature is career optimism. Dispositional optimism refers to generalized expectations regarding positive future occurrences (Scheier & Carver, 1985). Optimistic individuals are better able to maintain positive expectations about succeeding in the present and in the future. Optimists are also less likely to dwell on negativity, more likely to persist when facing adversity, and more likely to utilize positive coping behaviors (Peterson & Seligman, 1984). Within the context of career development processes of college students, dispositional optimism has been established as positively related to engagement in career planning actions such as career exploration and the development of one's vocational identity (Creed et al., 2002). Optimists do not expect the problems to be solved, but they take the appropriate means. They are also able to deal with threatening situations because they adopt active coping strategies, focusing on solving rather than avoiding the problem (Tsechelidou, 2015). On the contrary, pessimists have low decision-making abilities, they express negative perceptions about their career behavior, and they have an external control about decision-making process (Gati, Landman, Davidovitch, Asulin-Peretz, Gadassi, 2010).

Within the SCCT framework, in other surveys, there has been a positive correlation between optimism and support from parents or teachers to self-decision making self-efficacy (Garcia, Restubog, Bordia, Bordia & Roxas 2015. Rottinghaus, Buelow, Matyja, & Schneider, 2012). Optimism directly predicts academic satisfaction and provides for a proper career choice (Milvee et al. (2013). Braunstein-Bercovitz Benjamin, Asor, & Lev (2012) found that stress (as a general characteristic and professional) and pessimism (personal-professional) have a high correlation with career indecision. Finally, a positive effect was directly and indirectly, through person cognitive

variables (e.g., self-efficacy), predictive of academic satisfaction among college students and job satisfaction among adults in some European and African countries (Lent et al. 2009, 2014). These studies appear to extend the SCCT hypotheses including positive emotions to person inputs and by showing that these personal inputs might affect career development process (including career decision making process) not only indirectly, as it is proposed by theory, but also directly. Therefore, taking into consideration that studies mentioned above have used other constructs but positive emotions or optimism, in order to explore the role of person inputs in the context of SCCT, it could be interesting to cross-validate the effect of dispositional optimism beliefs on the career decision-making process. More specifically, we expect dispositional optimism beliefs as person inputs to affect indirectly career outcomes/attainments, such as level of career decidedness/indecision via career decision making self-efficacy and also directly.

Methodology of Research

The data collection took place from January to February 2018. The present study is responding to calls for further examination of both the personal influences on adolescents' career development process (Rogers et al., 2008) especially calls to explore how other personality trait-like variables such as optimism may function as person input variables in SCCT model and the applicability of SCCT framework to different cultural settings (Sheu & Bordon, 2017). Also, given the specific educational characteristics of career decisions for Greek students, it seems highly important to understand the affective predispositions under which Greek adolescents cope with their demanding career development process. Since SCCT has been shown to be valid theoretical framework for understanding the factors influencing career decision-making self-efficacy (e.g., Charokopaki, 2012), it was considered worth testing whether the potential extension concerning the influence of optimism on career decision making self-efficacy and career indecision applies in Greek adolescents.

Putting the previously mentioned findings and calls and SCCT framework we decided to examine the mediating role of career decision making self-efficacy between personal inputs and level of career indecision by introducing a new construct, optimism. In other words, we decided to examine the role of optimism as a person input variable and its direct or indirect, through person-cognitive variables (career decision making self-efficacy), predictive role in career decision state in Greek adolescents. Therefore, the following hypothesis was generated: optimism is expected to influence young adolescents' level of career decision making self-efficacy, which, in turn, influences their career indecision state (see Figure 1).

Specifically, although positive emotions and their effect on career development variables such as career decision making has recently been acknowledged, previous research efforts on extending SCCT to career choice process have not examined optimism as a person input variable and whether the identified patterns of relationship among constructs apply within the SCCT framework.

Therefore, the main research questions of the survey were as follows:

- a) Is there a significant relationship between optimism (predictor/independent variable) and level of career indecision? (outcome/dependent variable)
- b) Is there a significant relationship between optimism (predictor/independent variable) and career decision making self-efficacy? (mediator variable)
- c) Is there a significant relationship between career decision making self-efficacy (mediator variable) and level of career indecision (outcome/dependent variable) with the predictor controlled
- d) Does the strength of the relationship between optimism (predictor/independent variable) and career indecision (outcome/dependent variable) is significantly reduced when career decision making self-efficacy (mediator) is added to the model?
- e) Does parameter coefficient (standardized beta) weigh is reduced, when both the independent variable/predictor (optimism) and the mediator (career decision making self-efficacy) are related to outcome variable (career indecision) (path c') than standardized beta indicating the relation between the independent variable /predictor (optimism) and outcome/dependent variable (career indecision)?

Sample

The sample of the present survey consisted of 153 Greek high school students (71 boys and 82 girls) from various senior high schools (Greek Lyceum) located in the capital of Greece, Athens. The age of students ranged from 16-17 years. 92 of the students (60%) of the students were attending the first year of Lyceum, and 61 (39, 9%) were attending the second year of Lyceum.

Instruments

The following questionnaires were used to collect data.

Career decision making self-efficacy. The adjusted Greek form of the Middle School Self-Efficacy Scale (Fouad, Smith & Enochs, 1997) was used to indicate the level of participants in career decision making self-efficacy. The Middle School Self-Efficacy Scale is a modified version of Taylor and Betz's (1983) CDSE Scale. Modifications included having fewer items and more understandable wording for children in middle school. This 12-item scale measures adolescents' confidence in the ability to make career-related decisions. A sample item includes "I resist attempts of parents and friends to push me into a career I believe is beyond my abilities or not for me." Responses are recorded using a Likert-type scale ranging from strongly disagree (1) to strongly agree (4). Mean scores are derived, with higher scores indicating more confidence inability to make decisions about a future career. In a validity study of the CDSE measure with middle school students, Fouad and Smith (1997) found this modified scale was valid and reliable with this group. Middle School Self-Efficacy Scale was translated in Greek by Charokopaki (2012) and has been shown to be related to various career variables, such as career-related parent and peers support when used with Greek high school students (Charopaki, 2012). Sample items include "Find information in the library about five occupations I am interested in"; "Make a plan of my educational goals for the next three years"; "Decide what I value most in an occupation." In this research, the internal consistency (Cronbach's α) of CDMSE was 70.

Career indecision. Career indecision was assessed by the adjusted Greek form of Career Decision Scale (Argyropoulou, Sidiropoulou-Dimakakou & Besevegis, 2007. Osipow, 1987), which is consisted of 18 items. The CDS has been primarily used as a measure of the degree of indecision, but it was originally developed with the expressed intent of identifying types of indecision. Items 3 through 18 represent the 16 items measuring indecision (e.g., "Several careers have equal appeal to me. I'm having a difficult time deciding among them"; "I can't make a career choice right now because I don't know what my abilities are"), and items 1 and 2 indicate certainty of career choice (e.g., "I have decided on a career and feel comfortable with it. I also know how to go about implementing my choice"). Responses are recorded on a 4-point Likert response continuum of *Like Me* (4) to *Not Like Me* (1). The internal consistency reliability of CDS has been consistently high with r 's in the .80s (Fuqua & Hartman, 1983). In the study of Shimizu et al. (1988) the Tucker-Lewis reliability coefficient for the full scale was .992. In this research, the internal consistency (Cronbach's α) of CDS was 80.

Life Orientation. Life Orientation Test-Revised (LOT-R. Scheier et al., 1994. Greek adaptation, Tsechelidou 2017) was used to explore dispositional optimism beliefs. Life Orientation measures dispositional optimism by a 10-item scale, with 4 filler items and 6 scale items. LOT-R Total scores are calculated by adding the 3 positively worded and 3 negatively worded items (these are reverse coded). Respondents are asked of the items on a 4-point scale (from strongly agree to disagree strongly). This gives a possible score range of 6 to 24, with higher scores indicating a higher level of optimism. Tsechelidou reports an internal reliability coefficient of .82. Cronbach's alpha calculation on the sample of the study is .67. Sample items include "In uncertain times, I usually expect the best," "If something can go wrong for me, it will" (items reverse scored). Scheier and Carver (1985) considered optimism to be a unidimensional construct, putting optimism and pessimism as polar opposites, suggesting that an individual can be optimistic or pessimistic but cannot be both. The choice of this instrument was due to the lack of to fit the Greek context. Moreover, LOT-R of career maturity, career decision making, and well-being in a study which involved 504 high school students (Creed et al., 2002), showing Cronbach's $\alpha = .60$.

Demographics Questionnaire. An improvised questionnaire for the collection of demographic data was created, which included questions about gender, age and school year attended.

Procedure

Participants were asked to participate voluntarily after school timetable curricula, in research aiming to examine the factors affecting the procedure under which they make their career decisions. No name identification number was required thereby maintaining anonymity. Researchers informed the participants about confidentiality issues and that they had the right to withdraw from the study administration at any time and any stage. The questionnaire booklet took approximately 20 min to complete.

Data Analysis

Each questionnaire was screened by the first author in order to guarantee that no missing data occurred. As a result, there were only a few missing data which were substituted by the mean score of the item (Graham, 2009). Descriptive statistics (mean and standard deviation) and internal consistency estimates (Cronbach's α) for the scores of the students at the scales and the sub-scales of the survey were calculated.

Results of Research

Psychometric Characteristics of the Scales

Table 1. Cronbach's α indices of the subscales used in the survey

	Cronbach's α	Number of items
Optimism	.60	10
Career Decision Making Self-Efficacy	.70	12
Career Indecision	.80	18

For the needs of the analyses, the average answers of the participants were calculated in the factors in which the scales of career decision making self-efficacy career indecision and optimism are compounded. The possible width of the values for all scales was from 1 to 4. Table 2 shows descriptive statistical indices for all scales. According to these results, it could be surmised that the participants showed moderate scores for career indecision. This suggests participants displayed a moderate level of career indecision. Participants also showed approximately high scores for career decision making self-efficacy scores. This suggests high ability regarding the efficient confrontation of career decision-making issues. Finally, participants showed a low level of dispositional optimism. This suggests a low feeling regarding positive future occurrences. The means and standard deviations, for all measures, are reported in Table 2.

The Mediating Role of Career Decision Making Self-Efficacy

To examine whether career decision-making self-efficacy accounted for the relationship between optimism and career indecision, the date analytic strategy (mediation analyses) developed by Baron & Kenny (1986) was followed. Within this strategy, a series of analyses test (four steps) are performed that test four conditions of causal relationships through multiple regression analyses. Specifically, according to Baron and Kenny (1986), there is evidence that a variable mediates the relationship between a predictor variable and outcome variable when each of the following conditions have been met: a) there is a significant relationship between predictor (i.e. optimism) and an outcome (i.e. career indecision), b) there is a significant relationship between a predictor and a proposed mediator variable (i.e. career decision self-efficacy), c) there is a significant relationship between a proposed mediator and outcome (with the predictor controlled), d) the strength of the relationship between a predictor and an outcome is significantly reduced when the mediator is added to model, and e) parameter coefficient (standardized beta) weigh is less when both the independent variable/ predictor (optimism) and the mediator (i.e., career decision making self-efficacy) are related to outcome variable (i.e., career indecision)

(path c') than the one (standardized beta) indicating the relation between the independent variable /predictor (i.e. optimism) and outcome/dependent variable (i.e. career indecision).

James, Mulaik & Brett (2006) proposed that complete mediation is supported when not only Parameter coefficient (standardized beta) in path c' is not only less than the one in path c but is also of significant importance. However, since in social sciences relationships are multidimensional, which means they are the effect of many factors, such a demand is strict enough and not possible to happen (Judd & Kenny, 1981). For this reason, when the Parameter coefficient (standardized beta) weigh in path c' is less than the one in path c , then partial mediations happen. Mediation analyses can be performed with either multiple regression, or structural equation modeling (SEM), or with Mediation, Moderation and Conditional Process Analyses (Process macro for SPSS or SAS) written by Andrew Hayes (2013).

Process analyses were conducted (see Table 3). Our study was an explanatory one, therefore we used an α level of .05 for all statistical tests. Career decision-making self-efficacy (i.e., the proposed mediator) was regressed to optimism to establish Path a (see Figure 1B) in the mediational chain. We found that two variables were significantly positive related ($R^2 = .04, p < .05$) and that optimism predicts career decision making self-efficacy ($b = .27, t = 2.70, p < .05$). Career indecision was regressed on both the independent variable (optimism) and the mediator (career decision making self-efficacy) to test whether the mediator is related to the outcome (Path b in Figure 1B) and to estimate the relation between the predictor and the outcome controlling for the mediator (see Path c' in Figure 1B). We found that career decision making self-efficacy is negatively related to career indecision ($b = -.51, t = -2.91, p < .05$). When career indecision was regressed on both optimism and career decision making self-efficacy, added a significant 11% of the variance of career indecision above and beyond optimism. The addition of career decision making self-efficacy reduced the standardized beta weigh for optimism (from $-.51$ to $-.32$). This indicated the partial mediating role for career decision making self-efficacy beliefs between optimism and career indecision. Finally, career indecision (i.e., the outcome) was regressed on the independent variable (optimism) to establish that there is a total effect to mediate (see Path c in Figure 1A) when the mediator is removed. We found that two variables were significantly negatively correlated ($R^2 = -.07, p < .05$) and that optimism predicts career indecision ($b = -.5927, t = -3.472, p < .05$). Optimism explains 7% of the variance of career indecision. The difference between standardized beta in path c and ($b = -.51$) and standardized beta in path c' ($b = -.59$) ($c' < c$) indicates that there was a mediational effect. Specifically, confidence intervals of bootstrapping technique between the lower (BootLLCI) and upper (BootULCI) didn't include 0 ($-.2134$ to $-.0047$) which means mediational effect was significant ($b = -.09, P < 0.5$).

IX. Discussion

The study sought to extend the SCCT framework by examining the mediating role of career decision making self-efficacy between personal inputs and career indecision state in a new educational and cultural setting (namely, Greece). It also sought to cross-validate and extend previous research on personal inputs in the career domain and the mediating role of self-efficacy in decision making by introducing positive emotions, in particular, dispositional optimism.

The results indicated that there is a significant relationship between optimism and career decision making self-efficacy. Adolescents who tend to have high optimism and therefore are more resilient to difficulties, have confidence in themselves and deal with obstacles, appear to be more efficacious of making career decisions. The specific result is in line with SCCT and research findings positing personality characteristics affect the formation of self-efficacy beliefs (Jin et al., 2009. Koumoundourou et al. 2011. Rogers et al. 2009. Wang et al. 2006), and is also in line with SCCT research findings positing positive predispositions such as resilience affect self-efficacy beliefs (Charokopaki & Kaliris, 2018. Garcia, Restubog, Bordia, Bordia & Roxas 2015. Rottinghaus, Buelow, Matyja, & Schneider 2012). The result is also in line with research studies positing that positive effect was directly and indirectly, through person cognitive variables (e.g., self-efficacy), predictive of different types of satisfaction among students and adults (Lent et al. 2009.2014).

The relationship between optimism and career indecision were also confirmed. Adolescents with a low degree of optimism which, therefore, don't face problems as manageable and controlled, they don't adopt coping strategies and have a higher level of career indecision. The specific result is in line with research findings positing a negative relationship between positive emotions (hope, courage, optimism) and difficulties in career decision making process in adolescents (Argyropoulou, Katsioulas, Drosos, & Kaliris, 2018. Tsechelidou, 2015. Kaliris, Sidiropoulou, Dimakakou, Argyropoulou, Drosos, & Fountouka, 2017. Shin & Kelly, 2015) and findings positing that young adults with positive psychological capital (i.e., resilience) adapt strategies for dealing with career decision-making tasks (McMahon, 2007). The result is also in line with findings positing that optimistic students feel they have made a proper career choice (Milveenetal. 2013) and that pessimists have low decision-making abilities, external control about decision making process (Gati, Landman, Davidovitch, Asulin-Peretz, Gadass, 2010) and high level of career indecision (Braunstein-Bercovitz Benjamin, Asor, & Lev (2012).

Concerning the mediating role of career decision making self-efficacy between optimism and career indecision, the results provide full support. More specifically, consistent with other previous research including personality traits or positive predispositions (resilience) as personal inputs in adolescents (Charokopaki & Kaliris, 2018. Jin et al., 2009. Garcia, Restubog, Bordia, Bordia & Roxas 2015. Koumoundourou et al. 2011. Rogers et al. 2008. Rottinghaus, Buelow, Matyja, & Schneider, 2012. Wang et al. 2006), optimism, as a positive personality trait, appears to exhibit a direct and indirect effect on career indecision via career decision making self-efficacy. It seems that the extension of SCCT concerning the effect of personality traits, especially positive personality traits and positive psychological capital as personal inputs proposed by previously mentioned researchers and also international researchers (Sheu & Bordon, 2017), is confirmed (applies to Greek sample of adolescents). Dispositional optimism may function as a personal input variable in SCCT models.

X. Limitations

It is necessary to note some research limitations. First, data were from the capital of Greece excluding more rural and suburban areas. Therefore, the results need to be cautiously applied elsewhere. Additionally, as evident to most other studies of this area, the findings are based only on self-report data. This limits the validity of correlations found due to the methodologically shared variance that was not intended to be measured.

XI. Counseling Implications

The results from this study provide some first empirical evidence concerning the applicability of the SCCT extended model on the factors influencing Greek adolescents' career indecision. Based on the specific findings, career decision making self-efficacy remains the core construct, toward which counseling interventions should be addressed. Counselors might use self-efficacy enhancing procedures (i.e., mastery experiences, vicarious learning, social persuasion and emotions regulations techniques) in order to facilitate students' vocational self-awareness. Self-efficacious students in career decision making are more confident in future orientation, demonstrate flexibility to uncertain situations (Aspinwall et al., 2001) and develop strategies for coping with career indecision (Lipshits-Braziler, Gati & Tatar, 2015). Additionally, self-efficacious students in career decision making are more confident in future orientation, demonstrate flexibility to uncertain situations (Aspinwall et al., 2001) and develop strategies for coping with career indecision (Lipshits-Braziler, Gati & Tatar, 2015).

The results of our study could make a contribution to intervention in vocational and educational guidance. As also shown by this research, assessing students' level of optimism could add to the counselor's understanding of the individual mechanisms employed in both career decision self-efficacy and career indecision formation. Dispositional optimism could contribute to career planning constructs like career decisiveness (Magnano, Paolillo & Giacomini, 2015). A positive education enhances optimism in career planning and thinking about one's career choices and reduces ineffective decision-making. The results of this study also could be used by career counselors and advisors in developing programs aimed at increasing students' optimism in order to acquire resources to pursue goals, be persistent, and be open to opportunities.

To conclude, the exploitation of the positive characteristics and strengths of the young people foster not only the feeling of control in the career decision-making process but also the belief that their sufficiency in relation to the process depends mainly on their own resources. The positive powers may strengthen the motivation for action and the perceived progress towards the targets. As a result, the individuals continue the pursuit of their decisions and believe that they are capable of achieving them successfully. This all shows that if counselors are able to help young people to discern and exploit their positive powers in an effective way, they will help them to confront problems which exist when making career decisions and the uncertainty for the future (Argyropoulou & Kaliris, 2018. Larsen, Edey, & LeMay, 2007).

XII. Recommendations for Future Research

The present study found that optimism affects career decision making self-efficacy perceptions, which in turn appear to reduce career indecision level. Future research should seek to replicate these findings in larger samples in Greece, not necessarily adolescents. An important future goal would also be to test whether optimism is subject to change via interventions (i.e., adopting coping strategies) as mentioned above and whether that will consequently affect career decision making self-efficacy beliefs. Despite the above limitations, ours is one of the first studies that has empirically tested the relationship between optimism and career decision-making self-efficacy. Its significant results suggest that further research should be undertaken to replicate these findings.

In conclusion, this study contributes to the emerging literature on positive personality traits and emotions, in general in positive psychological capital, by introducing optimism which influences the highly demanding adolescents' career decision-making process. It also provides validity evidence from a new cultural setting (namely Greece) in favor of extending SCCT in the career decision-making process and also in extending person input variables such as optimism, in SCCT models.

Declaration of Conflicting Interests

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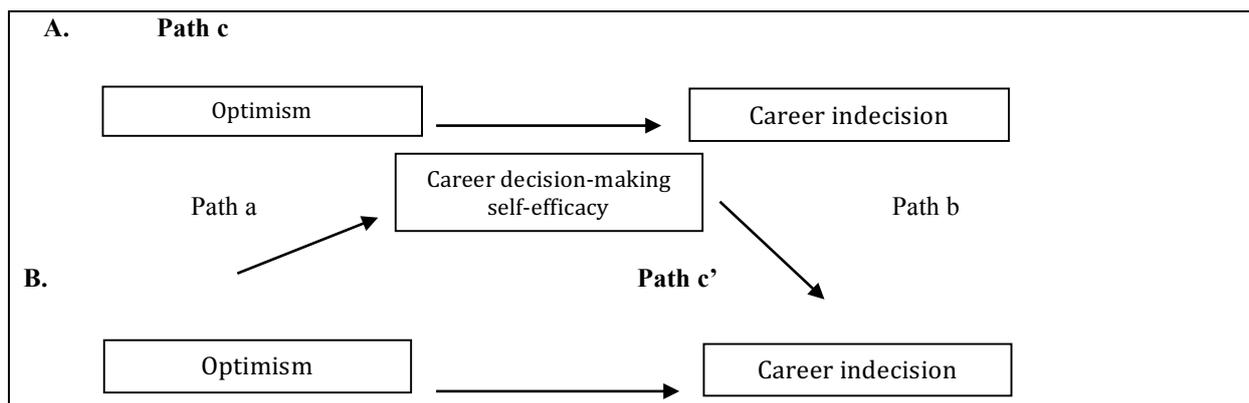


Figure 1. The hypothesized mediating role of career decision making self-efficacy between optimism and career indecision.

Table 2. Descriptive Statistics for all measures

Variables	<i>n</i> =153	
	<i>M</i>	<i>SD</i>
1. OPTIMISM	13,54	4,23
2. CDMSE	46,86	5,46
3. CDS	32,67	9,22

Note. OPTIMISM=Life Orientation Test (Optimism Scale), CDMSE= Career Decision Making Self-Efficacy, CDS=Career Decision Scale

Table 3. Summary of Mediation Test for Predicting Career Indecision

Variables	<i>R</i> ²	<i>n</i> = 153 <i>b</i>	<i>t</i>
Outcome: CDMSES Predictor: OPTIMS (Path a)	.04*	.27*	2,70
(Path b and c')			
Outcome: CDS Predictor: CDMSES (Path b)		-.51*	-2,91
Outcome: CDS Mediator: CDMSES Predictor: OPTIMS (Path c')		-.32*	-2.47
Model Summary	.11*		
Outcome: CDS Predictor: OPTIMS (Path c)	.07*	-.59*	-3.47

Note. CDMSES= Career Decision Making Self-Efficacy Scale, CD= Career Decision, OPTIMS = Optimism Scale. **p* <.05

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